Simulation Interoperability Standards Organization (SISO)
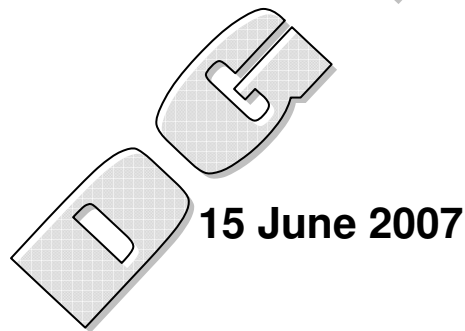
Specification for: Military Scenario Definition Language (MSDL)

15 June 2007

Prepared by:

Simulation Interoperability Standards Organization

Military Scenario Definition Language Drafting Group

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1 Introduction

The Military Scenario Definition Language (MSDL) is an XML-based language designed to support a military scenario development approach that provides the modeling and simulation community with:

- A common mechanism for validating and loading Military Scenarios.

- The ability to create a military scenario that can be shared between simulations and C4I devices.

- A way to improve scenario consistency between federated simulations.

- The ability to reuse military scenarios as scenario descriptions are standardized throughout the Army, Joint, and international communities and across simulation domains, e.g. training exercise, analysis, etc.

1.1 Purpose

MSDL is defined using an XML schema. Compliance with the MSDL XML schema defined in this specification will permit simulations to generate military scenarios that consist of the initial state of the military situation. Future versions of the standard are expected to include additional organizational structures, electronic order of battle information, targeting information, and data structures to hold the planned activities of the organizations and entities defined within the scenario.

1.2 Scope

This standard defines the MSDL language in terms of an XML schema, including element relationships, data types and boundary constraints, and the associated business rules of each element and its attribution. The MSDL language standard is intended to grow and evolve over time.

1.3 Objectives

The primary objective of this standard is to provide the mechanism that permits simulations to utilize the MSDL schema to develop and reuse military scenarios across MSDL compliant simulations and scenario generation tools.

1.4 Intended Audiences

The primary audience for this document is the Modeling & Simulation community. Other communities of interest, although not the intended primary audience, are encouraged to leverage the standard military scenario description language described here for use in their domains.

28 **2   References**

29 **2.1   SISO References:**

	Document Number	Title
1	SISO-ADM-005-2004	Policy for: The Style and Format of SISO documents
2	SISO-PDG-PN-MSDL-2005-002-15	MSDL Product Nomination
3	SISO-ADM-003-2002	SISO Balloted Products Development Process (BPDP)
4	SISO-ADM-002-2003	SISO Policies and Procedures (P&P)

30 **2.2   Other References:**

	Document Number	Title
1	XML W3 Org web site	XML Schema http://www.w3.org/2001/XMLSchema http://www.w3.org/TR/xmlschema-1/).
2	MIL-STD-2525B, 30 January 1999, w/Change 11 July 2005	Defense Information Systems Agency, Department of Defense. MIL-STD-2525B, Common Warfighting Symbology.
3	MIP JC3IEDM web site	JC3IEDM, Annexes, and .xsd Domain Values http://www.mip-site.org/publicsite/04-Baseline_3.0

31

32   **3   Definitions**

33   COA – Course of Action: A sequence of activities that an individual or unit may follow. (Army Planning and
34   Orders Production, FM 5-0, Department of the Army, USA)

35   Intelligence   1. The product resulting from the collection, processing, integration, analysis, evaluation, and
36   interpretation of available information. 2. Information and knowledge obtained through observation,
37   investigation, analysis, or understanding. (Dictionary of Military and Associated Terms, Joint Publication 1-
38   02, Department of Defense, USA)[1]

39   METT-TC   mission, enemy, terrain and weather, troops and support available, time available
40   and civil considerations. (Army Planning and Orders Production, FM 5-0, Department of the Army, USA)

41   Military scenario   A specific description of the situation and course of action at a moment in time for
42   each element in the scenario. The description is given in the context of a desired execution for both its reality
43   and its intelligence on this reality. The desired execution is described in terms of the METT-TC factors.

44   xs:all Compositor   Particles defined within an xs:all element can appear in any order within an instance
45   document. Xs:all elements may be declared within a complexType or group and they may contain an
46   element or annotion elements. Elements declared within an xs:all element can either occur 0 or 1 time as
47   set by the minOccurs and maxOccurs on the element declarations.

48   xs:choice Compositor   Particles defined within an xs:choice element are mutually exclusive. This means
49   that one and only one of the xs:choice's immediate children can appear in the instance document .

50   xs:sequence Compositor Particles defined within an xs:sequence element must appear in the defined order
51   within an instance document. Elements declared within an xs:sequence element can either occur 0 or more
52   times as set by the minOccurs and maxOccurs on the element declarations.

---

[1] The definitions for intelligence have been modified to allow information and knowledge concerning friendly
forces and the environment. The kind of information and knowledge is unspecified in the definition and as
such could include COA-relevant data.

53 **4   Acronyms and Abbreviations**

54 BMNT   Begin Morning Nautical Twilight

55 BSO   Battle Space Object

56 COP   Common Operational Picture

57 DIS   Distributed Interactive Simulation

58 EENT   End Evening Nautical Twilight

59 EXCOM   Executive Committee

60 GCC   Geocentric Coordinate

61 GDC   Geodetic Coordinate

62 JC3IEDM   Joint Consultation Command and Control Information Exchange Data Model

63 JCDB   Joint Command Database

64 MDMP   Military Decision Making Process

65 METT-TC   Mission, Enemy, Terrain and weather, Time, Troops available and Civilian

66 METOC   Meteorology & Oceanography

67 MGRS   Military Grid Reference System

68 MIL STD   Military Standard

69 MOPP   Mission-Oriented Protective Posture

70 MOOTW   Military Operation Other Than War

71 MSDB   Military Source Database

72 MSDE   Military Scenario Development Environment

73 MSDL   Military Scenario Definition Language

74 M&S   Modeling & Simulation

75 MTO&E   Modified Table of Organization and Equipment

76 PDG   Product Development Group

77 POC   Point of Contact

78 SAC   Standard Activity Committee

79 SIMCI   Simulation to C4I Interoperability

80 SISO   Simulation Interoperability Standards Organization

81 UOB   Unit Order of Battle

82 UTM   Universal Transverse Mercator

83 UUID   Universal Unique Identifiers

84 XML   eXtensible Markup Language

85 **5   Military Scenario Definition Language (MSDL)**

86 **5.1   MSDL Concepts**

87 This section presents some concepts that characterize MSDL.

88 **5.1.1   Planning and Execution**

89 An MSDL scenario represents an intermediate state or a link between the planning and execution for any
90 number or type of military scenarios including training, analytical, and operational. It is independent of both
91 the planning and execution systems to enable a broad range of interoperability and reuse.

92 For the planning and execution systems that do not directly support MSDL, scenarios must be converted
93 between the proprietary format and the standard MSDL format. Additionally, the conversion to the execution
94 format may add information that the execution system requires.
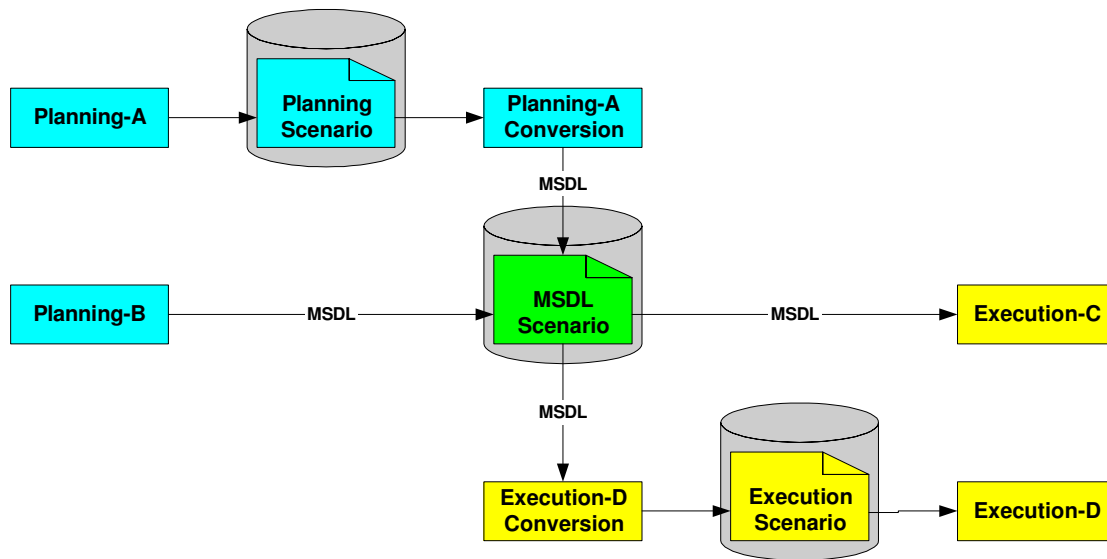
95
96   **Figure 1 - Planning to Execution**

97 **5.1.2   Reality and Intelligence**

98 A scenario describes a virtual world containing elements that interact with each other. In support of these
99 interactions, each element may have a certain knowledge of the other elements in the scenario. The actual
100 description of the elements is referred to as the reality aspect of the scenario because what it describes is
101 the reality in the context of the scenario. These descriptions are exact and not the result of interpretation by
102 the scenario elements. The description of the knowledge, however, is referred to as the intelligence aspect of
103 the scenario and is specific to the scenario elements owner of that knowledge. Multiple descriptions of a
104 single element will exist in the context of the scenario since multiple other elements will have knowledge of
105 that single element. These descriptions would represent the result of a virtual intelligence gathering process
106 performed by the scenario elements prior to the execution of the scenario. As such, the descriptions are
107 approximate derivations of the reality aspect values.

108 **5.1.3   Element Identification & Reference**

109 All primary elements in MSDL are identified by UUIDs. These UUIDs are stored in the MSDL XML element
110 named "ObjectHandle". The use of such a referencing mechanism helps to flatten out the MSDL structure in
111 areas such as Organizations.

112 **5.2   MSDL Content**

113   The MSDL specification has one root element called MilitaryScenario. It contains the following main
114   elements or components: ScenarioID, Options, Environment, ForceSides, Organizations, Overlays,
115   Installations, TacticalGraphics, and MOOTWGraphics. Some of the elements describe the reality portion of
116   the scenario while others describe the intelligence portion.

117   The ScenarioID element provides the identification of the scenario and its purpose.

118   The Options element provides global parameters about the scenario and its content.

119   The Environment element describes the environment in which the execution is to occur. During the course of
120   the execution, each instance in the execution may obtain information and knowledge about the environment
121   through its intelligence gathering process.

122   The ForceSides element describes the structure of the forces and sides involved in the execution. During the
123   course of the execution, each instance in the execution may obtain information and knowledge about all the
124   forces and sides through its intelligence gathering process.

125   The Organizations element describes the structure of the units and equipment involved in the execution.
126   During the course of the execution, each instance in the execution may obtain information and knowledge
127   about all the units and equipment through its intelligence gathering process.

128   The Overlays element describes the logical overlays used to group the intelligence elements/instances in the
129   scenario/execution. Ownership of a specific overlay is determined through the intelligence
130   elements/instances it groups.

131   The Installations element describes the detected installations as determined by the intelligence gathering
132   process by each force, side or unit individually. The description of any corresponding actual instances, the
133   reality portion, is unspecified in this version of MSDL. Execution applications may select to use or derive the
134   reality portion from the provided information during initialization.

135   The TacticalGraphics element describes the tactical information as known by a particular force, side or unit
136   individually. The description of any corresponding actual instances, the reality portion, is unspecified in this
137   version of MSDL. Execution applications may select to use or derive the reality portion from the provided
138   information during initialization.

139   The MOOTWGraphics element describes the detected MOOTWGraphics instances as determined by the
140   intelligence gathering process by each force, side or unit individually. The description of any corresponding
141   actual instances, the reality portion, is unspecified in this version of MSDL. Execution applications may select
142   to use or derive the reality portion from the provided information during initialization.

143   **5.3   Schema Structure**

144   MSDL is defined using an XML schema that allows for format verification and content validation. The MSDL
145   schema makes liberal use of specific schema restrictions (sequence, all, and choice) to the data structure of
146   the scenario as well as element type definitions and boundary values including: max/min values, default
147   values, patterns for string, uniqueness restriction on designations and keys.

148   **5.3.1   Files and namespaces**

149   The top-level schema MilitaryScenario.xsd specifies only one XML element, the MilitaryScenario element as
150   the base or root element of the MSDL schema. All MSDL elements are declared in the msdlElements.xsd
151   schema and are bound to the MSDL namespace. MSDL simple types are declared with
152   msdlSimpleTypes.xsd. ModelID elements are declared in the ModelID_v2006.xsd schema. Likewise,
153   JC3IEDM Domain values and meteorological data types and elements are defined in JC3IEDM-3.1-Codes-
154   20061208.xsd and JC3IEDMMeteorological.xsd respectively. MSDL specific domain values are found in
155   msdlCodes.xsd.

156   Unless otherwise specified, the MSDL information is defined within the
157   "http://www.sisostds.org/Schemas/msdl/v1" namespace and identified by the "msdl" prefix. MSDL imports

158   two additional XML namespaces to define specific types and elements. These namespaces are
159   "http://www.sisostds.org/schemas/modelID" identified with prefix "id" and
160   "urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0" identified with prefix "jc3iedm20".

5.3.2   MSDL Business Rules

162   Three types of business rules are encompassed within the MSDL specification: hierarchical element
163   relationships, non-hierarchical element relationships, and element typing constraints. Both the hierarchical
164   and element typing constraints are encompassed within the MSDL XML schema representation while the
165   non-hierarchical element relationships are explained using text. Within sections 6 and 7, each element and
166   type contains a description of its respective business rules.

167   Hierarchical element relationships are described using XML compositor elements of xs:all, xs:choice, and
168   xs:sequence, and appropriate multiplicity indicators of minOccurs and maxOccurs attributes. Hierarchical
169   element relationships within a military scenario instance document can be validated against the MSDL
170   schema using standard XML parsing utilities.

171   Non-hierarchical element relationships are described in several ways. The first is with the use of
172   ObjectHandles to establish relationships between objects. The second is with text describing the relationship
173   between or among instances of the elements such as the relationship with units to other units and to the
174   ForceSide element. Text is also used to describe the relationship of standards selected to instancing
175   specific elements such as the dependency between selecting a coordinate designation and then populating
176   the location details of specific units, entities, or graphics. While these business rules are specified in text,
177   they are not currently validated.

178   Finally, type, boundary value, and enumeration-based constraints are classified as element typing
179   constraints. Element typing constraints can also be validated within military scenario instance documents
180   against the MSDL schema using standard XML parsing utilities.

5.3.3   Style & Diagram Notation

182   This section provides a summary of the style used to highlight MSDL elements within the text and to describe
183   the graphical notation used within the figures.

5.3.3.1   Style

185   To highlight the MSDL schema structure and definitions within this document the XML elements defined as
186   part of the "MSDL" namespace are written using **bold, italicized font.** Elements or types imported from
187   other namespaces are written in normal font.

5.3.3.2   Mandatory Elements

189   The rectangle indicates an element and the solid border indicates that the element is required. The absence
190   of a number range indicates a single element (i.e. minOccurs=1 and maxOccurs=1). The element is bounded
191   when numbers are specified under the rectangle (i.e. minOccurs=1 and maxOccurs=5). The element is
192   unbounded when infinity sign is specified as upper bound under the rectangle (i.e. minOccurs=1 and
193   maxOccurs=unbounded). The minimum occurrence value can be higher than one.
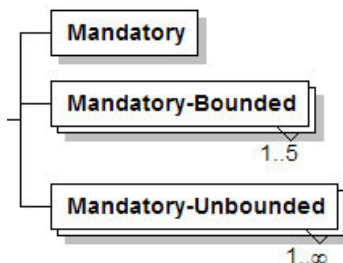
194

195   **Figure 2: Mandatory Elements Notation**

196   **5.3.3.3   Optional Elements**

197   The rectangle indicates an element and the dashed border indicates that the element is optional. The
198   absence of a number range indicates a single element (i.e. minOccurs=0 and maxOccurs=1). The element is
199   bounded when numbers are specified under the rectangle (i.e. minOccurs=0 and maxOccurs=5). The
200   element is unbounded when infinity sign is specified as upper bound under the rectangle (i.e. minOccurs=0
201   and maxOccurs=unbounded).
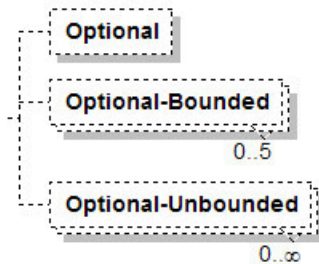
202
203   **Figure 3: Optional Elements Notation**

204   **5.3.3.4   Expandable Element**

205   A plus sign on the right side of an element indicates that the element contains child elements. When this
206   appears in the diagrams, it means that the child elements are described somewhere else in the document.
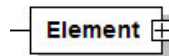
207
208   **Figure 4: Expandable Element**

209   **5.3.3.5   Compositors**

210   A compositor defines the order in which child elements occur. There are three compositors: sequence,
211   choice, and all. The compositors like the elements can be mandatory or optional and may be bounded or
212   unbounded.
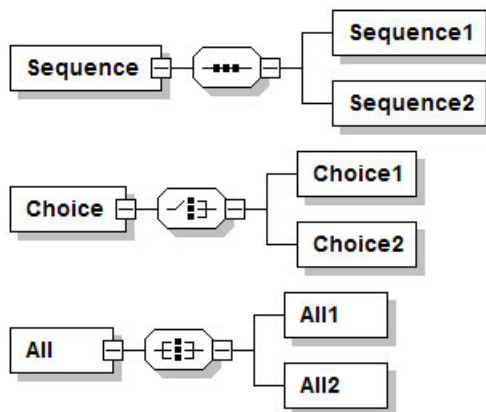
213
214   **Figure 5: Compositors Notation**

215

216

217   Complex Type

218   Complex types are shown as shaded boxes, as depicted in Figure 6, with the complex type name at the
219   upper left of the shaded box. These definitions are included as part of the MSDL element definitions.
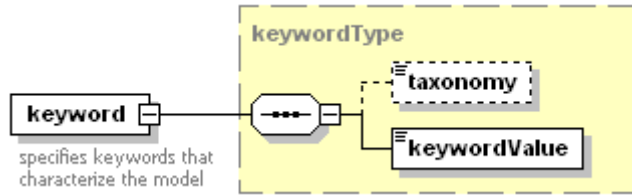
220
221   **Figure 6: Complex Type Notation**

222 **6   *msdl:MilitaryScenario* Element**

223 The ***msdl:MilitaryScenario*** element is the root of the MSDL specification. A graphical depiction, Figure 7,
224 defines the ***msdl:MilitaryScenario*** as an XML xs:sequence compositor containing the elements described in
225 the following subsections. The domain type is ***msdl:MilitaryScenarioType***.

226
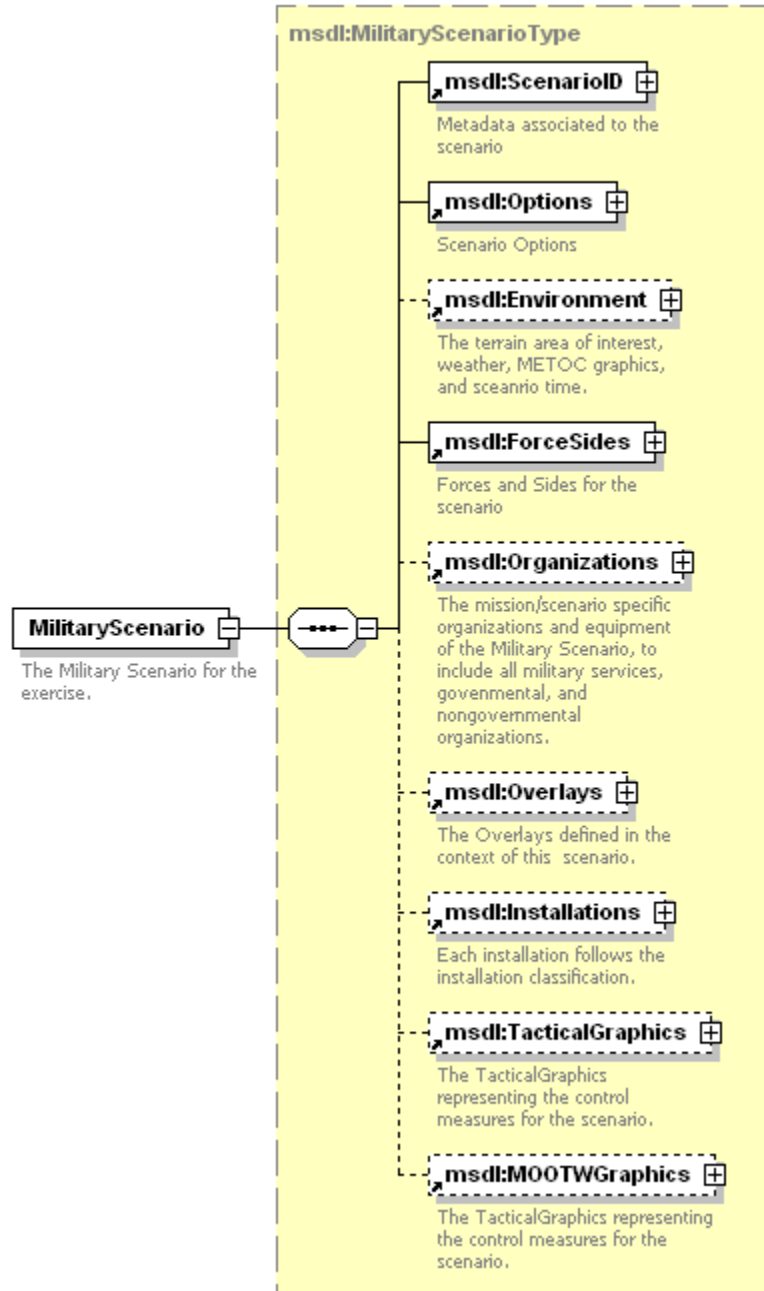
227   **Figure 7: MilitaryScenario Element Structure**

228 **6.1   *msdl:ScenarioID* Element**

229 For every ***msdl:MilitaryScenario*** element there shall be one ***msdl:ScenarioID*** element. The
230 ***msdl:ScenarioID*** defines the structure to hold metadata associated with the military scenario. The domain
231 type is modelIdentificationType. The modelIdentificationType contains the optional attributes id:notes of type

232   xs:IDREFS and id:idtag of type xs:ID. These optional attributes are defined and are consistently used within
233   each element of the id:modelIdentificationType. The id:notes attribute is used to provide a reference to notes
234   that may be specified elsewhere in the schema; however since the MSDL schema does not include a notes
235   table this attribute will not be used. The id:idtag is used to create a unique id that can be referenced from
236   other parts of the instance document or from outside the instance document, this is an optional attribute and
237   is not required to be filled. **Msdl:ScenarioID** is an xs:sequence compositor comprised of all the elements
238   shown in Figure 8 and described in the subsequent subsections. Domain type is modelIdentificationType.

modelIdentificationType

name
specifies the name assigned to the object model

type
specify the type of model that is represented

version
specifies the version identification assigned to the object model

modificationDate
specifies the latest date on which this version of the object model was created or modified. The modification date shall be specified in the format "YYYY-MM-DD"

securityClassification
specifies the security classification of the object model

releaseRestriction
0..∞
specifies any restrictions on the release of the object models to specific organizations or individuals

purpose
specifies the purpose for which the federate or federation was developed

applicationDomain
specifies the type or class of application to which the federate or federation applies

msdl:ScenarioID
Metadata associated to the scenario

description

useLimitation
specifies any known applications for which this model has been found not to be appropriate

useHistory
0..∞
specifies a description of where this model has been used

keyword
0..∞
specifies keywords that characterize the model

poc
1..∞
specify an organization or a person who has a particular role with respect to the model

reference
0..∞
specifies a pointer to additional sources of information

other
specifies other data deemed relevant by the author of the object model

glyph
specifies a glyph to visually represent the model

any ##other
0..∞

239

240   **Figure 8:** *msdl:ScenarioID* **Element Structure**

6.1.1   name Element

241

242   For every *msdl:ScenarioID* element there shall be one *name* element. The name element specifies the
243   name assigned to the military scenario. The domain type is IdentifierType (extension of xs:NCName*)* and
244   contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

6.1.2   type Element

245

246   For every *msdl:ScenarioID* element there shall be one type element that follows the name element. The
247   type element specifies the type of the military scenario that is represented.   The domain type is
248   modelType*(extension of OMTypeUnion)* and contains the optional attributes notes of type xs:IDREFS and
249   *idtag* of type *xs:ID.*

6.1.3   version Element

250

251   For every *msdl:ScenarioID* element there shall be one version element that follows the type element. The
252   version element specifies the version identification assigned to the military scenario.   The domain type is
253   NonEmptyString(restrictionof xs:string*)* with a minimum length of one and contains the optional attributes
254   notes of type xs:IDREFS and idtag of type xs:ID.

6.1.4   modificationDate Element

255

256   For every *msdl:ScenarioID* element there shall be one modificationDate element that follows the version
257   element. The modificationDate element specifies the latest date on which this version of the military scenario
258   was created or modified. It is an extension of type xs:date. The modificationDate shall be specified in the
259   format "YYYY-MM-DD", cannot be null, and contains the optional attributes notes of type xs:IDREFS and
260   idtag of type xs:ID.

6.1.5   securityClassification Element

261

262   For every *msdl:ScenarioID* element there shall be one securityClassification element that follows the
263   modificationDate element. The securityClassification element specifies the security classification of the
264   military scenario. The domain type is securityClassificationType (union of SecurityClassificationEnumeration
265   and nonEmptyString*)* and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

6.1.6   releaseRestriction Element

266

267   For every *msdl:ScenarioID* element there shall be zero to unbounded releaseRestriction element that
268   follows the securityClassification element. The releaseRestriction element specifies any restrictions on the
269   release of the military scenario to specific organization or individuals. The domain type is String (extension
270   of xs:string*)* and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

6.1.7   purpose Element

271

272   For every *msdl:ScenarioID* element there shall be zero or one purpose elements that follow the
273   releaseRestriction element. The purpose element specifies the purpose for which the military scenario was
274   developed. The domain type is String (extension of xs:string*)* and contains the optional attributes notes of
275   type xs:IDREFS and idtag of type xs:ID.

6.1.8   applicationDomain Element

276

277   For every *msdl:ScenarioID* element there shall be zero or one applicationDomain element that follows the
278   applicationDomain element. The applicationDomain element specifies the type or class of application to
279   which the military scenario applies. The domain type is applicationDomainTpe (union of
280   ApplicationDomainEnumerations and xs:string) and contains the optional attributes notes of type xs:IDREFS
281   and idtag of type xs:ID.

282 **6.1.9   description Element**

283 For every **msdl:ScenarioID** element there shall be one description element that follows the
284 applicationDomain element. The description element specifies the description of the military scenario. The
285 domain type is NonEmptyString (restriction of xs:string minimum length of 1) and contains the optional
286 attributes notes of type xs:IDREFS and idtag of type xs:ID.

287 **6.1.10   useLimitation Elements**

288 For every **msdl:ScenarioID** element there shall be zero or one useLimitation element that follows the
289 description element. The useLimitation element specifies any known application for which this military
290 scenario has been found not to be appropriate. The domain type is String (extension of xs:string) and
291 contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

292 **6.1.11   useHistory Elements**

293 For every **msdl:ScenarioID** element there shall be zero to unbounded useHistory elements that follow the
294 useLimitation element. The useHistory element specifies a description of where this military scenario has
295 been used. The domain type is String (extension of xs:string) and contains the optional attributes notes of
296 type xs:IDREFS and idtag of type xs:ID.

297 **6.1.12   keyword Element**

298 For every **msdl:ScenarioID** element there shall be zero or more keyword elements that follow the
299 useHistory element. The keyword element specifies keywords that characterize the military scenario.
300 keyword is an xs:sequence compositor comprised of all the elements shown in Figure 9 and described in the
301 subsequent subsections. The domain type is keywordType and contains the optional attributes notes of type
302 xs:IDREFS and idtag of type xs:ID.

303
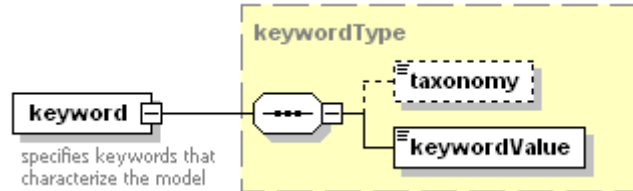
304 **Figure 9: keyword Element Structure**

305 **6.1.12.1.1   taxonomy Element**

306 For every keyword element there shall be zero or one taxonomy element. The taxonomy element specifies
307 the source of the keyword vocabulary, i.e. "Military warfare". The domain type is String (extension of
308 xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

309 **6.1.12.1.2   keywordValue Element**

310 For every keyword element there shall be one keywordValue element following the taxonomy element. The
311 keywordValue element provides the word or concept describing the military scenario i.e. "Engagement". The
312 domain type is NonEmptyString (restriction of xs:string minimum length of 1) and contains the optional
313 attributes notes of type xs:IDREFS and idtag of type xs:ID.

314 **6.1.13   poc Element**

315 For every **msdl:ScenarioID** element there shall be one or more poc elements following the keyword
316 element. The poc element specifies an organization or a person who has a particular role with respect to the
317 military scenario. The domain type is pocType. It contains the optional attributes notes of type xs:IDREFS
318 and idtag of type xs:ID. Poc is an xs:sequence compositor containing all the elements shown in Figure 10
319 and described in the subsequent subsections. The domaintype is pcoType.

320
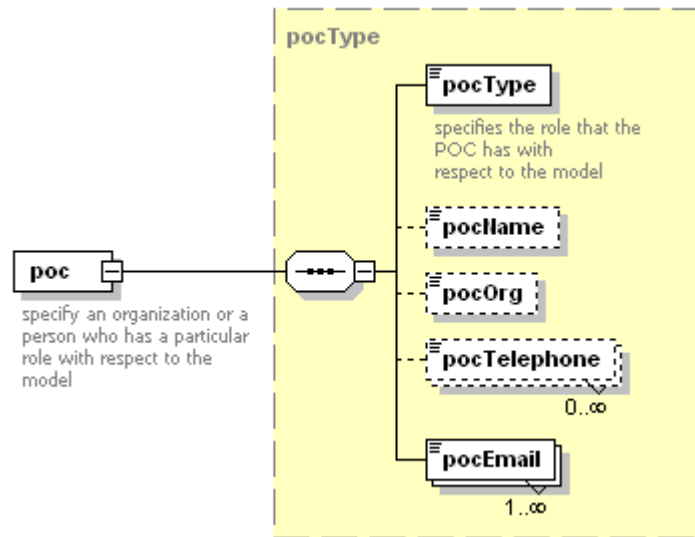
321 **Figure 10: pocType Type Structure**

322 **6.1.13.1.1   pocType Element**

323 For every poc element there shall be one pocType element. The pocType element specifies the role that the
324 POC has with respect to the military scenario. The domain type is pocTypeType (union of
325 POCTypeEnumeration and nonEmptyString) and contains the optional attributes notes of type xs:IDREFS
326 and idtag of type xs:ID.

327 **6.1.13.1.2   pocName Element**

328 For every poc element there shall be zero or one pocName element following the pocType element. The
329 pocName element specifies the name of the POC. The domain type is String (extension of xs:string) and
330 contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

331 **6.1.13.1.3   pocOrg Element**

332 For every poc element there shall be zero or one pocOrg elements following the pocName element. The
333 pocOrg element specifies the name of the organization the POC is associated with. The domain type is
334 String (extension of xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type
335 xs:ID.

336 **6.1.13.1.4   pocTelephone Element**

337 For every poc element there shall be zero to unbounded pocTelephone elements following the pocOrg
338 element. The pocTelephone element specifies the POC's telephone number.   The domain type is String
339 (extension of xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

340 **6.1.13.1.5   pocEmail Element**

341 For every poc element there shall be one to unbounded pocEmail elements following the pocTelephone
342 element. The pocEmail specifies the POC's email address(es). The domain type is String (extension of
343 xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

344 **6.1.13.2   reference Element**

345 For every **msdl:ScenarioID** there shall be zero or one reference element that follows the poc element. The
346 reference element specifies the reference information for the military scenario. Reference is an xs:sequence
347 compositor containing all the elements shown in Figure 11 and described in the subsequent subsections.
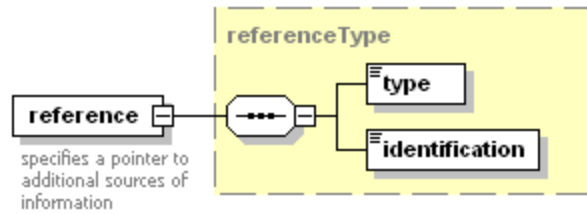
348
349 **Figure 11: referenceType Type Structure**

350 **6.1.13.2.1   type Element**

351 For every reference element there shall be one type element. The type element specifies the type of
352 reference. It is of referenceTypeUnion (union of referenceTypeEnumerations and xs:string) and contains the
353 optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

354 **6.1.13.2.2   identification Element**

355 For every reference element there shall be one identification element following the type element. The
356 identification element specifies the reference title. It is an extension of xs:anuURI and contains the optional
357 attributes notes of type xs:IDREFS and idtag of type xs:ID.

358 **6.1.14   glyph Element**

359 For every **msdl:ScenarioID** element there shall be zero or one glyph element following the other element.
360 The glyph element specifies a glyph to visually represent the model. The domain type is glyphType(shown in
361 Figure 86). It contains the optional attributes notes of type xs:IDREFS*,* idtag of type xs:ID*,* height of type
362 xs:short*,* width of type xs:short*,* and alt of type xs:string*,* and required attribute type of type
363 glyphTypeUnion(union of glyphTypeEnumerations and xs:string).

364 **6.1.15   other Element**

365 For every **msdl:ScenarioID** element there shall be zero or one other element following the reference
366 element. The other element specifies other data deemed relevant by the author of the military scenario. The
367 domain type is String and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

368 *6.2   msdl:Options*

369 For every **msdl:MilitaryScenario** element there shall be one **msdl:Options** element. The **msdl:Options**
370 element is used to identify how task organizations are specified (entity or aggregate based), the data
371 standards being used within the scenario, and any application specific options embedded within the
372 scenario. The **msdl:Options** element is comprised of an XML "all" compositor containing the elements
373 shown in Figure 12 and described in the subsequent subsections. The domain type is **msdl:OptionsType**.
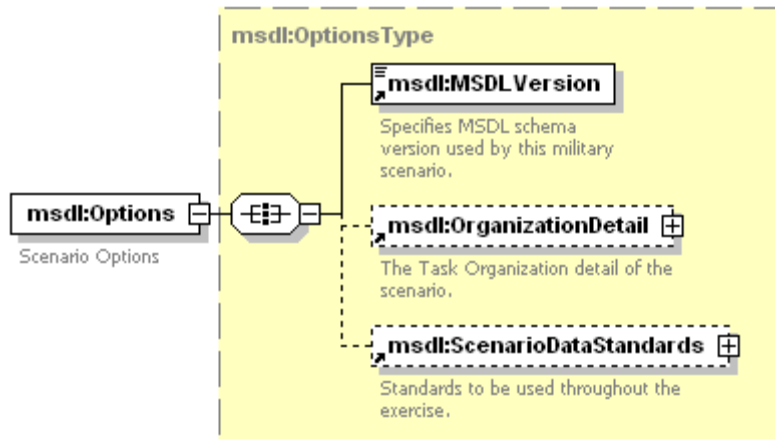
374
375 **Figure 12: *msdl:Options* Element Structure**

6.2.1 *msdl:MSDLVersion* Element

377 For every ***msdl:Options*** element there shall be one ***msdl:MSDLVersion*** element. The ***msdl:MSDLVersion***
378 specifies the MSDL schema version defining the military scenario. This element is intended to allow instance
379 document users to verify the document version against the expected MSDL schema version. The domain
380 type is ***msdl:textIdentifier64.***

6.2.2 *msdl:OrganizationDetail* Element

382 For every ***msdl:Options*** element there shall be zero or one ***msdl:OrganizationDetail*** element. The
383 ***msdl:OrganizationDetail*** element specifies the task organization detail of the scenario including the unit
384 and echelon aggregate information.   The ***msdl:OrganizationDetail*** element, an xs:all compositor, is
385 comprised of the elements shown in Figure 13 and described in the following subsections. The domain type
386 is ***msdl:OrganizationalDetailType***.
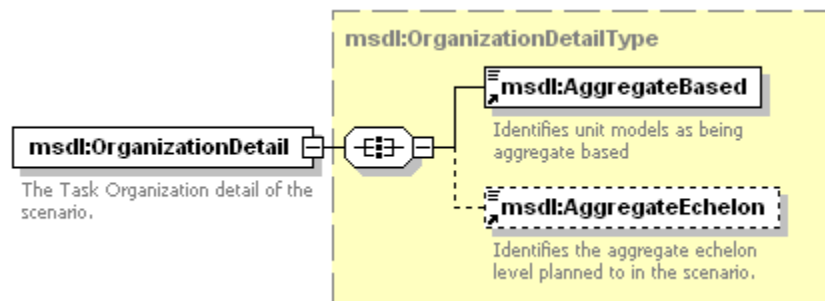
387
388 **Figure 13: *msdl:OrganizationDetail* Element Structure**

6.2.2.1 *msdl:AggregateBased* Element

390 For every ***msdl:OrganizationDetail*** element there shall be one ***msdl:AggregateBased*** element. The
391 ***msdl:AggregateBased*** element either indicates the scenario is an aggregate unit scecario that does not
392 necessarily include subordinate units. Setting the value to "true" indicates the scenario is aggregate-based, a
393 "false" setting indicates an entity-based scenario. When the ***msdl:AggregateBased*** element is set to "true"
394 the ***msdl:AggregateEchelon*** element, described in section 6.2.2.2, holds an echelon enumeration
395 describing the minimum level of complete unit and equipment detail within the scenario document. There
396 may be additional, but incomplete unit and equipment information, at the echelons below that described in
397 the ***msdl:AggregateEchelon***. The domain type is ***msdl:booleanAggregateBased***.

398   **6.2.2.2**   *msdl:AggregateEchelon Element*

399   For every ***msdl:OrganizationDetail*** element there shall be zero or one ***msdl:AggregateEchelon*** element.
400   The ***msdl: AggregateEchelon*** element specifies the aggregate echelon level planned to in the scenario. By
401   convention the msdl:AggregateEchelon holds a value that is one echelon higher than is detailed within in the
402   task organization data. The domain type is ***msdl:enumEchelon***.

403   **6.2.3**   *msdl:ScenarioDataStandards* **Element**

404   For every ***msdl:Options*** element there shall be zero or one ***msdl:ScenarioDataStandards*** element. The
405   ***msdl:ScenarioDataStandards*** element specifies the standards to be used throughout the military scenario
406   document. It is an xs:all compositor comprised of the elements shown in Figure 14 and described in the
407   following subsections. The domain type is ***msdl:ScenarioDataStandardsType***.

408
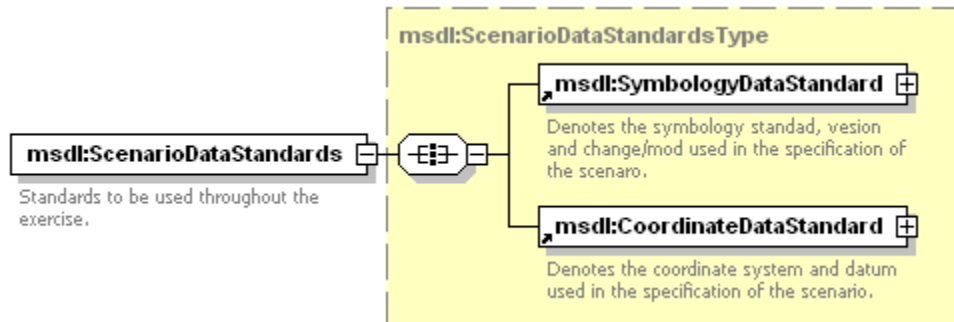
409   **Figure 14:** *msdl:ScenarioDataStandards* **Element Structure**

410   **6.2.3.1**   *msdl:SymbologyDataStardard* **Element**

411   For every ***msdl:ScenarioDataStandards*** element there shall be one ***msdl:SymbologyDataStandard***
412   element. The ***msdl:SymbologyDataStandard*** element specifies the symbology standard, version, and
413   revision used in the specification of the military scenario. It is an xs:all compositor comprised of the elements
414   shown in Figure 15 and described in the following subsections. The domain type is
415   ***msdl:SymbologyDataStandardType***.

416
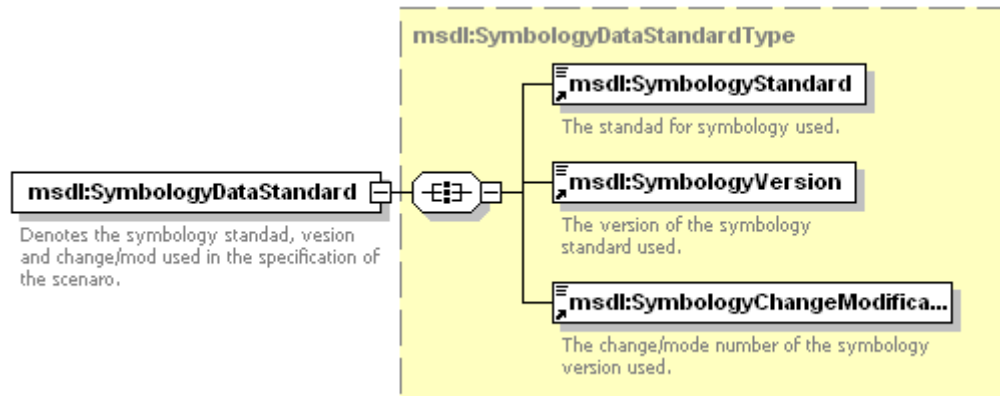
417   **Figure 15:** *msdl:SymbologyDataStandard* **Element Structure**

418   **6.2.3.1.1**   *msdl:SymbologyStandard* **Element**

419   For every ***msdl:ScenarioDataStandard*** element there shall be one ***msdl:SymbologyStandard*** element.
420   The ***msdl:SymbologyStandard*** element specifies the symbology standard used within the military scenario
421   document. The domain type is ***msdl:enumSymbologyStandardType***.

422 **6.2.3.1.2** *msdl:SymbologyVersion* **Element**

423 For every *msdl:ScenarioDataStandard* element there shall be one *msdl:SymbologyVersion* element. The
424 *msdl:SymbologyVersion* element specifies the version of the symbology standard used within the military
425 scenario document. The domain type is *msdl:textIdentifier64.*

426 **6.2.3.1.3** *msdl:SymbologyChangeModification* **Element**

427 For every *msdl:ScenarioDataStandard* element there shall be one *msdl:SymbologyChangeModification*
428 element. The *msdl:SymbologyChangeModification* element specifies the version of the change or
429 modification number of the symbology version used within the military scenario. The domain type is
430 *msdl:textIdentifier64.*

431 **6.2.3.2** *msdl:CoordinateDataStandard* **Element**

432 For every *msdl:ScenarioDataStandards* element there shall be one *msdl:CoordinateDataStandard*
433 element. The *msdl:CoordinateDataStandard* element specifies the coordinate standard and version used
434 in the specification of the military scenario. The specification of the coordinate system is expected to be
435 adhered to in all location specific detail of the associated objects/symbology included in the military scenario.
436 Unless the coordinate system is specified as GDC, the datum must be provided in order for location values
437 to be unambiguously exchanged. The *msdl:coordinateDataStandard*, an xs:all compositor, is comprised of
438 the elements shown in Figure 16 and described in the following subsections. The domain type is
439 *msdl:CoordinateDataStandardType*.
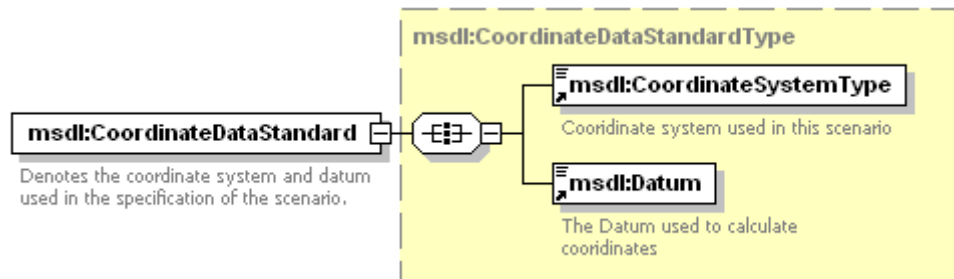
440
441 **Figure 16: *msdl:CoordinateDataStandard* Element Structure**

442 **6.2.3.2.1** *msdl:CoordinateSystemType* **Element**

443 For every *msdl:CoordinateDataStandard* element there shall be one *msdl:CoordinateSystemType*
444 element. The *msdl:CoordinateSystemType* element specifies the coordinate system to be used standard
445 used within the military scenario for all location specific detail. The domain type is
446 *msdl:enumCoordinateSystemType*.

447 **6.2.3.2.2** *msdl:Datum* **Element**

448 For every *msdl:CoordinateDataStandard* element there shall be one *msdl:Datum* element. The
449 *msdl:Datum* element specifies the datum used to calculate coordinates. The domain type is
450 *msdl:textDatum8.*

451 **6.3** *msdl:Environment* **Element**

452 For every *msdl:MilitaryScenario* element there shall be zero or one *msdl:Environment* element following
453 the *msdl:Options* element. The *msdl:Environment* element describes the surroundings, at a synoptic level,
454 of the military scenario. It includes the *msdl:ScenarioTime*, the scenario *msdl:AreaOfInterest*, the
455 *msdl:GlobalWeather* and the *msdl:METOC* information. The METOC information covers the
456 Meteorological, the Oceanographical and the Space elements of the environment. Within these elements, it
457 also covers some geographical elements (mostly the effects of the weather).

458 In this context, the Weather information appears in both the **msdl:ScenarioWeather** elements and the
459 **msdl:METOC** elements. The **msdl:ScenarioWeather** elements describe the overall weather while the
460 **msdl:METOC** elements describe the specific details. The **msdl:ScenarioWeather** elements must be
461 derived from the **msdl:METOC** elements when both forms are present in a scenario. Other dependencies
462 exist between various elements. The consistency of the scenario must be valid prior to the initialization of the
463 applications.

464 Finally, environmental changes during the course of the simulation can be specified within the military
465 scenario using the ScenarioWeather and the METOC information. The following list identifies the elements
466 that influence the evolution of the environment.

467 • *msdl:Atmosphere*: - *msdl:InversionLayerCode* and *msdl:TemperatureGradientCode*.

468 • *msdl:Precipitation*:- *msdl:Rate*.

469 • *msdl:Wind*: - *msdl:AirStabilityCategoryCode*, *msdl:SpeedRate*,
470   *msdl:NuclearYieldQualifierCode*.

471 • *msdl:METOCGraphic*: - *msdl:DateTimeGroup* and *msdl:Speed*.

472 The **msdl:Environment** element, an xs:all compositor, is comprised of the elements shown in Figure 17 and
473 described in the following subsections. The domain type is **msdl:EnvironmentType**.
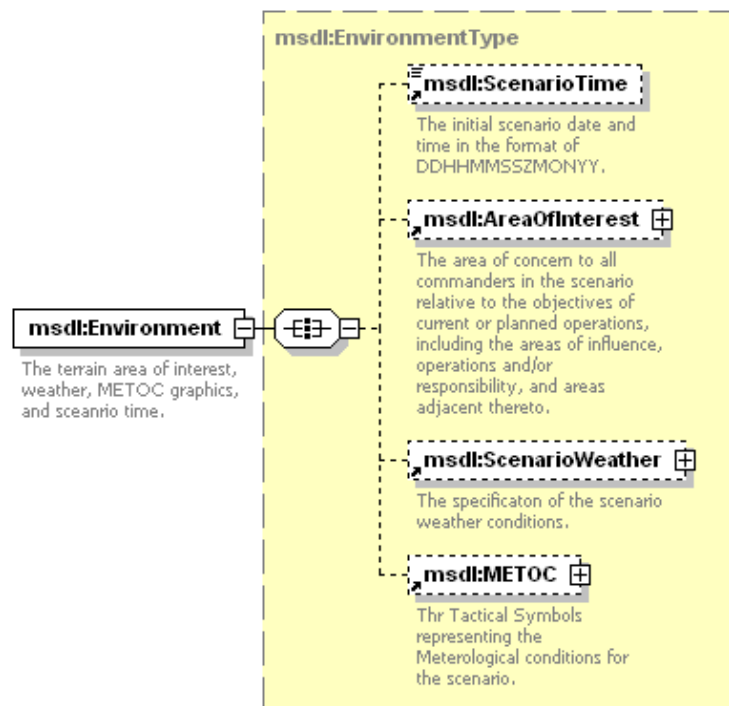
474
475   Figure 17: *msdl:Environment* Element Structure

6.3.1   *msdl:ScenarioTime* **Element**

477 For every **msdl:Environment** element there shall be zero or one **msdl:ScenarioTime** element. The
478 **msdl:ScenarioTime** element indicates the absolute simulation start time that is perceived by the elements. It
479 is used to initialize the simulation start time. **msdl:ScenarioTime** is the reference for all relative times in the
480 scenario. The domain type is **msdl:patternTimeDTG14.**

481 **6.3.2** *msdl:AreaOfInterest* **Element**

482 For every **msdl:Environment** element there shall be zero or one **msdl:AreaOfInterest** element. The
483 **msdl:AreaOfInterest** indicates a rectangular area where the simulation is perceived by the elements of the
484 scenario to occur. It is expected to include the areas of interest, influence, operation, etc. of all elements in
485 the scenario. The **msdl:RectangleAreaType** complex type, an xs:all compositor, contains all the elements
486 shown in Figure 18 and described in the subsequent subsections. The domain value is a pair of coordinates
487 describing a rectangle area. The domain type is **msdl:RectangleAreaType**.

488
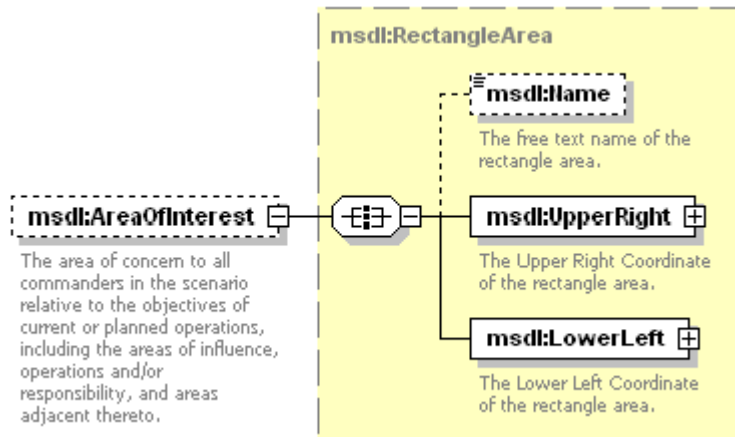
489 **Figure 18: *msdl:AreaOfInterest* Type Structure**

490 **6.3.3** *msdl:Name* **Element**

491 For every **msdl:RectangleArea** complex type there shall be zero or one **msdl:Name** element. The
492 **msdl:Name** element specifies the free text name of the rectangle area. The domain type is **msdl:Name255**
493 **(restriction** on xs:string of length between 0 and 255 characters with a patter of ([-z]{1})*)**.**

494 **6.3.4** *msdl:UpperRight* **Element**

495 For every **msdl:RectangleArea** complex type there shall be one **msdl:UpperRight** elements. The
496 **msdl:UpperRight** elements defines the upper right coordinate of the rectangle area. The
497 **msdl:UpperRight**, an xs:choice compositor, is comprised of one and only one of the subelement shown in
498 Figure 19 and described in the following subsections.The domains type is **msdl:Coordinates**.

499 MSDL supports coordinate systems of MGRS, UTM, GDC, and GCC. Each coordinate element provides a
500 choice of the coordinate system to be used. The intent of MSDL is that the choice correlates with the system
501 specified in **msdl:CoordinateSystemType**. For coordinates of MGRS, UTM, and GCC, the Datum must be
502 specified in **msdl:Datum** under **msdl:CoordinateDataStandard** or **msdl:CoordinateSystemDatum**.

503 While real-world GCC values are not based on a Datum, in simulation GCC values are generated based on
504 GDC values that have been applied to a Datum specific geoid/ellipsoid. Therefore, a GCC value cannot be
505 correlated to a simulate environment, unless the original Datum has been specified.

506
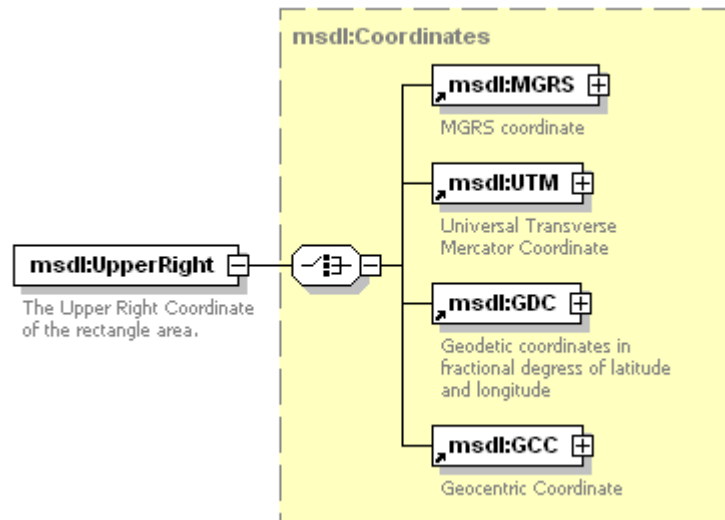
507   **Figure 19: *msdl:UpperRight* Element Structure**

508   **6.3.4.1   *msdl:MGRS* Element**

509   For each **msdl:Coordinates** element there shall be zero or one **msdl:MGRS** element. The **msdl:MGRS**
510   element , an xs:all compositor, specifies the Military Grid Reference System (MGRS) coordinate and is made
511   up of the child elements as shown in Figure 20. Domain type is **msdl:MGRSType**.

512
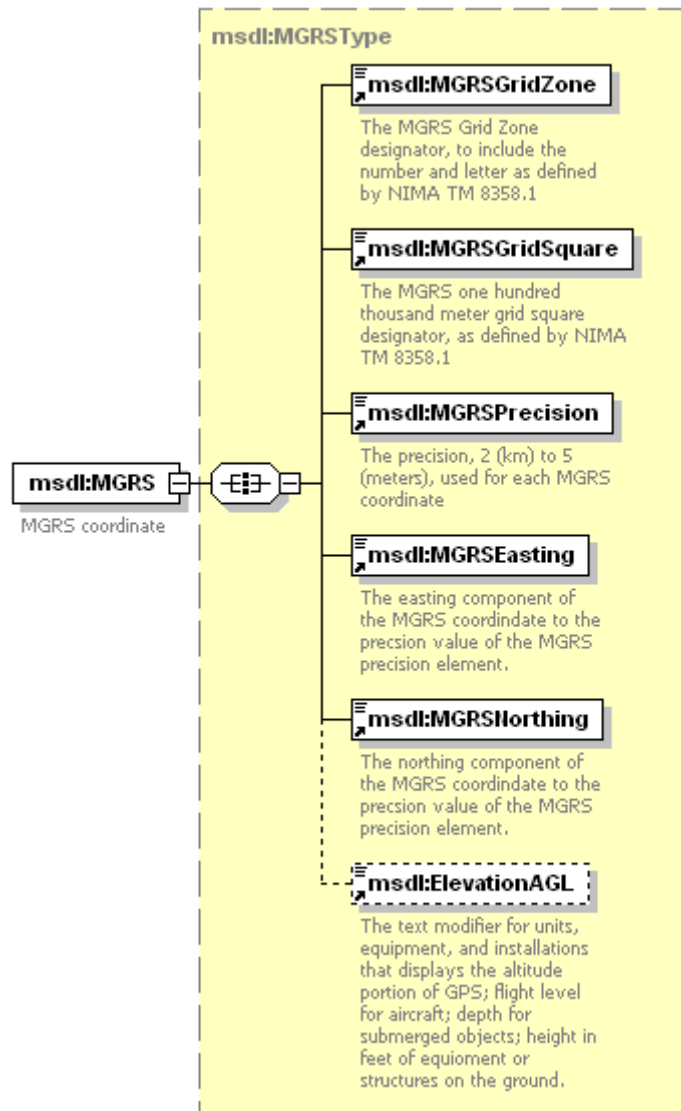
Figure 20: *msdl:MGRS* Element structure

6.3.4.1.1   msdl:MGRSGridZone Element

For each ***msdl:MGRS*** element there shall be one ***msdl:MGRSGridZone*** element. The ***MGRSGridZone*** element specifies the MGRS Grid Zone designator to include the number and letter as defined by NIMA TM 8358.1. It is type restricted xs:string of 3 characters with a pattern of [0-9]{2}[ABCDEFGHJKLMNPQRSTUVWXYZ]{1}.

6.3.4.1.2   msdl:MGRSGridSquare Element

For each ***msdl:MGRS*** element there shall be one ***msdl: MGRSGridSquare*** element. The ***msdl:MGRSGridSquare*** element specifies the one hundred thousand meter grid square designator as defined by NIMA TM 8358.1. It is type restricted xs:string of 2 characters.

6.3.4.1.3   msdl:MGRSPrecision Element

For each ***msdl:MGRS*** element there shall be one ***msdl: MGRSPrecision*** element. The ***msdl:MGRSPrecision*** element specifies the precision, 2(km) to 5(meters), used for each MGRS coordinate.

526 **6.3.4.1.4   msdl:MGRSEasting Element**

527   For each **msdl:MGRS** element there shall be one **msdl: MGRSEasting** element. The **msdl:MGRSEasting**
528   element specifies the easting component of the MGRS coordinates to the precision value of the MGRS
529   precision element. The type is restricted xs:long with a boundary from 0 to 99999 inclusive.

530 **6.3.4.1.5   msdl:MGRSNorthing Element**

531   For each **msdl:MGRS** element there shall be one **msdl:MGRSNorthing** element. The
532   **msdl:MGRSNorthing** element specifies the northing component of the MGRS coordinates to the precision
533   value of the MGRS precision element. The type is restricted xs:long with a boundary from 0 to 99999
534   inclusive.

535 **6.3.4.1.6   msdl:ElevationAGL Element**

536   For each **msdl:MGRS** element there shall be zero or one **msdl:ElevationAGL** element. The
537   **msdl:ElevationAGL** element specifies the altitude, in meters of a position above ground level. The type is
538   restricted xs:float with a boundary from -1000.0 to 100000.0 inclusive.

539 **6.3.4.2   msdl:UTM Element**

540   For each **msdl:Coordinates** element there shall be zero or one **msdl:UTM** element. The **msdl:UTM**
541   element, an xs:all compositor, specifies the Universe Transverse Mercator Coordinate (UTM) coordinate
542   and is made up of the child elements as shown in Figure 21. Domain type is **msdl:UTMType**.

543
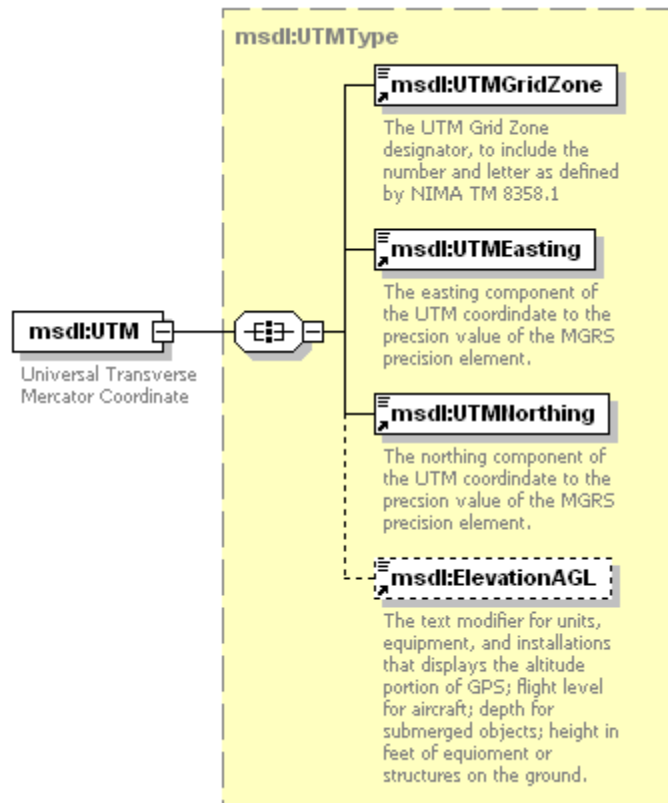
544   **Figure 21: msdl:UTM Element Structure**

545 **6.3.4.2.1   msdl:UTMGridZone Element**

546 For each **msdl:UTM** element there shall be one **msdl:UTMGridZone** element. The **msdl:UTMGridZone**
547 element specifies the UTM Grid Zone designator to include the number and letter as defined by NIMA TM
548 8358.1. It is type restricted xs:string of 3 characters with a pattern of [0-9]{2}[NS]{1}.

6.3.4.2.2   msdl:UTMEasting Element

550 For each **msdl:UTM** element there shall be one **msdl:UTMEasting** element. The **msdl:UTMEasting**
551 element specifies the easting component of the MGRS coordinates to the precision value of the MGRS
552 precision element. The type is restricted xs:float with a boundary starting at 0.0 inclusive.

6.3.4.2.3   msdl:UTMNorthing Element

554 For each **msdl:UTM** element there shall be one **msdl:UTMGridNorthing** element. The **msdl:UTMNorthing**
555 element specifies the northing component of the MGRS coordinates to the precision value of the MGRS
556 precision element. The type is restricted xs:float with a boundary with a boundary starting at 0.0 inclusive.

6.3.4.2.4   msdl:ElevationAGL Element

558 For each **msdl:UTM** element there shall be zero or one **msdl:ElevationAGL** element. The
559 **msdl:ElevationAGL** element specifies the altitude, in meters of a position above ground level. The type is
560 restricted xs:float with a boundary from -1000.0 to 100000.0 inclusive.

6.3.4.2.5   msdl:GDC Element

562 For each **msdl:Coordinates** element there shall be zero or one **msdl:GDC** element. The **msdl:GDC**
563 element, an xs:all compositor, specifies the Geodetic Coordinate (GDC) and is made up of the child
564 elements as shown in Figure 22. Domain type is **msdl:GDCType**.
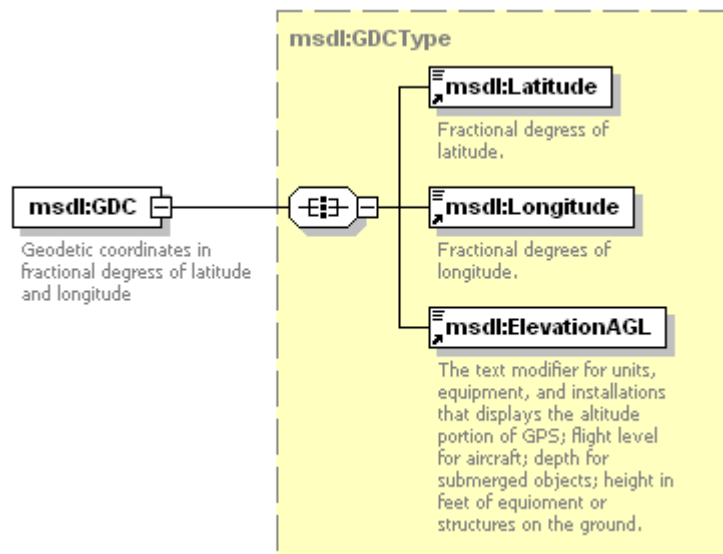
566 **Figure 22: *msdl:GDC* Element Structure**

6.3.4.3   msdl:Latitude Element

568 For each **msdl:GCD** element there shall be one **msdl:Latitude** element. The **msdl:Latitude** element
569 specifies the fractional degrees of latitude. It is type restricted **xs:float** with boundaries of -180.00 to 180.00
570 inclusive.

6.3.4.3.1   msdl:Longitude Element

572   For each **msdl:GCD** element there shall be one **msdl:Longitude** element. The **msdl:Longitude** element
573   specifies the fractional degrees of longitude. It is type restricted **xs:float** with boundaries of -180.00 to
574   180.00 inclusive.

6.3.4.3.2   msdl:ElevationAGL Element

576   For each **msdl:MGRS** element there shall be zero or one **msdl:ElevationAGL** element. The
577   **msdl:ElevationAGL** element specifies the altitude, in meters of a position above ground level. The type is
578   restricted **xs:float** with a boundary from -1000.0 to 100000.0 inclusive.

6.3.4.4   msdl:GCC Element

580   For each **msdl:UpperRight** element there shall be zero or one **msdl:GCC** element. The **msdl:GCC** element
581   , an xs:all compositor, specifies the Geocentric Coordinate (GCC) and is made up of the child elements as
582   shown in Figure 23. Domain type is **msdl:GCCType**.
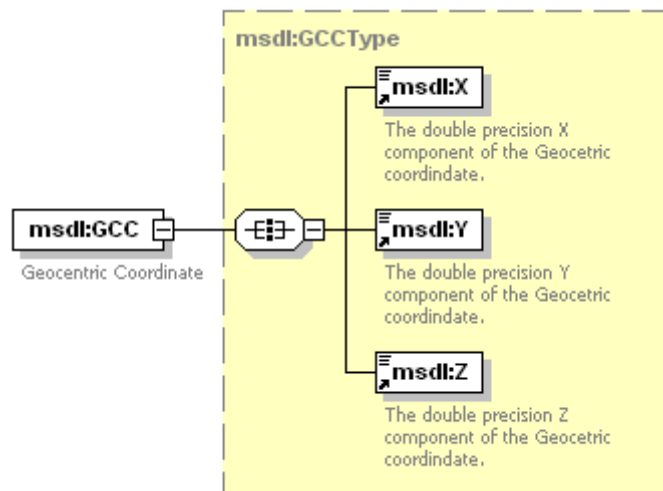
583

584   **Figure 23: *msdl:GCC* Element Structure**

6.3.4.4.1   msdl:X Element

586   For each **msdl:GCC** element there shall be one **msdl:X** element. The **msdl:X** element specifies the double
587   precision X component of the Geocentric coordinate. It is type restricted **xs:double**.

6.3.4.4.2   msdl:Y Element

589   For each **msdl:GCC** element there shall be one **msdl:Y** element. The **msdl:Y** element specifies the double
590   precision Y component of the Geocentric coordinate. It is type restricted **xs:double**.

6.3.4.4.3   msdl:Z Element

592   For each **msdl:GCC** element there shall be one **msdl:Z** element. The **msdl:Z** element specifies the double
593   precision Z component of the Geocentric coordinate. It is type restricted **xs:double**

6.3.4.4.4   msdl:LowerLeft

595   For every **msdl:RectangleArea** complex type there shall be one **msdl:LowerLeft** element. The
596   **msdl:LowerLeft** elements defines the upper right coordinate of the rectangle area. The domain type is
597   **msdl:Coordinates** as defined within section 6.3.4.4.3 for **msdl:UpperRight**.

598   **6.3.5   *msdl:ScenarioWeather* Element**

599   For every ***msdl:Environment*** element there shall be zero or one ***msdl:ScenarioWeather*** element. The
600   ***msdl:ScenarioWeather*** information provides a basic description of the initial weather conditions for the
601   scenario. Unless otherwise specified or derived, the reference time is the scenario time; the reference
602   location is the center of the scenario area of interest; the reference altitude is at the surface level; and the
603   information applies to the entire scenario area of interest.

604   The ***msdl:ScenarioWeather*** is described by a combination of instances from seven types:
605   ***msdl:Atmosphere***, ***msdl:CloudCover***, ***msdl:Icing***, ***msdl:Light***, ***msdl:Precipitation***, ***msdl:Visibility***, and
606   ***msdl:Wind***. The ***msdl:ScenarioWeather*** element, an xs:all compositor, is comprised of the elements shown
607   in Figure 24 and described in the following subsections. The domain typs is ***msdl:ScenarioWeatherType***.

608
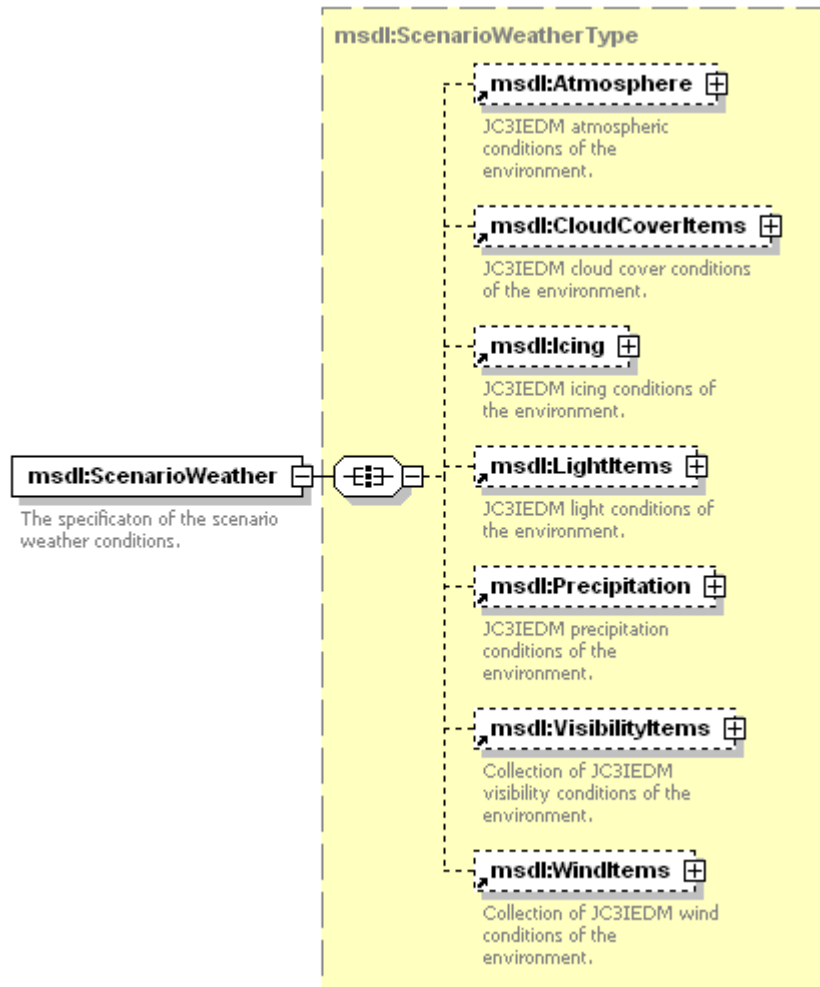
609   **Figure 24: *msdl:ScenarioWeather* Element Structure**

610   **6.3.5.1   *msdl:Atmosphere* Element**

611   For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:Atmosphere*** element. The
612   ***msdl:Atmosphere*** element specifies the JC3IEDM-based atmospheric conditions of the military scenario.
613   The ***msdl:Atmosphere*** element, an xs:sequence compositor, contains all the elements shown in Figure 25
614   and described in the subsequent subsections. The domain type is Atmosphere.
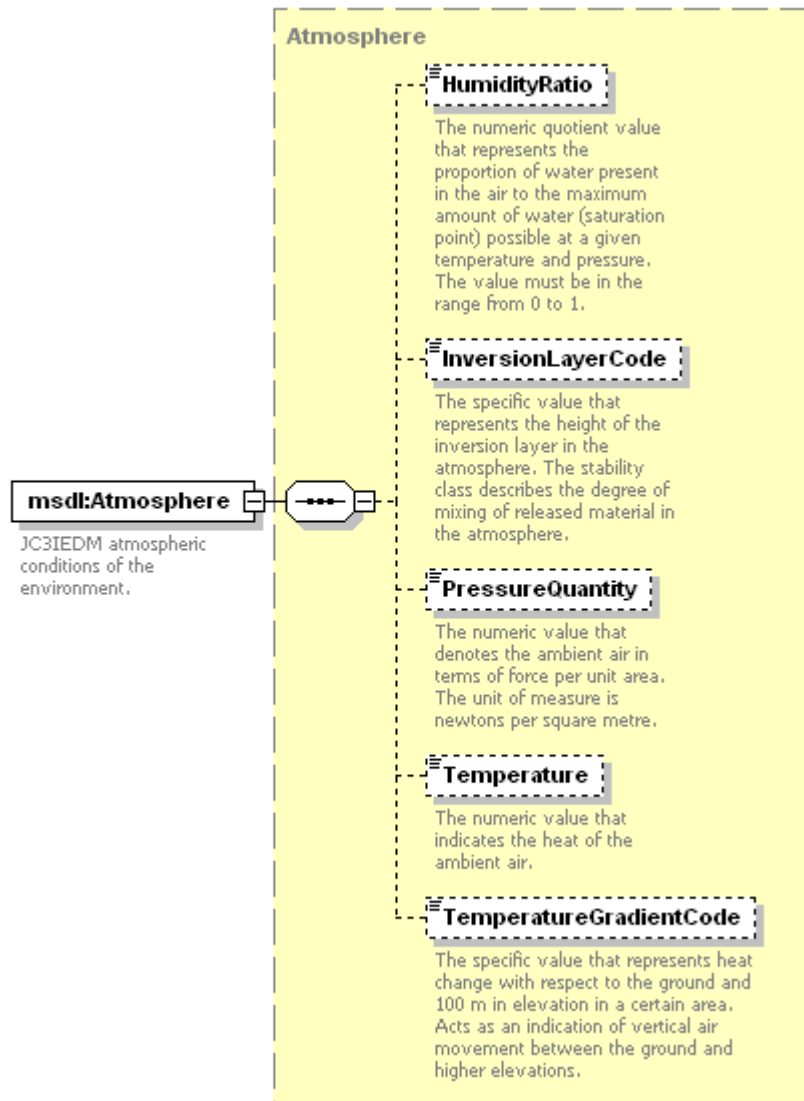
Figure 25: Atmosphere Type Structure

6.3.5.1.1   HumidityRatio Element

For every Atmosphere complex type there shall be zero or one HumidyRatio element. This value provides the numeric quotient value that represents the proportion of water present in the air to the maximum amount of water (saturation point) possible at a given temperature and pressure. The value must be in the range from 0 to 1. The domain type is RatioOptionalTypeRangeRatio6_5.

6.3.5.1.2   InversionLayerCode Element

For every Atmosphere complex type there shall be zero or one jc3iedm2:InversionLayerCode element following the HumidityRatio element. This element provides the specific value that represents the height of the inversion layer in the atmosphere. The stability class describes the degree of mixing of released material in the atmosphere. The domain values are: A; B; C . The domain type is AtmosphereInversionLayerCode.

6.3.5.1.3   PressureQuantity Element

628 For every Atmosphere complex type there shall be zero or one PressureQuantity element following the
629 InversionLayerCode element. This element provides the numeric value that denotes the ambient air in terms
630 of force per unit area. The unit of measure is newtons per square metre. Type domain type is
631 **QuantityOptionalType8_4**.

632 6.3.5.1.4 Temperature Element

633 For every Atmosphere complex type there shall be zero or one Temperature element following the
634 PressureQuantity element. This element provides the numeric value that indicates the heat of the ambient
635 air. The domain is a real number exceeding -274, expressed in degrees Celsius. The domain type is
636 TemperatureTypeRangeTemperature5_1.

637 6.3.5.1.5 TemperatureGradientCode *Element*

638 For every Atmosphere complex type there shall be zero or one TemperatureGradientCode element following
639 the Temperature element. This element provides the specific value that represents heat change with respect
640 to the surface and 100 m in elevation in a certain area. This element acts as an indication of vertical air
641 movement between the surface and higher elevations. The domain values are: Neutral; Stable; Unstable;
642 Not known. The domain type is AtmosphereTemperatureGradientCode.

643 6.3.5.2 *msdl:CloudCoverItems* Element

644 For every **msdl:ScenarioWeather** element there shall be zero or one **msdl:CloudCoverItems** element.
645 The **msdl:CloudCoverItems** Element specifies the JC3IEDM-based cloud cover conditions of the
646 environment. The **msdl:CloudCoverItems** element, an xs:sequence compositor, is comprised of the
647 elements shown in Figure 26 and described in the following subsection. Domain type is
648 **msdl:CloudCoverItemsType.**
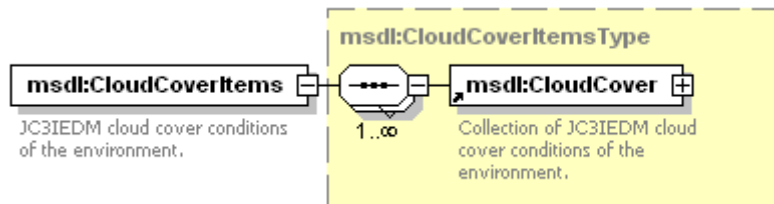
649
650   **Figure 26: *msdl:CloudCoverItems* Element Structure**

651 6.3.5.2.1 *msdl:CloudCover* Element

652 For every **msdl:CloudCoverItems** element there shall be one or more **msdl:CloudCover** elements. The
653 **msdl:CloudCover** element specifies an instance of the cloud cover conditions of the environment. The
654 Cloudcover complex type, an xs:sequence compositor, contains all the elements shown in Figure 27 and
655 described in the subsequent subsections. The domain type is CloudCover.
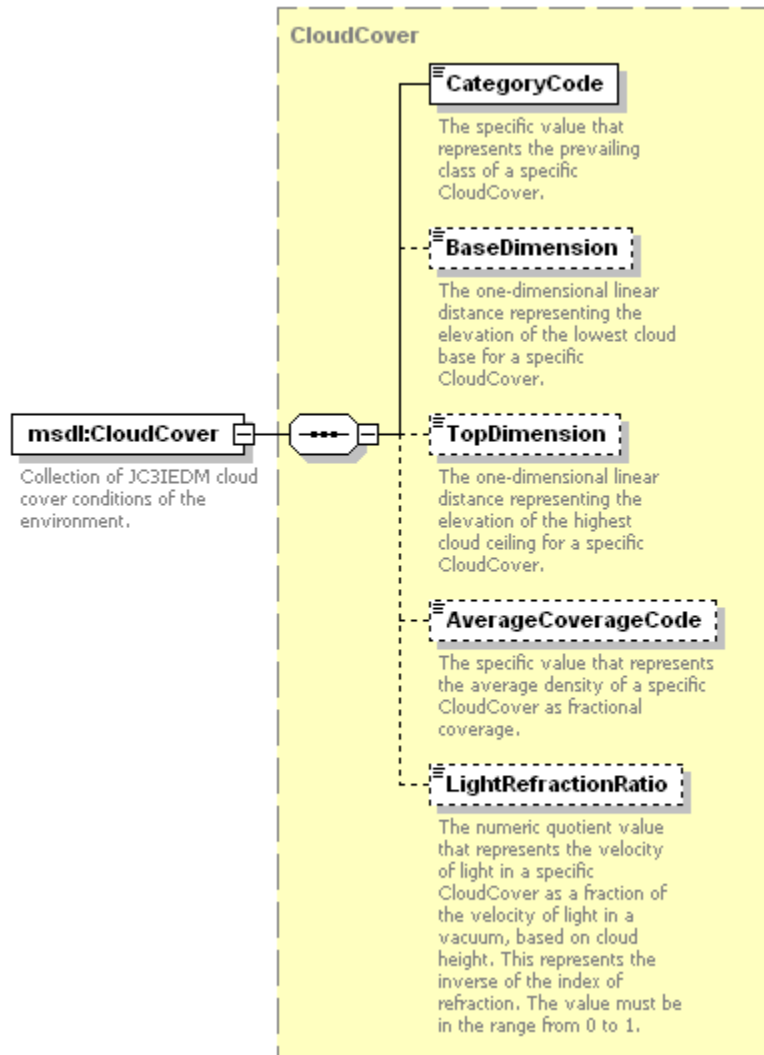
Figure 27: CloudCover Type Structure

656

657

1. CategoryCode Element - For every CloudCover complex type there shall be zero or one CategoryCode element. The specific value that represents the prevailing class of a specific CloudCover. The domain values are: Clouds; Radioactive cloud; Smoke. The domain type is CloudCoverCategoryCode.

2. BaseDimension Element - For every CloudCover complex type there shall be zero or one BaseDimension element following the CategoryCode. The one-dimensional linear distance representing the elevation of the lowest cloud base for a specific **msdl:CloudCover**. The domain type is DimensionOptionalType12_3.

3. TopDimension Element - For every CloudCover complex type there shall be zero or one TopDimension element following the BaseDimension. The one-dimensional linear distance representing the elevation of the highest cloud ceiling for a specific **msdl:CloudCover**. The domain type is DimensionOptionalType12_3.

4. AverageCoverageCode Element - For every CloudCover complex type there shall be zero or one AverageCoverageCode element following the TopDimension. The specific value that represents the average density of a specific **msdl:CloudCover** as fractional coverage. The domain values are: 0/8; 1/8; 2/8; 3/8; 4/8; 5/8; 6/8; 7/8; 7-8/8; 8/8. The domain type is CloudCoverAverageCoverageCode.

5. LightRefractionRatio Element - For every CloudCover complex type there shall be zero or one LightRefractionRatio element following the AverageCoverageCode. The numeric quotient value that

675   represents the velocity of light in a specific CloudCover as a fraction of the velocity of light in a vacuum,
676   based on cloud height. This represents the inverse of the index of refraction. The value must be in the
677   range from 0 to 1. The domain type is RatioOptionalTypeRangeRatio7_6.

678 **6.3.5.3**   *msdl:Icing* **Element**

679 For every ***msdl:GlobalWeather*** element there shall be zero or one ***msdl:Icing*** element. The Icing complex
680 type, an xs:sequence compositor, contains all the elements shown in Figure 28 and described in the
681 subsequent subsections. The Icing element specifies JC3IEDM-based accumulation of frozen water on the
682 surface. The domain type is Icing.
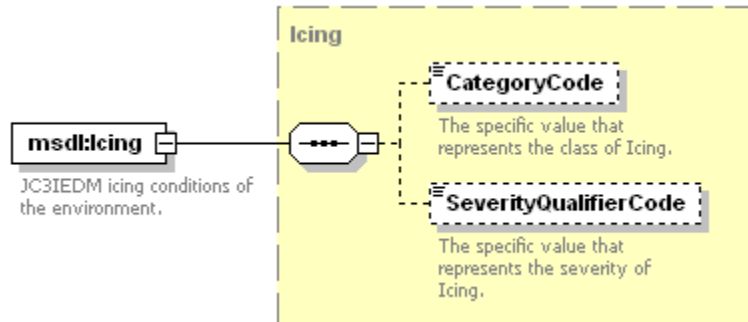
683

684   **Figure 28: Icing Element Structure**

685 **6.3.5.3.1**   **CategoryCode Element**

686 For every Icing complex type there shall be zero or one CategoryCode element. The specific value that
687 represents the class of Icing. The domain values are: Clear icing; Mixed icing; Rime icing. The domain type
688 is IcingCategoryCode.

689 **6.3.5.3.2**   **SeverityQualifierCode Element**

690 For every Icing complex type there shall be zero or one SeverityQualifierCode element following the
691 CategoryCode. The specific value that represents the severity of Icing. The domain values are: Light;
692 Moderate; Severe. The domain type is IcingSeverityQualifierCode.

693 **6.3.5.4**   *msdl:LightItems* **Element**

694 For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:LighItems*** element. The
695 ***msdl:LightItems*** element specifies the JC3IEDM-based availability of natural illumination by type and time.
696 The ***msdl:LightItems*** element, an xs:sequence compositor, is comprised of the elements shown in Figure
697 29 and described in the following subsection. Domain type is ***msdl:LightItemsType***.
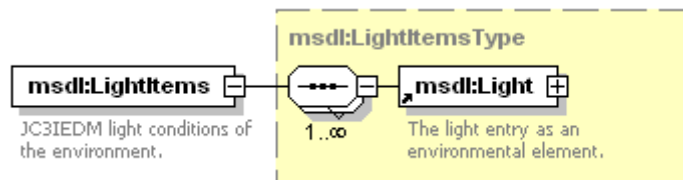
698

699   **Figure 29: *msdl LightItems* Element Structure**

700 **6.3.5.4.1**   **Light Element**

701 The Light complex type specifies the light-related information within the military scenario. The Light complex
702 type, an xs:sequence compositor, contains all the elements shown in Figure 30 and described in the
703 subsequent subsections.
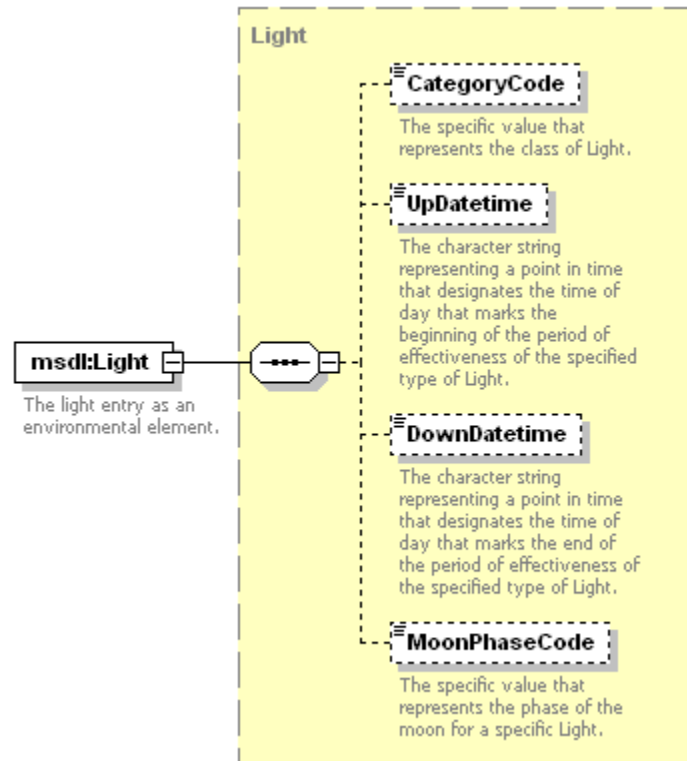
704
705   **Figure 30: Light Element Structure**

706   1.   CategoryCode - For every Light complex type there shall be zero or one CategoryCode element. The
707   specific value that represents the class of Light. The domain values are: Civil twilight; Darkness,
708   Daylight; Moonlight; Nautical twilight. The domain type is LightCategoryCode.

709   2.   UpDatetime Element - For every Light complex type there shall be zero or one UpDatetime element
710   following the CategoryCode. The character string representing a point in time that designates the date
711   and time of day that marks the beginning of the period of effectiveness of the specified type of Light. The
712   domain type is DatetimeOptionalTypeFix18.

713   3.   DownDatetime Element - For every Light complex type there shall be zero or one DownDatetime
714   element following the UpDatetime. The character string representing a point in time that designates the
715   date and time of day that marks the end of the period of effectiveness of the specified type of Light. The
716   domain type is DatetimeOptionalTypeFix18.

717   4.   MoonPhaseCode Element - For every Light complex type there shall be zero or one MoonPhaseCode
718   element following the DownDatetime. The specific value that represents the phase of the moon for a
719   specific LIGHT. The domain values are: Full moon; New moon; Waning moon; Waxing moon. The
720   domain type is LightMoonPhaseCode.

721   The Light information is derived from the ***msdl:ScenarioTime*** and scenario ***msdl:AreaOfInterest***
722   information when these are present in a scenario.

723   **6.3.5.5**   ***msdl:Precipitation* Element**

724   For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:Precipitation*** element. The
725   Precipitation element specifies the JC3IEDM-based precipitation conditions of the environment. The
726   Precipitation complex type, an xs:sequence compositor, contains all the elements shown in Figure 31 and
727   described in the subsequent subsections. The domain type is Precipitation.

728
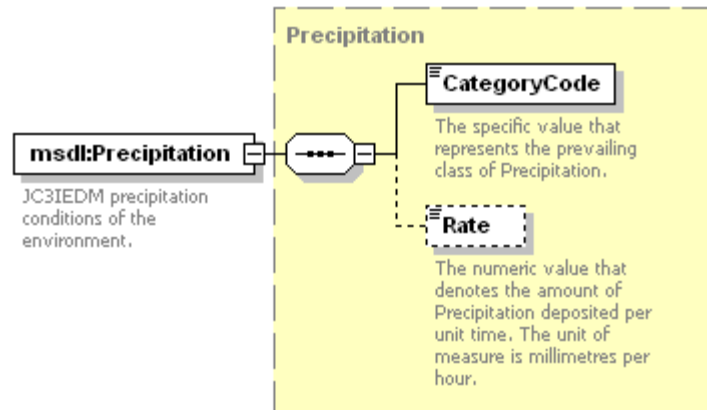
Figure 31: Precipitation Type Structure

6.3.5.5.1   CategoryCode Element

For every Precipitation complex type there shall be zero or one CategoryCode element. The specific value that represents the prevailing class of Precipitation. Example domain values are: Hail; No precipitation; Rain; Sleet; Snow. The domain type is PrecipitationCategoryCode.

6.3.5.5.2   Rate Element

For every Precipitation there shall be zero or one Rate element following the CategoryCode. The numeric value that denotes the amount of Precipitation deposited per unit of time. The unit of measure is millimeters per hour. The domain type is RateOptionalType4_1.

6.3.5.6   *msdl:VisibilityItems* Element

For every **msdl:ScenarioWeather** element there shall be zero or one **msdl:VisibilityItems** element. The Visibility complex type specifies the JC3IEDM-based visibility conditions of the environment. The **msdl:VisibilityItems** element, an xs:sequence compositor, is comprised of the elements shown in Figure 32 and described in the following subsection. Domain type is **msdl:VisibilityItemsType**.

743
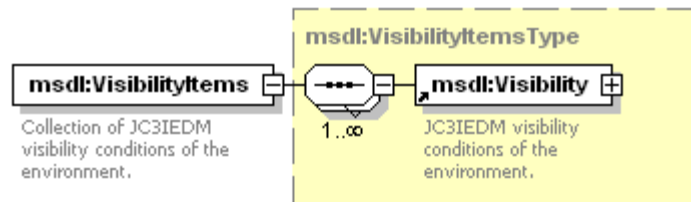
Figure 32: *msdl:VisibilityItems* Element Structure

6.3.5.6.1   *msdl:Visibility* Element

For every **msdl:VisibilityItems** element there shall be one or more **msdl:Visibility** elements. The **msdl:Visibility** element specifies an instance of the JC3IEDM-based visibility conditions of the environment. It is intended that the **msdl:Visibility** element is derived from and consistent with the **msdl:Environment** elements that are included within the scenario document. The Visibility complex type, an xs:sequence compositor, contains all the elements shown in Figure 33 and described in the subsequent subsections The domain type is Visibility.

752
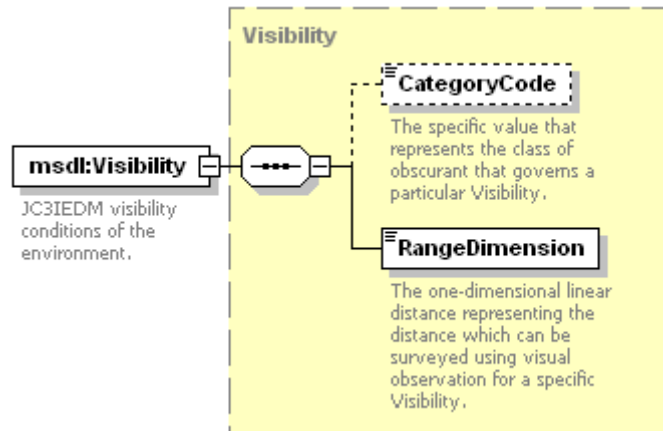
Figure 33: Visibility Type Structure

754 1. CategoryCode Element - For every Visibility complex type there shall be zero or one CategoryCode
755   element. The specific value that represents the class of obscurant that governs a particular Visibility.
756   Example domain values are: Blowing snow; Fog/mist; Sandstorm; Smoke. The domain type is
757   VisibilityCategoryCode.

758 2. RangeDimension Element - For every Visibility complex type there shall be one RangeDimension
759   element following the CategoryCode. The one-dimensional linear distance representing the distance that
760   can be surveyed using visual observation for a specific Visibility. It is defined as the greatest distance in
761   a given direction at which it is just possible to see and identify with the unaided eye (a) in the daytime, a
762   prominent dark object against the sky at the horizon, and (b) at night, a known, preferably unfocused,
763   moderately intense light source. After the visibility has been determined through the entire horizon circle,
764   they are resolved into a single value of prevailing visibility. The domain type is
765   **DimensionMandatoryType12_3**.

766 In some cases, the Visibility information is derived from the **msdl:CloudCover** information and on the
767 **msdl:Precipitation** information.

768 **6.3.5.7   msdl:WindItems Element**

769 The **msdl:WintItem** element specifies the JC3IEDM-based wind conditions of the environment. The
770 **msdl:WindItems** element, an xs:sequence compositor, is comprised of the elements shown in Figure 34
771 and described in the following subsection. Domain type is **msdl:WindItemsType**.

772
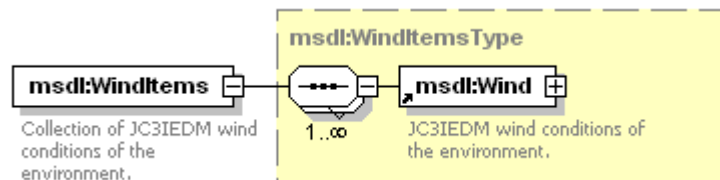
Figure 34: *msdl:WindItems* Element Structure

774 **6.3.5.7.1   *msdl:Wind* Element**

775 For every **msdl:WindItems** element there shall be one or more **msdl:Wind** elements. The **msdl:Wind**
776 element specifies an instance of the JC3IEDM-based wind conditions of the environment. The Wind complex
777 type, an xs:sequence compositor, contains all the elements shown in Figure 35 and described in the
778 subsequent subsections.The domain type is Wind.

779
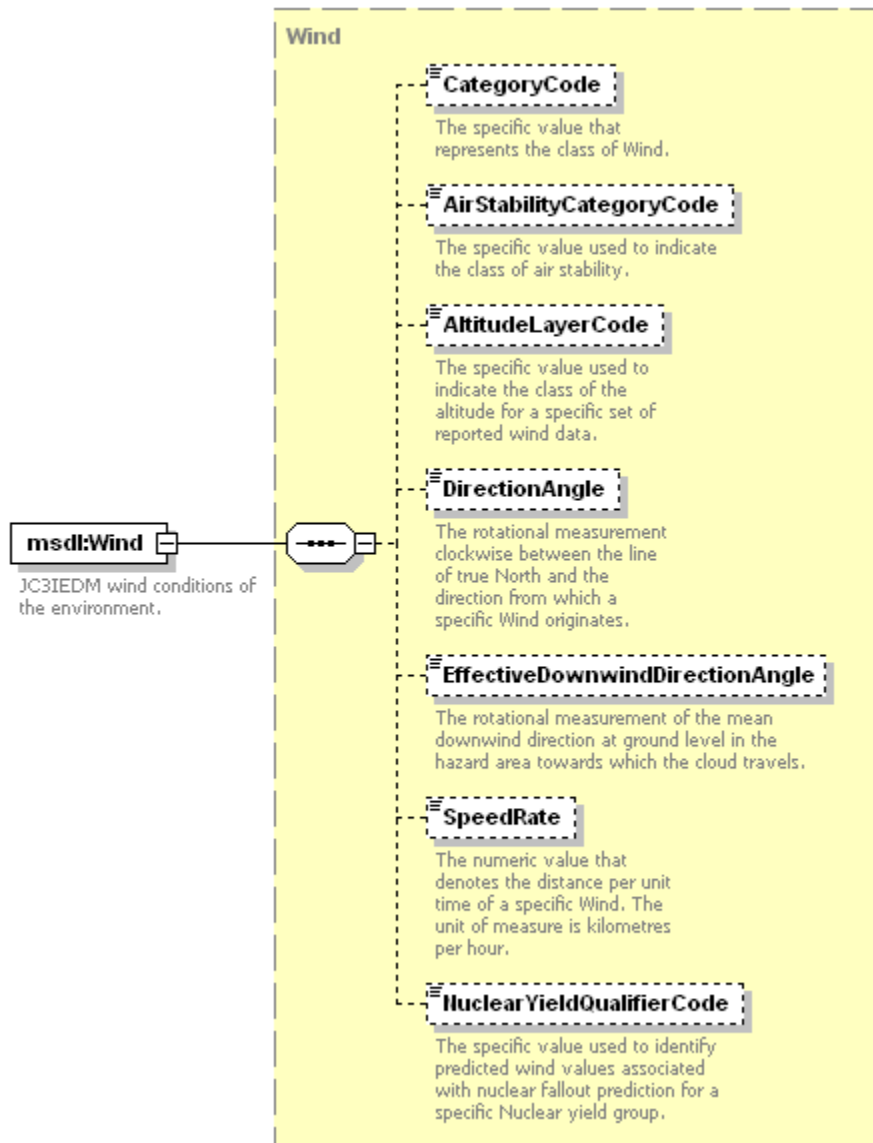
780 **Figure 35: Wind Type Structure**

781 1. CategoryCode Element - For every Wind complex type there shall be zero or one CategoryCode
782 element. The specific value that represents the class of Wind. Example domain values are: Constant;
783 Gusting; Squalls; Variable; Not known. The domain type is WindCategoryCode.

784 2. AirStabilityCategoryCode *Element* - For every Wind complex type there shall be zero or one
785 AirStabilityCategoryCode element following the CategoryCode. The specific value used to indicate the
786 class of air stability. Example domain values are: Simplified, unstable; Simplified, stable; Detailed, very
787 unstable; Detailed, neutral. The domain type is WindAirStabilityCategoryCode.

788 3. AltitudeLayerCode Element - For every Wind complex type there shall be zero or one AltitudeLayerCode
789 element following the AirStabilityCategoryCode. The specific value used to indicate the class of the
790 altitude for a specific set of reported wind data. Example domain values are: 2000 meters; 8000 meters;
791 14,000 meters; 30,000 meters. The domain type is WindAltitudeLayerCode.

792 4. DirectionAngle Element - For every Wind complex type there shall be zero or one DirectionAngle
793 element following the AltitudeLayerCode. The rotational measurement clockwise between the line of true

794 North and the direction from which a specific Wind originates. The domain type is
795 AngleOptionalTypeRangeAngle7_4.

796 5. EffectiveDownwindDirectionAngle Element - For every Wind complex type there shall be zero or one
797 EffectiveDownwindDirectionAngle element following the DirectionAngle. The rotational measurement of
798 the mean downwind direction at surface level in the hazard area towards which the cloud travels. The
799 domain type is AngleOptionalTypeRangeAngle7_4.

800 6. SpeedRate Element - For every Wind complex type there shall be zero or one SpeedRate element
801 following the EffectiveDownwindDirectionAngle. The numeric value that denotes the distance per unit
802 time of a specific Wind. The unit of measure is kilometers per hour. The domain type is
803 RateOptionalType8_4.

804 7. NuclearYieldQualifierCode Element - For every Wind complex type there shall be zero or one
805 NuclearYieldQualifierCode element following the SpeedRate. The specific value used to identify
806 predicted wind values associated with nuclear fallout prediction for a specific Nuclear yield group.
807 Example domain values are: ALPHA; BRAVO; CHARLIE; FOXTROT; GOLF. The domain type is
808 NuclearYieldGroupCode.

809 **6.3.6 *msdl:METOC* Element**

810 For every **msdl:ScenarioWeather** element there shall be zero or one **msdl:METOC** element. The
811 **msdl:METOC** element specifies the MIL-STD-2525B-based meteorological conditions of the environment.
812 The specification included in this standard is based on the MIL-STD-2525B w/CHANGE 1 specification.
813 APPENDIX C of MIL-STD-2525B w/CHANGE 1 provides most of the applicable descriptions. The
814 **msdl:METOC** element , an xs:sequence compositor, is comprised of the elements shown in Figure 36 and
815 described in the following subsections. Domain type is **msdl:METOCType**.
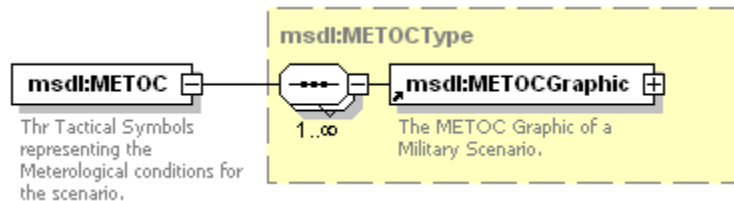
816

817 **Figure 36: *msdl:METOC* Element Structure**

818 **6.3.6.1 *msdl:METOCGraphic* Element**

819 For every **msdl:METOC** element there shall be one **msdl:METOCGraphic** element. The **msdl:METOC**
820 element specifies the MIL-STD-2525B-based meteorological conditions of the environment. The specification
821 included in this standard is based on the MIL-STD-2525B w/CHANGE 1 specification. The
822 **msdl:METOCGraphic** element, an xs:all compositor, is comprised of the elements shown in Figure 37 and
823 described in the following subsections. Domain type is **msdl:METOCGraphicType**.

msdl:METOCGraphicType

msdl:ObjectHandle
The Universal Unique Identifier UUID of an object

SymbolId
15 character METOC Graphic identifier

msdl:UniqueDesignation
The text modifier for The symbols unique designation.

msdl:DateTimeGroup
The Date Time Group an Alphanumeric field for date/time which identifies the valid timeframe start, relative to ScenarioTime, for which the symbol is a valid.

msdl:DateTimeGroup1
The Date Time Group an Alphanumeric field for date/time which identifies the valid timeframe end, relative to ScenarioTime, for which the symbol is a valid.

msdl:Quantity
The text modifier is an equipment symbol that identifies the number of items present

msdl:AdditionalInfo
The text modifier for additional information field.

Disposition

msdl:METOCGraphic
The METOC Graphic of a Military Scenario.

824
825 **Figure 37: *msdl:METOCGraphic* Element Structure**

826 **6.3.6.1.1 *msdl:ObjectHandle* Element**

827 For every ***msdl:METOCGraphic*** element there shall be one ***msdl:ObjectHandle*** element. The Universal
828 Unique Identifier of a specific element. The domain type is ***UUID***.

829 **6.3.6.1.2 *msdl:SymbolId* Element**

830 For every ***msdl:METOCGraphic*** element there shall be one ***msdl:SymbolID*** element. The type identifier of
831 a specific ***msdl:METOC*** element. The domain is a METOC Symbol Identification Code (SIDC) from the MIL-
832 STD-2525B w/CHANGE 1 specification APPENDIX C. The Coding Scheme (position 1) must be 'W'. The
833 Category (position 2) and the Function ID (position 5 through 10) are used as proscribed in the reference.
834 The domain type is ***msdl:SymbolID***.

835 **6.3.6.1.3 *msdl:UniqueDesignation* Element**

836 For every **msdl:METOCGraphic** element there shall be one **msdl:UniqueDesignation** element. The
837 character string providing a unique designation of a specific **msdl:METOC** element. The content is
838 implementation specific. The domain type is **msdl:UniqueDesignation**.

839 ### 6.3.6.1.4   *msdl:DateTimeGroup* **Element**

840 For every **msdl:METOCGraphic** element there shall be zero or one **msdl:DateTimeGroup** element. The
841 character string representing the time frame start, relative to the **msdl:ScenarioTime**, for which the
842 **msdl:METOC** element is valid. The DateTimeGroup attribute allows multiple stages of a phenomenon to be
843 specified. The UniqueDesignation attribute is used to link together these different stages. The ObjectHandle
844 of the stages will be different but the UniqueDesignation will be the same. Because **msdl:DateTimeGroup**
845 and **msdl:DateTimeGroup** represent the time frame of existing for the specific **msdl:METOCGraphic**
846 element if either one is specific the other must also be included in the instance document. The domain type
847 is **msdl:patternTimeDTGRelative8.**

848 ### 6.3.6.1.5   *msdl:DateTimeGroup1 Element*

849 For every **msdl:METOCGraphic** element there shall be zero or one **msdl:DateTimeGroup1 element**. The
850 character string representing the time frame end, relative to the **msdl:ScenarioTime**, for which the
851 **msdl:METOC** element is valid. The DateTimeGroup1 attribute allows multiple stages of a phenomenon to be
852 specified. The UniqueDesignation attribute is used to link together these different stages. The ObjectHandle
853 of the stages will be different but the UniqueDesignation will be the same. Because **msdl:DateTimeGroup**
854 and **msdl:DateTimeGroup1** represent the time frame of existing for the specific **msdl:METOCGraphic**
855 element if either one is specified the other must also be included in the instance document. The domain type
856 is **msdl:patternTimeDTGRelative8**

857 ### 6.3.6.1.6   *msdl:Quantity* **Element**

858 For each **msdl:METOCGraphic** there shall be zero or one **msdl:Quantity** element. The numerical value
859 that denotes the number of items present for a specific **msdl:METOC** element. The domain is a value
860 greater than 0. The domain type is **xs:int**.

861 ### 6.3.6.1.7   *msdl:AdditionalInfo* **Element**

862 For each **msdl:METOCGraphic** there shall be zero or one **msdl:AdditionalInfo** element. The character
863 string providing additional information about a specific **msdl:METOC** element. The content is implementation
864 specific. The domain type is **msdl:AdditionalInfo**.

865 ### 6.3.6.1.8   *Disposition* **Element**

866 For every **msdl:METOCGraphic** element there shall be one **Disposition** element. The structure describing
867 anchorpoints, speed, and direction of movement of the **msdl:METOCGraphic**. The **Disposition** element,
868 an xs:all compositor, is comprised of the elements shown in Figure 38 and described in the following
869 subsections. Domain type is **msdl:METOCDispositionType**.
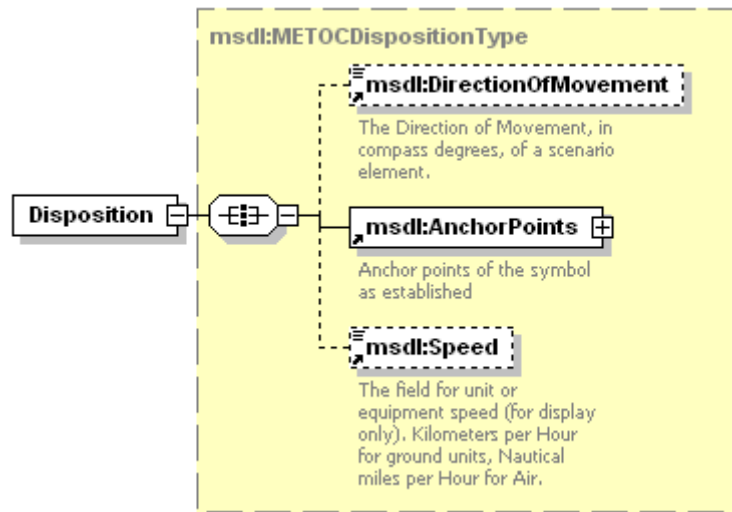
870
871 **Figure 38: *Disposition* Element Structure**

872 8. msdl:DirectionOfMovement Element - For each **msdl:METOCGraphic** there shall be zero or one
873 **msdl:DirectionOfMovement** element. The numerical value that denotes the horizontal direction of
874 movement of a specific **msdl:METOC** Element. The unit is compass degrees. The domain type is
875 **msdl:floatCompassDegrees3_3.**

876 9. msdl:AnchorPoints Element - For every **msdl:METOCGraphic** element there shall be one
877 **msdl:AnchorPoints** element. The structure describing the location, size and shape (Point, Line or Area)
878 of a specific **msdl:METOC** element. The domain type is **msdl:AnchorPoints**.

879 10. **msdl:Speed** Element - For each **msdl:METOCGraphic** there shall be zero or one **msdl:Speed**
880 element. The numerical value that denotes the rate of movement of a specific **msdl:METOC** element in
881 the direction of movement specified by the msdl:DirectionOfMovement element. The units are Kilometers
882 per Hour for Ground objects, Nautical miles per Hour for Maritime and Air objects. The domain type is
883 **msdl:Speed**.

884 **6.4   *msdl:ForceSides* Element**

885 For every **msdl:MilitaryScenario** element there shall be one **msdl:ForceSides** element. The
886 **msdl:ForceSides** element is used to specify the Forces and Sides and their associations within a military
887 scenario. The **msdl:ForceSides** element, an xs:sequence compositor contains all the elements shown in
888 Figure 39 and described in the subsequent subsections. Domain type is **msdl:ForceSidesType**.
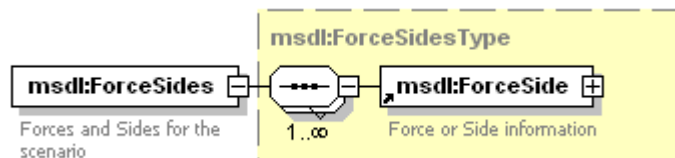

889
890 **Figure 39: *msdl:ForceSides* Element Structure**

891 **6.4.1   *msdl:ForceSide* Element**

892 For every **msdl:ForceSides** element there shall be one or more **msdl:ForceSide** elements. The
893 **msdl:ForceSide** element specifies the force or side information.   It is an xs:all compositor and comprised of
894 the elements shown in Figure 40 and described in the following subsections. Domain type is
895 **msdl:ForceSideType**.
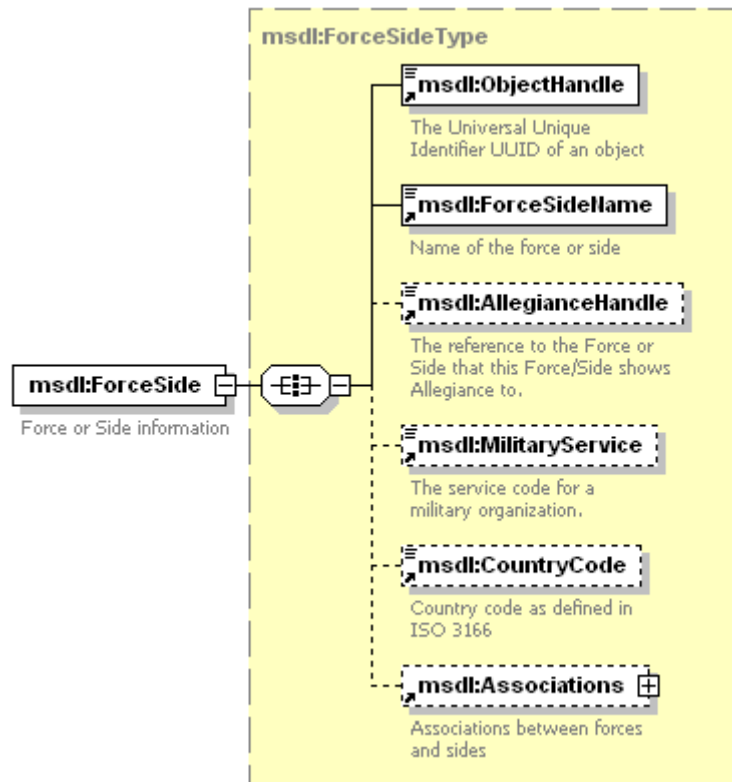
896
897   **Figure 40:** *msdl:ForceSide* **Element Structure**

898   **6.4.1.1   *msdl:ObjectHandle* Element**

899   For every ***msdl:ForceSide*** element there shall be one ***msdl:ObjectHandle*** element. The
900   ***msdl:ObjectHandle*** element specifies the Universal Unique Identifier (UUID) of the ***msdl:ForceSide***
901   element. The domain type is ***msdl:patternUUID32.***

902   **6.4.1.2   *msdl:ForceSideName* Element**

903   For every ***msdl:ForceSide*** element there shall be one ***msdl:ForceSideName*** element. The
904   ***msdl:ForceSideName*** element specifies the name of the force or the side. The domain type is
905   ***msdl:textName255.***

906   **6.4.1.3   *msdl:AllegianceHandle* Element**

907   For every ***msdl:ForceSide*** element there shall be zero or one ***msdl:AllegianceHandle*** element. The
908   ***msdl:AllegianceHandle*** element specifies a reference to the Force or Side that this ForceSide element
909   shows allegiance to. This element allows the description of a hierarchical structure for the forces and sides
910   whereas the first level (when this element is not specified) are the sides. Therefore Forces can have
911   alliegiance to another Force or a Side but Sides are not intended to have allegiances to another Force or
912   Side.The domain type is ***msdl:patternUUID32.***

913   **6.4.1.4   *msdl:MilitaryService* Element**

914   For every ***msdl:ForceSide*** element there shall be zero or one ***msdl:MilitaryService*** element. The
915   ***msdl:MilitaryService*** element specifies a Service code for a military organization. The domain type is
916   MilitaryOrganisationTypeServiceCode.

917 **6.4.1.5** *msdl:CountryCode* **Element**

918 For every **msdl:ForceSide** element there shall be zero or one **msdl:CountryCode** element. The
919 **msdl:CountryCode** element specifies a Country code for to which the organization belongs. The domain
920 type is AffiliationGeopoliticalCode**.**

921 **6.4.1.6** *msdl:Associations* **Element**

922 For every **msdl:ForceSide** element there shall be zero or one **msdl:Associations** element. Sides shall
923 have associations to all other Sides. Forces shall have associations to all other Forces that do not have
924 allegiance to the same side as the current Force. All Force to Force and Side to Side relationships shall be
925 explicity defined within the **msdl:Associations** structure. The **msdl:Associations** element, an xs:sequence
926 compositor, specifies the associations between forces and sides and is show in Figure 41. Domain type is
927 **msdl:AssociationsType**.
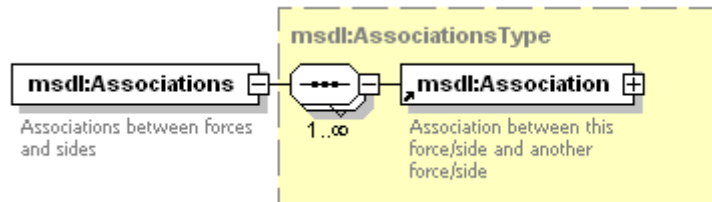
928

929 **Figure 41: *msdl:Associations* Element Structure**

930 **6.4.1.6.1** *msdl:Association* **Element**

931 For every **msdl:Associations** element there shall be one or more **msdl:Association** elements. The
932 **msdl:Association** element specifies the relations ship between the current force or side and the other
933 specified forces or sides. Because each Force or Side has its own list of associations the relationship
934 between the forces or sides can be asymmetric. It is an xs:all compositor comprised of the elements shown
935 in Figure 42 and described in the following subsections. Domain type is **msdl:AssociationType**.
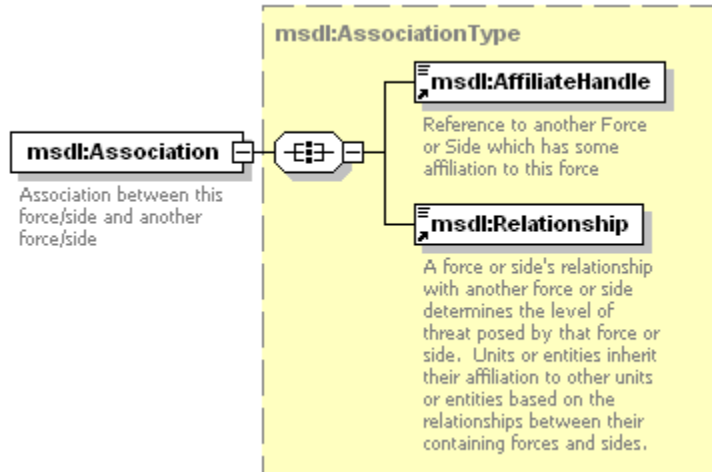
936

937 **Figure 42: *msdl:Association* Element Structure**

938 1. **msdl:AffiliateHandle** - For every **msdl:Association** element there shall be one **msdl:AffiliateHandle**
939   element. The **msdl:AffiliateHandle** element specifies the reference to another Forceside element which
940   has a relationship to the current Forceside element. The domain type is a **msdl:patternUUIDRef32.**

941 2. **msdl**:Relationship - For every **msdl:Association** element there shall be one **msdl:Relationship**
942   element. The **msdl:Relationship** element specifies a Force or Side's relationship with another Force or
943   Side. It is to be used to determine the level of threat posed by that Force or Side. It is expected that

944   units or entities inherit their affiliation to the other units or entities based on their relationships between
945   their containing Forces and Sides. The domain type is a ObjectItemHostilityStatusCode.

946   **6.5**   ***msdl:Organizations* Element**

947   For every **msdl:MilitaryScenario** element there shall be zero or one **msdl:Organizations** element. The
948   **msdl:Organizations** element is used to specify the mission/scenario specific organizations and equipment
949   within the military scenario document to include all military service, governmental, and nongovernmental
950   organizations. Organizations in MSDL are comprised of **msdl:Units** and **msdl:Equipment**.
951   **msdl:Equipment** generally equates to entities in the simulation. Whether **msdl:Equipment** is represented
952   in the **msdl:Organization** depends on the planning model specified in the **msdl:OrganizationDetail** of the
953   scenario **msdl:Options**. The description of the units and equipment does not specify how each unit and
954   equipment is reported during intelligence gathering by the other unit and equipment. However, it is expected
955   that each simulation application will be able to derive the proper information.   The information in the
956   **msdl:Organizations** element describes the initialization data of each unit and equipment element and is not
957   intended to be interpreted as a perceived value. The **msdl:Organizations** element is comprised of an xs:all
958   compositor comprised the elements shown in Figure 43 and described in the subsequent subsections.
959   Domain type is **msdl:OrganizationsType**.
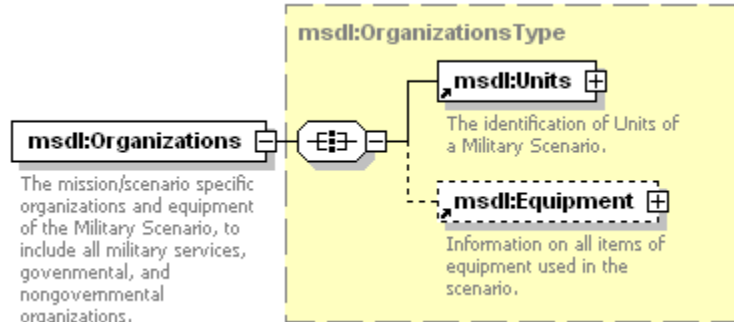
960
961   **Figure 43: *msdl:Organizations* Element Structure**

962   **6.5.1**   ***msdl:Units* Element**

963   For every **msdl:Organizations** element there shall be one **msdl:Units** element. The **msdl:Units** element ,
964   an xs:sequence compositor, specifies the units within the military scenario document and is show in Figure
965   44. Domain type is **msdl:UnitsType**.
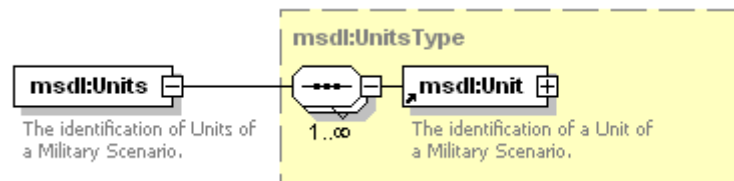
966
967   **Figure 44: *msdl:Units* Element Structure**

968   **6.5.1.1**   ***msdl:Unit* Element**

969   For every **msdl:Units** element there shall be one or more **msdl:Unit** elements. The **msdl:Unit** element
970   specifies a unit within the military scenario document. It is an xs:all compositor comprised of the elements
971   shown in Figure 45 and described in the following subsections. Domain type is **msdl:Unit**.

972
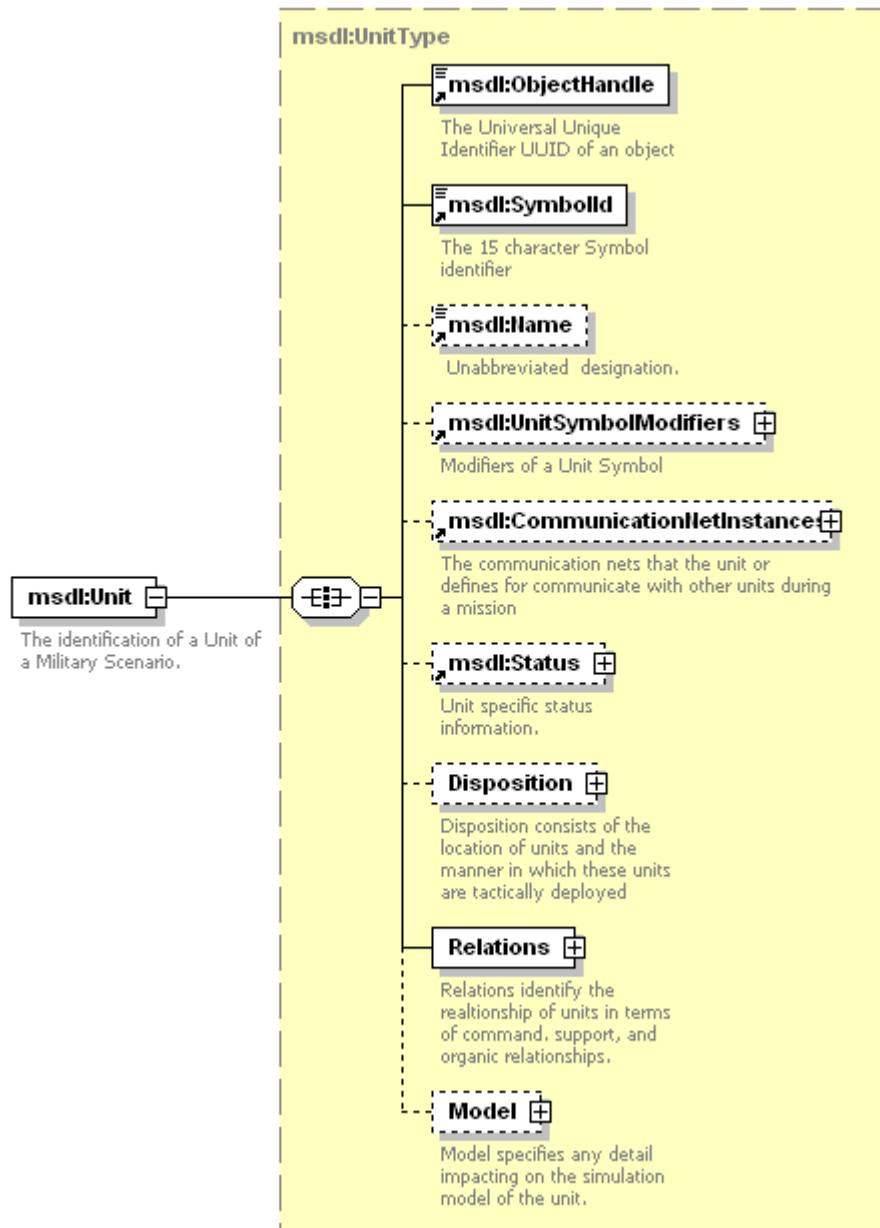
973 **Figure 45: *msdl:Unit* Element Structure**

974 **6.5.1.1.1   *msdl:ObjectHandle* Element**

975 For every ***msdl:Unit*** element there shall be one ***msdl:ObjectHandle*** element. The ***msdl:ObjectHandle***
976 element specifies the UUID of the ***msdl:Unit***. The domain type is a ***msdl:patternUUID32.***

977 **6.5.1.1.2   *msdl:SymbolID* Element**

978 For every ***msdl:Unit*** element there shall be one ***msdl:SymbolID*** element. The ***msdl:SymbolID*** element
979 specifies the 15 character symbol identifier as specified by the Symbol Identification Coding scheme within
980 Mil Std 2525B. Restrictions to the coding scheme are specified within the domain type. The domain type is
981 a ***msdl:patternForceSymbolID15.***

982 **6.5.1.1.3   *msdl:Name* Element**

983 For every ***msdl:Unit*** element there shall be zero or one ***msdl:Name*** element. The ***msdl:Name*** element
984 specifies the unabbreviated designation of the ***msdl:Units***. The domain type is ***msdl:textName255.***

985 **6.5.1.1.4   *msdl:UnitSymbolModifiers* Element**

986 For every ***msdl:Unit*** element there shall be zero or one ***msdl:UnitSymbolModifiers*** element. The
987 ***msdl:UnitSymbolModifiers*** element specifies the modifiers of unit symbol. It is an xs:all compositor
988 comprised of the elements shown in Figure 46 and described in the following subsections. Domain type is
989 ***msdl:UnitSymbolModifiersType***.

990
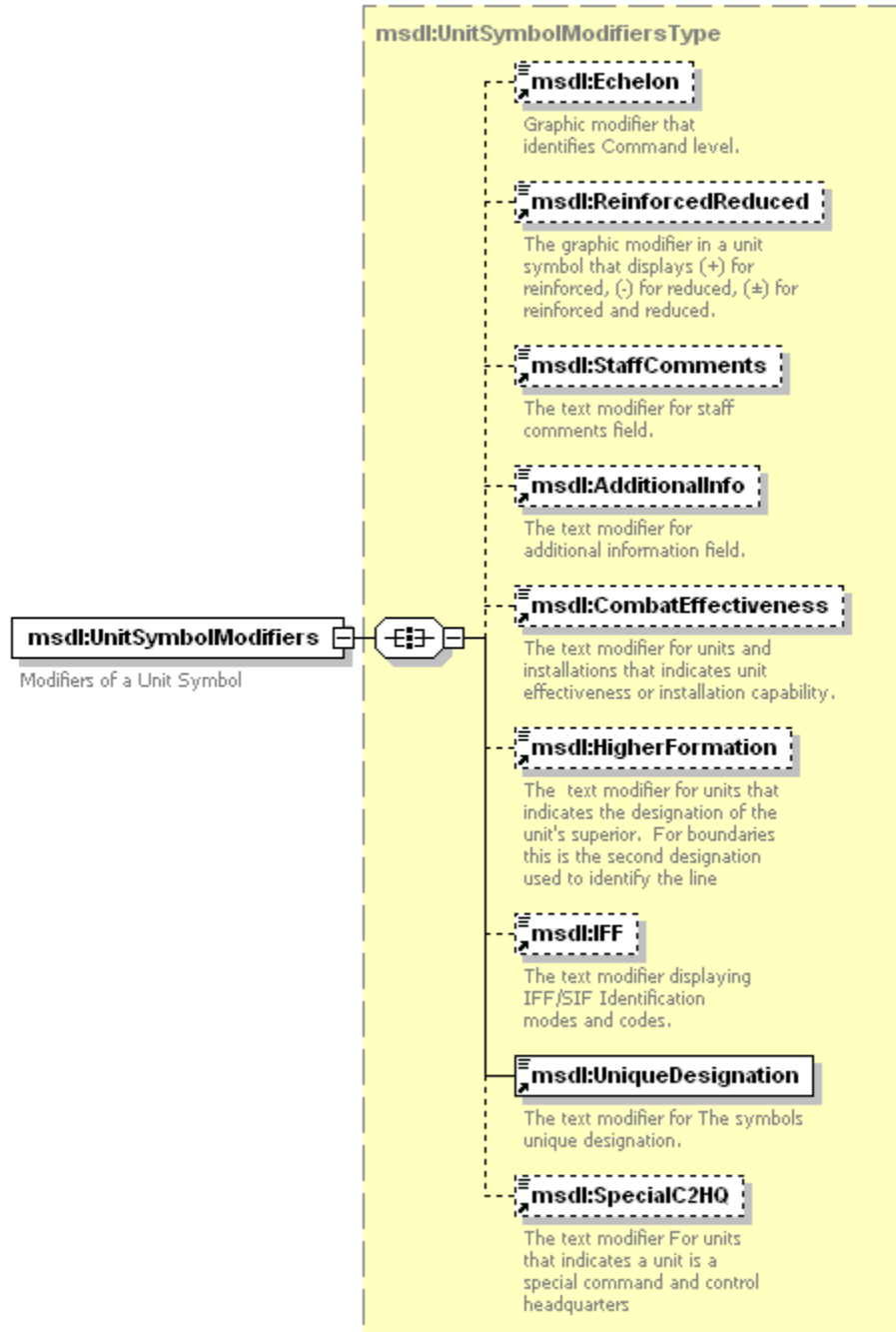
991 **Figure 46: *msdl:UnitSymbolModifiers* Element Structure**

992 1. ***msdl:Echelon*** - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one
993 ***msdl:Echelon*** elements. The ***msdl:Echelon*** element specifies the graphic modifier that identifies the
994 command level. The domain type is restricted ***msdl:enumEchelon***.

995 2. ***msdl:ReinforcedReduced*** - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one
996 ***msdl:ReinforcedReduced*** element. The domain type is ***msdl:enumReinforcedReducedType***.

997 3. ***msdl:StaffComments*** - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one
998 ***msdl:StaffComments*** element. The ***msdl:StaffComments*** element specifies the text modifier for staff
999 comments field. The domain type is a ***msdl:text20.***

1000 4. ***msdl***:AdditionalInfo - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one
1001 ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an
1002 additional information field. The domain type is a restricted ***msdl:text20.***

1003 5. ***msdl***:CombatEffectiveness - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one
1004 ***msdl:CombatEffectiveness*** elements. The ***msdl:CombatEffectiveness*** element specifies the text
1005 modifier that indicates the ability of a unit to perform its mission. Factors such as ammunition,
1006 personnel, status of fuel, and weapon systems may be included in the assessment. The domain type is
1007 ***msdl:enumCombatEffectivenessType***.

1008 6. ***msdl:HigherFormation*** - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one
1009 ***msdl:HigherFormation*** element. The ***msdl:HigherFormation*** element specifies the text modifier that
1010 indicates the designation of the unit's superior when the designation is different that the one specified by
1011 the ***msdl:Relations*** element. The domain type is ***msdl:text21.***

1012 7. ***msdl***:IFF - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:IFF*** element.
1013 The ***msdl:IFF*** element specifies the text modifier displaying IFF/SIF identification modes and codes. The
1014 domain type is ***msdl:text20.***

1015 8. ***msdl:UniqueDesignation*** - For every ***msdl:UnitSymbolModifiers*** element there shall be one
1016 ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier
1017 for the symbols unique designation. The domain type is ***msdl:text21.***

1018 9. ***msdl***:SpecialC2HQ - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one
1019 ***msdl:SpecialC2HQ*** element. The ***msdl:SpecialC2HQ*** element specifies the text modifier for units, that
1020 indicates a unit is a special command and control headquarters. The domain type is
1021 ***msdl:textSpecialC2HQ1.***

1022 **6.5.1.1.5 *msdl:CommunicationNetInstance* Element**

1023 For every ***msdl:Unit*** element there shall be zero or one ***msdl:CommunicationNetInstances*** element. The
1024 ***msdl:CommunicationNetInstances*** element specifies the communication nets that the unit defines for
1025 communication with other units during a mission. It is an xs:sequence compositor comprised of the elements
1026 shown in Figure 47 and described in the following subsections. Domain type is
1027 ***msdl:CommunicationNetInstancesType***.

1028
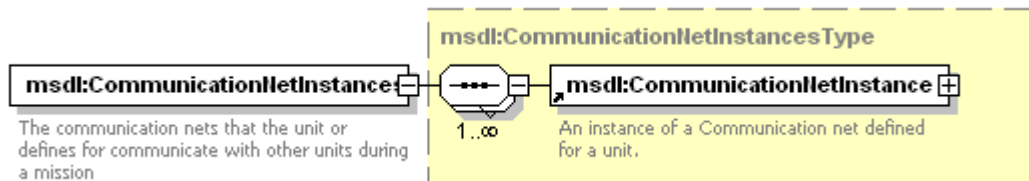
1029 **Figure 47: *msdl:CommunicationsNetInstances* Element Structure**

1030 1. ***msdl:CommunicationNetInstance*** - For every ***msdl:CommunicationNetInstances*** element there
1031 shall be one or more ***msdl:CommunicationNetInstance*** elements. The
1032 ***msdl:CommunicationNetInstance*** element specifies an instance of a communication net defined for a

1033   unit. It is an xs:all compositor comprised of the elements shown in Figure 48 and described in the
1034   following subsections. Domain type is **msdl:CommunicationNetInstanceType**.

1035
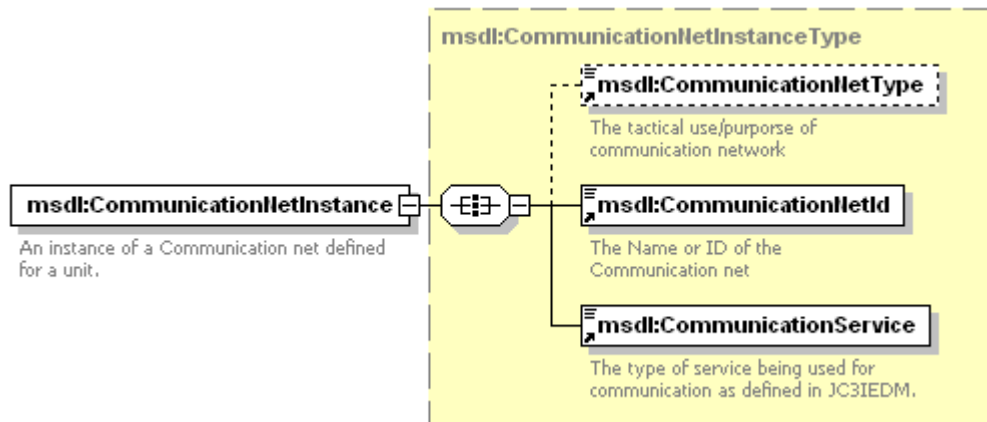
1036   **Figure 48:   *msdl:CommunicationNetInstance* Element Structure**

1037   a) **msdl:CommunicationNetType** - For every **msdl:CommunicationNetInstance** element there shall
1038   be zero or one **msdl:CommunicationNetType** element. The **msdl:CommunicationNetType**
1039   element specifies the tactical use or purpose of the communication network. The domain type is
1040   **msdl:CommunicationNetTypeEnum**.
1041   b) **msdl:CommunicationNetId** - For every **msdl:CommunicationNetInstance** element there shall be
1042   one **msdl:CommunicationNetId** element. The **msdl:CommunicationNetId** element specifies the
1043   name or ID of the communication network. The domain type is **msdl:textIdentifier64.**
1044   c) **msdl**:CommunicationService - For every **msdl:CommunicationNetInstance** element there shall be
1045   one **msdl:CommunicationService** element. The **msdl:CommunicationService** element specifies
1046   the type of service being used for communication as defined in the JC3IEDM. The domain type is a
1047   restricted **msdl:enumCommunicationServiceType**.

1048   **6.5.1.1.6   *msdl:Status* Element**

1049   For every **msdl:Unit** element there shall be zero or one **msdl:Status** element. The **msdl:Status** element
1050   specifies unit specific status information. It is an xs:all compositor comprised of the elements shown in
1051   Figure 49 and described in the following subsections. Domain type is **msdl:StatusType**.

1052
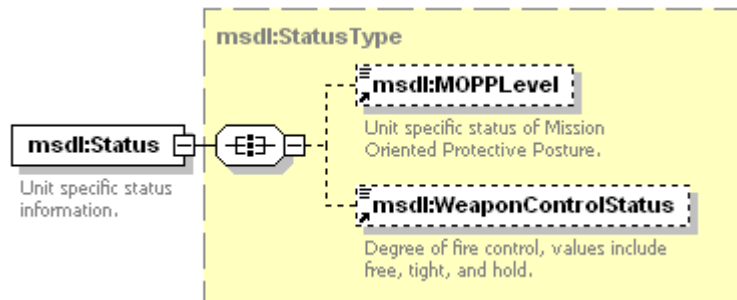
1053   **Figure 49: *msdl:Status* Element Structure**

1054   1. **msdl:MOPPLevel** - For every **msdl:Status** element there shall be zero or one **msdl:MOPPLevel**
1055   elements. The **msdl:MOPPLevel** element specifies the status of the Mission Oriented Protective Posture
1056   (MOPP). The domain type is restricted **msdl:enumMOPPLevelType**.
1057   2. **msdl:WeaponControlStatus** - For every **msdl:Status** element there shall be zero or one
1058   **msdl:WeaponControlStatus** element. The **msdl:WeaponControlStatus** element specifies the degree

1059   of fire control, values include free, tight, and hold. The domain type is restricted
1060   **msdl:enumWeaponControlStatusType**.

1061   **6.5.1.1.7**   ***Disposition* Element**

1062   For every **msdl:Unit** element there shall be zero or one ***Disposition*** element. The ***Disposition*** element
1063   specifies the location of units and the manner in which these units are tactically deployed. It is an xs:all
1064   compositor comprised of the elements shown in Figure 50 and described in the following subsections.
1065   Domain type is **msdl:UnitDispositionType**.
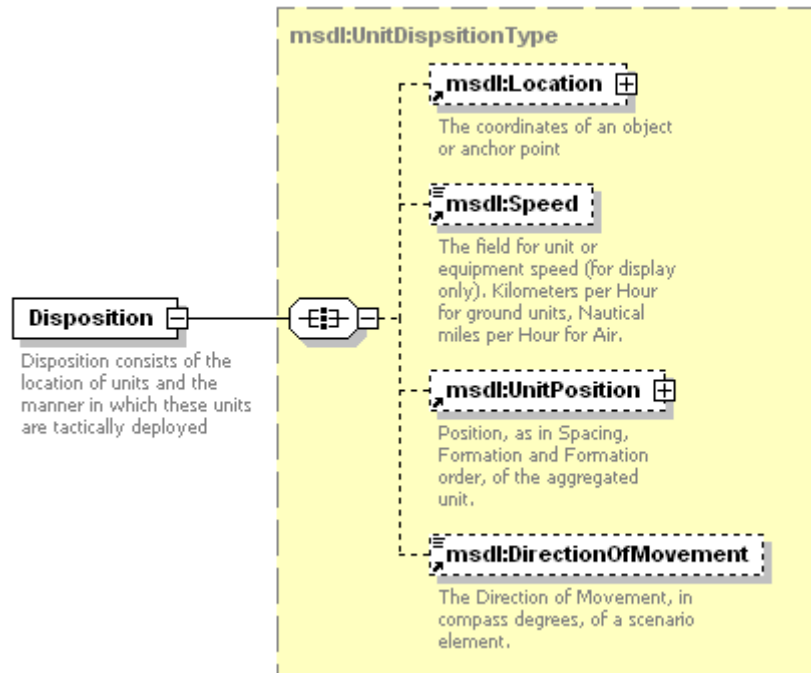
1066

1067   **Figure 50: *Disposition* Element Structure**

1068   1.   **msdl:Location** - For every ***Disposition*** element there shall be zero or one **msdl:Location** element. The
1069   **msdl:Location** element specifies the coordinates of the unit. This shall either be the position of the lead
1070   element or the center of mass of the unit as specified in the **msdl:FormationLocationType**. It shall be
1071   center of mass when the **msdl:FormationLocationType** element is not specified. The domains type is
1072   **msdl:Coordinate**.
1073   2.   **msdl**:Speed - For every ***Disposition*** element there shall be zero or one **msdl:Speed** element. The
1074   **msdl:Speed** element specifies the rate of movement of the unit in the direction specified by the
1075   msdl:DirectionOfMovement element. The domains type is **msdl:floatSpeed6_2**.
1076   3.   **msdl:UnitPosition** - For every ***Disposition*** element there shall be zero or one **msdl:UnitPosition**
1077   element. The **msdl:UnitPosition** element specifies if the unit is out of formation with respect to its higher
1078   unit's formation and holds the specific placement or order of the unit in the higher unit's formation as well
1079   as its own current formation. The higher unit is identified within the ***Relations*** element. It is an xs;all
1080   compositor comprised of the elements shown in Figure 51 and described in the following subsections.
1081   Domain type is **msdl:UnitPositionType**.

1082
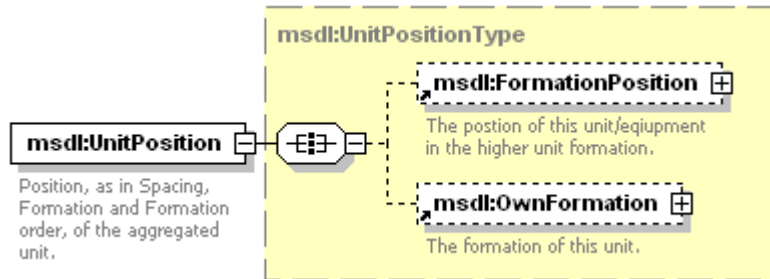
Figure 51: *msdl:UnitPosition* Element Structure

1084   a)   ***msdl:FormationPosition*** - For every ***msdl:UnitPosition*** element there shall be zero or one
1085   ***msdl:FormationPosition*** element. The ***msdl:FormationPosition*** element specifies the position of
1086   the specific unit with relation to the other units within the formation. It is an xs:all compositor
1087   comprised of the elements shown in Figure 52 and described in the following subsections. Domain
1088   type is ***msdl:FormationPositionType***.

1089
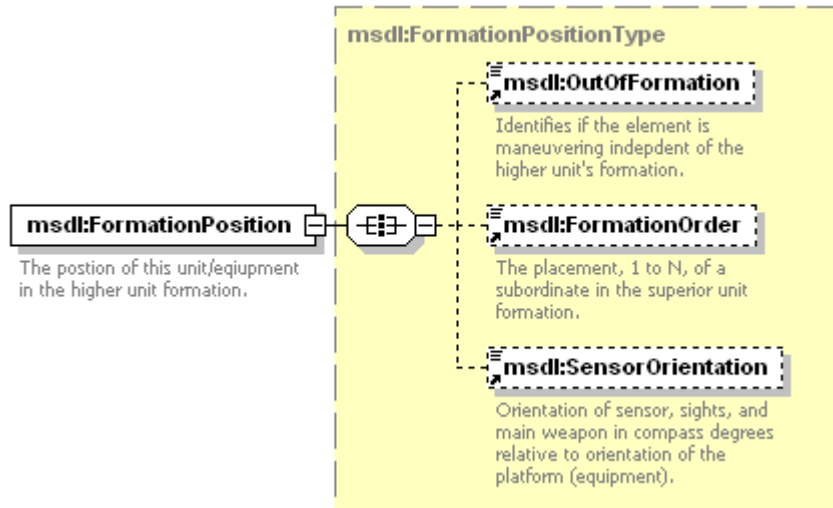
Figure 52: *msdl:FormationPosition* Element Structure

1091   i)   ***msdl:OutOfFormation*** - For every ***msdl:FormationPosition*** element there shall be zero or one
1092   ***msdl:OutOfFormation*** element. The ***msdl:OutOfFormation*** element specifies if the element is
1093   maneuvering independent of the higher unit's formation. The domain type is
1094   ***msdl:booleanOutOfFormation***.
1095   ii)   ***msdl:FormationOrder*** - For every ***msdl:FormationPosition*** element there shall be zero or one
1096   ***msdl:FormationOrder*** element. The ***msdl:FormationOrder*** element specifies the placement, 1
1097   to N, of a subordinate in the superior unit's formation. The domain type is
1098   ***msdl:integerSequence6.***
1099   iii)   ***msdl***:***SensorOrientation*** - For every ***msdl:FormationPosition*** element there shall be zero or
1100   one ***msdl:SensorOrientation*** element. The ***msdl:SensorOrientation*** element specifies the
1101   orientation of the main sensor, sight, and the weapon of the unit's equipment. If an
1102   ***msdl:SensorOrientation*** is defined for both the unit and equipment , the equipment's
1103   ***msdl:SensorOrientation*** shall be used. The domain type is ***msdl:floatCompassDegrees3_3.***
1104   b)   ***msdl:OwnFormation*** - For every ***msdl:UnitPosition*** element there shall be zero or one
1105   ***msdl:OwnFormation*** element. The ***msdl:OwnFormation*** element specifies the formation of the
1106   unit. It is an xs:all compositor comprised of the elements shown in Figure 53 and described in the
1107   following subsections. Domain type is ***msdl:OwnFormationType***.
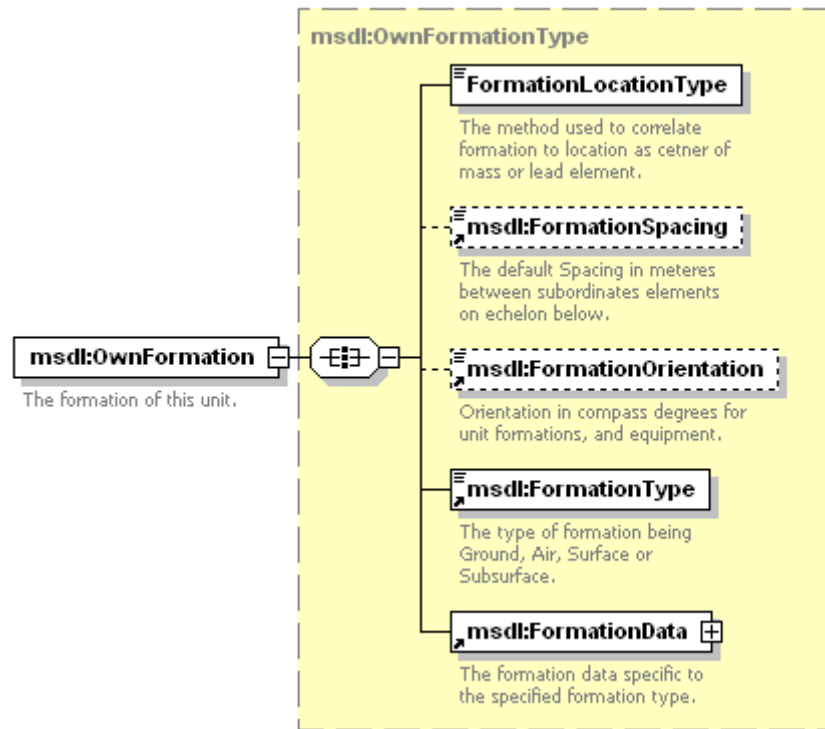
Figure 53: *msdl:OwnFormation* Element Structure

i) ***msdl:FormationLocationType*** - For every ***msdl:OwnFormation*** element there shall be one ***msdl:FormationLocationType*** element. The ***msdl:FormationLocationType*** element specifies the method used to correlate the formation to a location as the center of mass or the lead element. The domain type is ***msdl:enumFormationLocationType***.

ii) ***msdl:FormationSpacing*** - For every ***msdl:OwnFormation*** element there shall be zero or one ***msdl:FormationSpacing*** element. The ***msdl:FormationSpacing*** element specifies the default spacing in meters between subordinate elements. The domain type is ***msdl:floatSpacing4_3.***

iii) msdl:***FormationOrientation*** - For every ***msdl:OwnFormation*** element there shall be zero or one ***msdl:FormationOrientation*** element. The ***msdl:FormationOrientation*** element specifies the orientation in compass degrees of the formation as a whole. The domain type is a restricted ***msdl:floatCompassDegrees3_3.***

iv) ***msdl:FormationType*** - For every ***msdl:OwnFormation*** element there shall be zero or one ***msdl:FormationType*** element. The ***msdl:FormationType*** element specifies the relative location from which subordinate elements are placed in the formation. The domain type is ***msdl:enumGroundFormationType***.

v) ***msdl:FormationData*** - For every ***msdl:OwnFormation*** element there shall be one ***msdl:FormationData*** element. The ***msdl:FormationData*** element specifies the formation data specific to the formation type. It is an xs:choice compositor comprised of one and only one element shown in Figure 54 and described in the following subsections. Domain type is ***msdl:FormationDataType***.
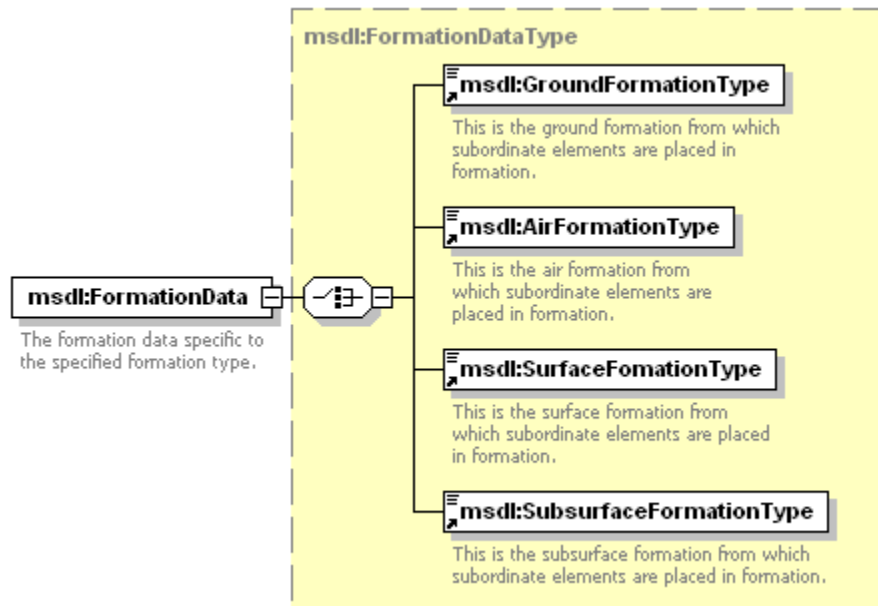
Figure 54: *msdl:OwnFormation* Element Structure

(1) ***msdl:GroundFormationType*** - For every ***msdl:FormationData*** element there shall be zero or one ***msdl:GroundFormationType*** element. The ***msdl GroundFormationType*** element specifies the ground formation type used to place subordinate elements. The domain type is ***msdl:enumGroundFormationType***.

(2) ***msdl:AirFormationType*** - For every ***msdl:FormationData*** element there shall be zero or one ***msdl:AirFormationType*** element. The ***msdl:AirFormationType*** element specifies the air formation type used to place subordinate elements. The domain type is a restricted xs:string**.**

(3) msdl:***SurfaceFormationType*** - For every ***msdl:FormationData*** element there shall be zero or one ***msdl:SurfaceFormationType*** element. The ***msdl:SurfaceFormationType*** element specifies the surance formation type used to place subordinate elements. The domain type is ***msdl:enumSurfaceFormationType.***

(4) ***msdl:SubsurfaceFormationType*** - For every ***msdl:FormationData*** element there shall be zero or one ***msdl:SubsurfaceFormationType*** element. The ***msdl:SubsurfaceFormationType*** element specifies the subsurface formation type used to place subordinate elements. The domain type is ***msdl:enumSubsurfaceFormationType***.

4. ***msdl:DirectionOfMovement*** - For every ***Disposition*** element there shall be zero or one ***msdl:DirectionOfMovement*** element. The ***msdl:DirectionOfMovement*** element specifies the direction of movement in compass degrees of the formation as a whole. The domains type is ***msdl:floatCompassDegrees3_3***.

6.5.1.1.8   *Relations* Element

For every ***msdl:Unit*** element there shall be one ***Relations*** element. The ***Relations*** element specifies the relationship of units in terms of command, support, and organic relationships. It is an xs:all compositor comprised of the elements shown in Figure 55 and described in the following subsections. Domain type is ***msdl:UnitRelationsType***.
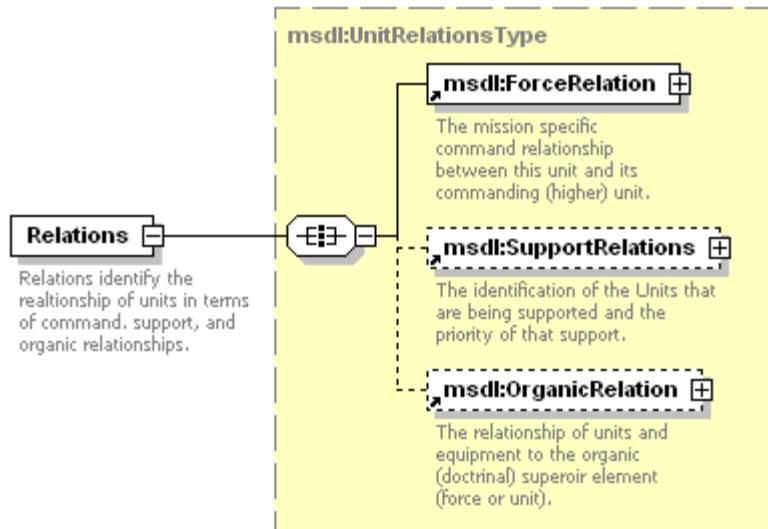
Figure 55: *Relations* Element Structure

1159   1.   ***msdl:ForceRelation*** -For every ***Relations*** element there shall be one ***msdl:ForceRelation*** element.
1160   The ***msdl:ForceRelation*** element specifies the mission specific command relationship between this unit
1161   and its commanding (higher) unit. The ***msdl:ForceRelation*** element either holds a relationship to a
1162   commanding unit defined by a ***msdl:Unit element***, or to a commanding unit defined by a
1163   ***msdl:ForceSide*** element. It is an xs:all compositor comprised of the elements shown in Figure 56 and
1164   described in the following subsections. Domain type is ***msdl:ForceRelationType***.
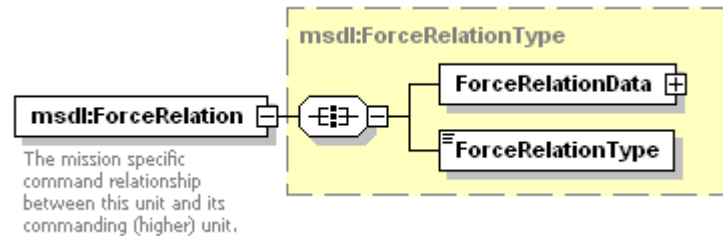
Figure 56: *msdl:ForceRelation* Element Structure

1167   a)   ***msdl:ForceRelationData*** - For every ***msdl:ForceRelation*** element there shall be one
1168   ***msdl:ForceRelationData*** element. The ***msdl:ForceRelationData*** element specifies the structure
1169   for holding command relationship between this unit/equipment and its commanding unit.; and the
1170   msdlForceSideHandle. It is an xs:choice compositor comprised of only one of the elements shown
1171   in Figure 57 and described in the following subsections. Domain type is
1172   ***msdl:ForceRelationDataType***.
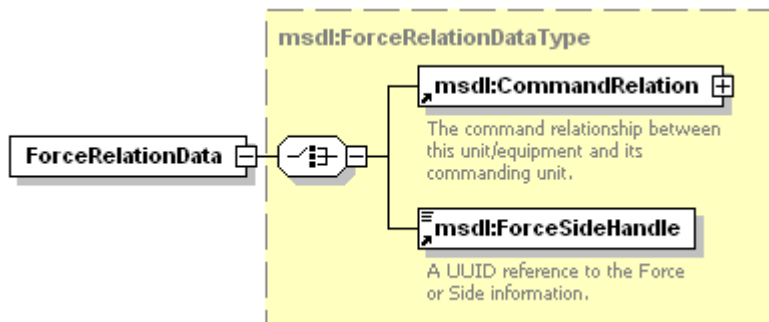
1174 **Figure 57: msdl:CommandRelation Element Structure**

1175   i)   ***msdl:CommandRelation*** - For every ***msdl:ForceRelation*** element there shall be one
1176   ***msdl:CommandRelation*** element. The ***msdl:CommandRelation*** element specifies the
1177   structure for holding a reference to the superior unit and the type of command relationship
1178   between this unit and its superior. It is an xs:all compositor comprised of the elements shown in
1179   Figure 58 and described in the following subsections. Domain type is
1180   *msdl:CommandRelationType*.

1181
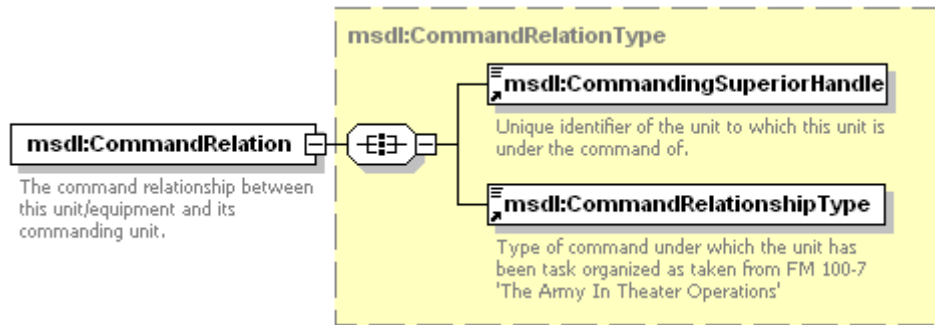
1182 **Figure 58: *msdl:CommandRelation* Element Structure**

1183   ***(1)*** ***msdl:CommandingSuperiorHandle*** - For every ***msdl:CommandRelation*** element there
1184   shall be one ***msdl:CommandingSuperiorHandle*** element. The
1185   ***msdl:CommandingSuperiorHandle*** element specifies a unique identifier of the
1186   commanding msdl:Unit. . The domain type is ***msdl:patternUUIDRef32.***
1187   (2) ***msdl***:***CommandRelationshipType*** - For every ***msdl:CommandRelation*** element there
1188   shall be one ***msdl:CommandRelationshipType*** element. The
1189   ***msdl:CommandRelationshipType*** element specifies the type of command under which the
1190   unit has been task organized .The domain type is restricted
1191   ***msdl:CommandRelationshipType***.
1192   *ii)* ***msdl:ForceSideHandle*** - For every ***msdl:ForceRelation*** element there shall be zero or one
1193   ***msdl:ForceSideHandle*** element. The ***msdl:ForceSideHandle*** element specifies a UUID
1194   reference to the ***msdl:ForceSide*** for the ***msdl:Unit***. The domain type is
1195   ***msdl:patternUUIDRef32.***
1196   b) ***Msdl***:***ForceRelationType*** - For every ***msdl:ForceRelation*** element there shall be zero or one
1197   ***msdl:ForceRelationType*** element. The ***msdl:ForceRelationType*** element specifies the mission
1198   specific type of command relationship between this unit and its commanding (higher) unit. The
1199   domain type is ***msdl:forceRelationTypeEnum***.
1200 2. ***Msdl***:***SupportRelations*** - For every ***Relations*** element there shall be zero or one
1201   ***msdl:SupportRelations*** element. The ***msdl:SupportRelations*** element specifies the identification of
1202   the units that are being supported and the priority of the support. It is an xs:sequence compositor
1203   comprised of the elements shown in Figure 59 and described in the following subsections. Domain type
1204   is ***msdl:SupportRelationsType***.

1205
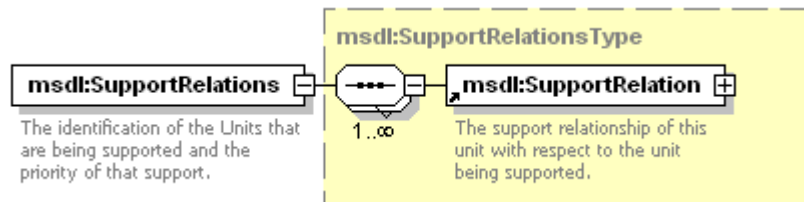
1206 **Figure 59: *msdl:SupportRelations* Element Structure**

| 1207	a)	**msdl:SupportRelation** - For every **msdl:SupportRelations** element there shall be one or more
1208		**msdl:SupportRelation** elements. The **msdl:SupportRelation** element specifies the support
1209		relationship of this unit with respect to the unit being supported. It is an xs:all compositor comprised
1210		of the elements shown in Figure 60 and described in the following subsections. Domain type is
1211		**msdl:SupportRelationType**.
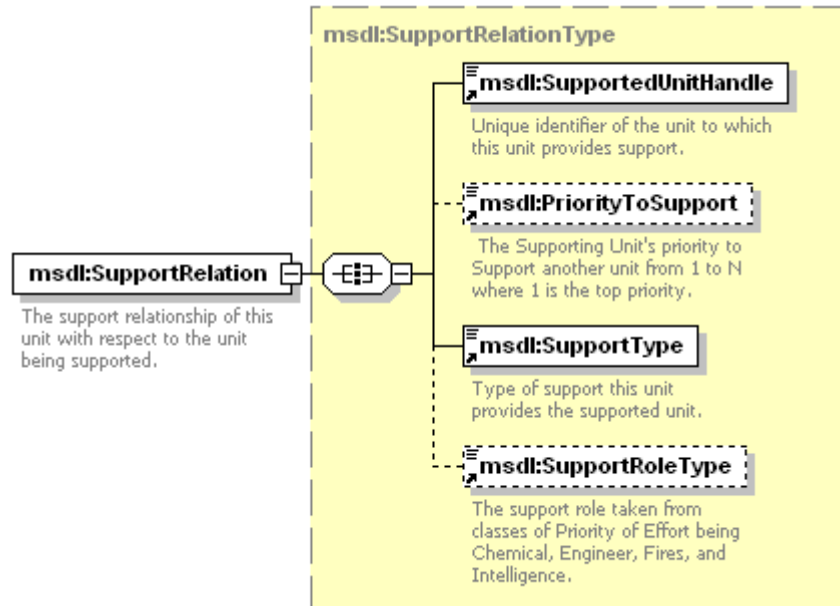
1212

Figure 60: *msdl:SupportRelation* Element Structure

1214	*i)*	**msdl:SupportedUnitHandle** - For every **msdl:SupportRelation** element there shall be one
1215		**msdl:SupportedUnitHandle** element. The **msdl:SupportedUnitHandle** element specifies the
1216		unique identifier of the unit to which this unit provides support The domain type is
1217		**msdl:patternUUIDREF32.**
1218	*ii)*	**msdl:PriorityToSupport** - For every **msdl:SupportRelation** element there shall be zero or one
1219		**msdl:PriorityToSupport** element. The **msdl:PriorityToSupport** element specifies the
1220		supporting unit's priority to support another unit from 1 to N where 1 is the top priority. The
1221		domain type is a restricted **msdl:integerPriorityToSupport1.**
1222	iii)	**msdl:SupportType** - For every **msdl:SupportRelation** element there shall be one
1223		**msdl:SupportType** element. The **msdl:SupportType** element specifies the type of support this
1224		unit provides the supported unit. The domain type is a restricted
1225		**msdl:enumSupportRelationType**.
1226	iv)	**msdl:SupportRoleType** - For every **msdl:SupportRelation** element there shall be zero or one
1227		**msdl:SupportRoleType** element. The **msdl:SupportRoleType** element specifies the support
1228		role taken from categories defining priority of effort including: Chemical, Engineer, Fires,
1229		Intelligence, etc. The domain type is a restricted **msdl:enumSupportRoleType**.

1230	3.	**msdl:OrganicRelation** For every **Relations** element there shall be zero or one **msdl:OrganicRelation**
1231		element. The **msdl:OrganicRelation** element specifies an association of the doctrine and other behavior
1232		detail that is followed independent of the mission specific organization. It is an xs:choice compositor
1233		comprised of one and only one of the elements shown in Figure 61 and described in the following
1234		subsections. Domain type is **msdl:OrganicRelationType**.

1235
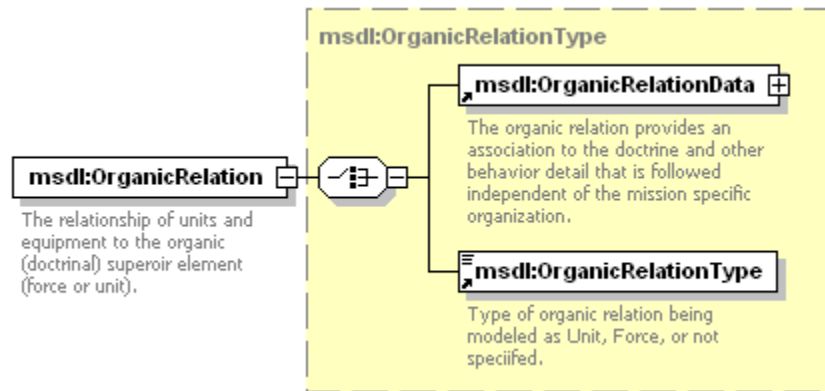
Figure 61: *msdl:OrganicRelation* Element Structure

1237   a)   ***msdl***:***OrganicRelationData*** - For every ***msdl:OrganicRelation*** element there shall be zero or one
1238   ***msdl:OrganicRelationaData*** element. The ***msdl:OrganicRelationData*** element specifies the
1239   structure to hold a reference to the unit that is the unit's organic superior and to the unit's organic
1240   force or side. It is an xs:choice compositor comprised of one and only one of the elements shown in
1241   Figure 62 and described in the following subsections. Domain type is
1242   ***msdl:OrganicRelationDataType***.

1243

Figure 62: *msdl:OrganicRelationData* Element Structure

1245   i)   ***msdl:OrganicForceSideHandle*** - For every ***msdl:OrganicRelation*** element there shall be zero
1246   or one ***msdl:OrganicForceSideHandle*** element. The ***msdl:OrganicForceSideHandle*** element
1247   specifies a reference to the unit's organic ***msdl:ForceSide*** which provides the definition of the
1248   higher organization's doctrine. The domain type is ***msdl:patternUUIDRef32.***
1249   ii)   ***msdl:OrganicSuperiorHandle*** - For every ***msdl:OrganicRelation*** element there shall be zero
1250   or one ***msdl:OrganicSuperiorHandle*** element. The ***msdl:OrganicSuperiorHandle*** element
1251   specifies a reference to the unit that is the unit's higher organic organization. The domain type is
1252   ***msdl:patternUUIDRef32.***
1253   b)   ***msdl***:***OrganicRelationType*** - For every ***msdl:OrganicRelation*** element there shall be zero or one
1254   ***msdl:OrganicRelationType*** element. The ***msdl:OrganicRelationType*** element specifies the type
1255   of organic relationship to the unit's force or side. The domain type is ***msdl:enumForceOwnerType.***

1256 **6.5.1.1.9 *Model* Element**

1257 For every ***msdl:Unit*** element there shall be one ***Model*** element. The ***Model*** element specifies the resolution
1258 and aggregation information impacting import of the military scenario. It is an xs;all compositor comprised of
1259 the elements shown in Figure 63 and described in the following subsections. Domain type is
1260 ***msdl:UnitModelType***.

1261
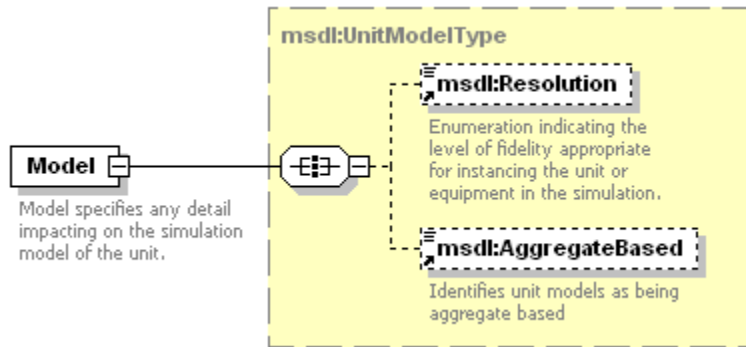
1262   **Figure 63: *Model* Element Structure**

1263   1. ***msdl:Resolution*** - For every ***Model*** element there shall be zero or one ***msdl:Resolution*** element. The
1264   ***msdl:Resolution*** element specifies an enumeration indicating the level of fidelity appropriate for
1265   instancing the unit or equipment in the simulation. The domain type is a restricted
1266   ***msdl:enumModelResolutionType***.

1267   2. ***msdl:AggregateBased*** - For every ***Model*** element there shall be zero or one ***msdl:AggregateBased***
1268   element. The ***msdl:AggregateBased*** element specifies a flag indicating that a unit's underlying task
1269   organization is explicity repreresented using the msdl:Unit and msdl:Equipment constructs as
1270   appropriate. The domain type is a restricted ***msdl:boolean***.

1271   **6.5.2   *msdl:Equipment* Element**

1272   For every ***msdl:Organizations*** element there shall be zero or one ***msdl:Units*** element. The
1273   ***msdl:Equipment*** element, an xs:sequence compositor, specifies all of the equipment elements used within
1274   the military scenario and is shown in Figure 64. Domain type is ***msdl:EquipmentType***.

1275
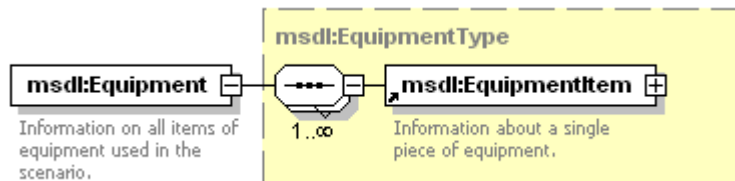
1276   **Figure 64: *msdl:Equipment* Element Structure**

1277   **6.5.2.1   *msdl:EquipmentItem* Element**

1278   For every ***msdl:Equipment*** element there shall be one or more ***msdl:EquipmentItem*** elements. The
1279   ***msdl:EquipmentItem*** element specifies a individual entity such as a vehicle, aircraft, or person within the
1280   military scenario document. It is an xs:all compositor comprised of the elements shown in Figure 65 and
1281   described in the following subsections. Domain type is ***msdl:EquipmentItemType***.

msdl:EquipmentItemType

msdl:ObjectHandle — The Universal Unique Identifier UUID of an object

msdl:SymbolId — The 15 character Symbol identifier

msdl:Name — Unabbreviated designation.

msdl:EquipmentSymbolModifiers — Modifiers of an Equipment Symbol

msdl:CommunicationNetReferen.. — The communication nets that equipment uses/subscribes to in order to communicate with other items of equipment.

Disposition — Disposition consists of the location of units and the manner in which these units are tactically deployed.

Relations — Relations identify the realtionship of equipment in terms of owner, and organic relationships

Model — Model specifies any detail impacting on the simulation model of the equipment.

msdl:EquipmentItem — Information about a single piece of equipment.

Figure 65: *msdl:EquipmentItem* Element Structure

6.5.2.1.1   *msdl:ObjectHandle* Element

For every *msdl:EquipmentItem* element there shall be one *msdl:ObjectHandle* element. The *msdl:ObjectHandle* element specifies the UUID of the *msdl:Unit*. The domain type is a *msdl:patternUUID32.*

6.5.2.1.2   *msdl:SymbolID* Element

For every *msdl:EquipmentItem* element there shall be one *msdl:SymbolID* element. The *msdl:SymbolID* element specifies the 15 character symbol identifier with fields that shall not be restricted using dashes. Thse fields would be redundant to other explicit elements in the standard. Affiliation, Status and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceSide data. The domain type is a *msdl:patternForceSymbolID15.*

6.5.2.1.3   *msdl:Name* Element

1295 For every **msdl:EquipmentItem** element there shall be zero or one **msdl:Name** element. The **msdl:Name**
1296 element specifies the unabbreviated designation of the **msdl:EquipmentItem**. The domain type is
1297 **msdl:textName255.**

1298 **6.5.2.1.4   msdl:EquipmentSymbolModifiers Element**

1299 For every **msdl:EquipmentItem** element there shall be zero or one **msdl:EquipmentSymbolModifiers**
1300 element. The **msdl:EquipmentSymbolModifiers** element specifies the modifiers of an equipment symbol.
1301 It is an xs:all compositor comprised of the elements shown in Figure 66 and described in the following
1302 subsections.

1303
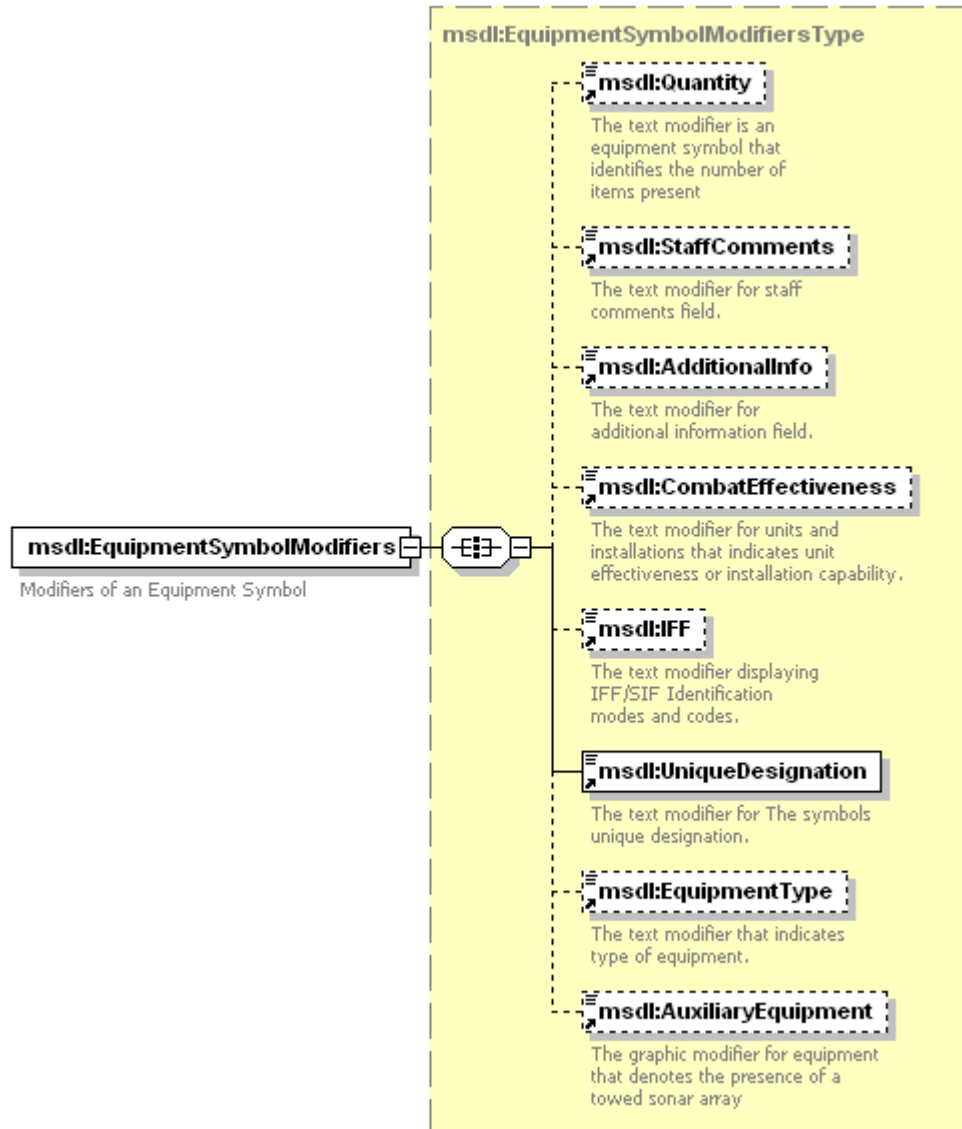
1304   **Figure 66: msdl:EquipmentSymbolModifiers Element Structure**

1305 1. **msdl:Quantity** - For every **msdl:EquipmentSymbolModifiers** element there shall be zero or one
1306   **msdl:Quantity** elements. The **msdl:Quantity** element specifies the modifier that identifies the number
1307   of items present. The domain type is **msdl:integerQuantity9.**

1308   2.   **msdl**:**StaffComments** - For every **msdl:EquipmentSymbolModifiers** element there shall be zero or
1309   one **msdl:StaffComments** element. The **msdl:StaffComments** element specifies the text modifier for
1310   staff comments field. The domain type is **msdl:text20.**

1311   3.   **msdl**:**AdditionalInfo** - For every **msdl:EquipmentSymbolModifiers** element there shall be zero or one
1312   **msdl:AdditionalInfo** element. The **msdl:AdditionalInfo** element specifies the text modifier for an
1313   additional information field. The domain type is **msdl:text20.**

1314   4.   **msdl**:**CombatEffectiveness** - For every **msdl:EquipmentSymbolModifiers** element there shall be zero
1315   or one **msdl:CombatEffectiveness** element. The **msdl:CombatEffectiveness** element specifies the
1316   modifier that indicates the ability of the equipment to perform its mission. Factors such as ammunition,
1317   personnel, status of fuel, and weapon systems may be included in the assessment. The domain type is
1318   restricted **msdl:enumCombatEffectivenessType**.

1319   5.   **msdl:IFF** - For every **msdl:EquipmentSymbolModifiers** element there shall be zero or one **msdl:IFF**
1320   element. The **msdl:IFF** element specifies the text modifier displaying IFF/SIF identification modes and
1321   codes. The domain type is **msdl:textIFF5.**

1322   6.   **msdl:UniqueDesignation** - For every **msdl:EquipmentSymbolModifiers** element there shall be one
1323   **msdl:UniqueDesignation** element. The **msdl:UniqueDesignation** element specifies the text modifier
1324   for the symbols unique designation. The domain type is **msdl:text21.**

1325   7.   **msdl**:EquipmentType - For every **msdl:EquipmentSymbolModifiers** element there shall be zero or one
1326   **msdl:EquipmentType** element. The **msdl:EquipmentType** element specifies the text modifier that
1327   identifies equipment type. The domain type is **msdl:textEquipmentType24.**

1328   8.   **msdl:AuxilliaryEquipment** - For every **msdl:EquipmentSymbolModifiers** element there shall be zero
1329   or one **msdl:AuxilliaryEquipment** element. The **msdl:AuxilliaryEquipment** element specifies a
1330   boolean modifier that denotes the presence of towed sonar array. The domain type is
1331   **msdl:booleanAuxiliaryEquipment**.

1332   **6.5.2.1.5   msdl:CommunicationNetReferences Element**

1333   For every **msdl:EquipmentItem** element there shall be zero or one **msdl:CommunicationNetReferences**
1334   element. The **msdl:CommunicationNetReferences** element specifies the communication nets that the
1335   equipment uses or subscribes to in order to communicate with other equipment items. It is an xs:sequence
1336   compositor comprised of the elements shown in Figure 67 and described in the following subsections.
1337   Domain type is **msdl:CommunicationNetReferenceType**.
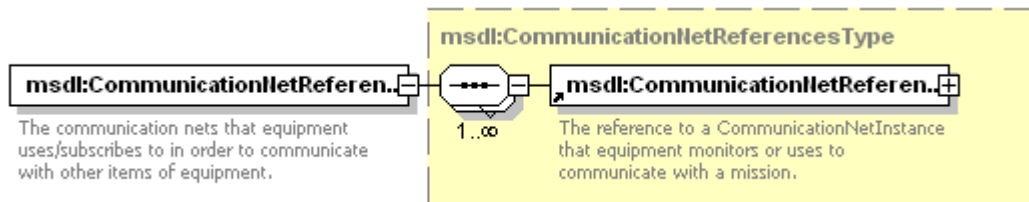

1338
1339   **Figure 67: msdl:CommunicationNetReferences Element Structure**

1340   1.   **msdl:CommunicationNetReference** - For every **msdl:CommunicationNetReferences** element there
1341   shall be one or more msdl:CommunicationNetReference elements. The
1342   **msdl:CommunicationNetReference** element specifies a reference to a
1343   msdl:CommunicationNetInstance that the equipment monitors or uses to communicate mission
1344   information. It is an xs:sequence compositor comprised of the elements shown in Figure 68 and
1345   described in the following subsections. Domain type is **msdl:CommunicationNetReferenceType**.

1346

1347
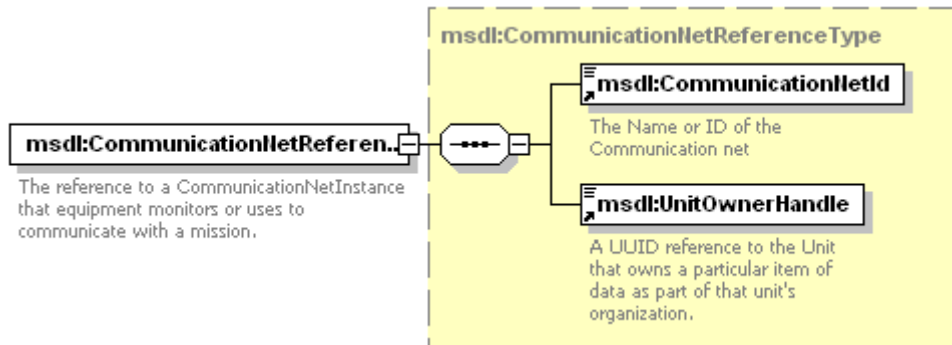
Figure 68: *msdl:CommunicationNetReference* **Element Structure**

1348   a)   *msdl:CommunicationNetId* - For every *msdl:CommunicationNetReference* element there shall
1349   be one *msdl:CommunicationNetId* element. The *msdl:CommunicationNetId* element specifies
1350   the name or ID of the communication network. The domain type is *msdl:textIdentifier64.*

1351   b)   *msdl*:*UnitOwnerHandle* - For every *msdl:CommunicationNetRefence* element there shall be one
1352   *msdl:UnitOwnerHandle* element. The *msdl:UnitOwnerHandle* element specifies a UUID reference
1353   to the unit that owns a communication network. The domain type is *msdl:patternUUIDRef32.*

1354   **6.5.2.1.6**   *Disposition* **Element**

1355 For every *msdl:EquipmentItem* element there shall be one *Disposition* element. The *Disposition* element
1356 specifies the location of equipment items and the manner in which these equipment items are tactically
1357 deployed. It is an xs:all compositor comprised of the elements shown in Figure 69 and described in the
1358 following subsections. Domain type is *msdl:EquipmentDispositionType*.

1359

1360
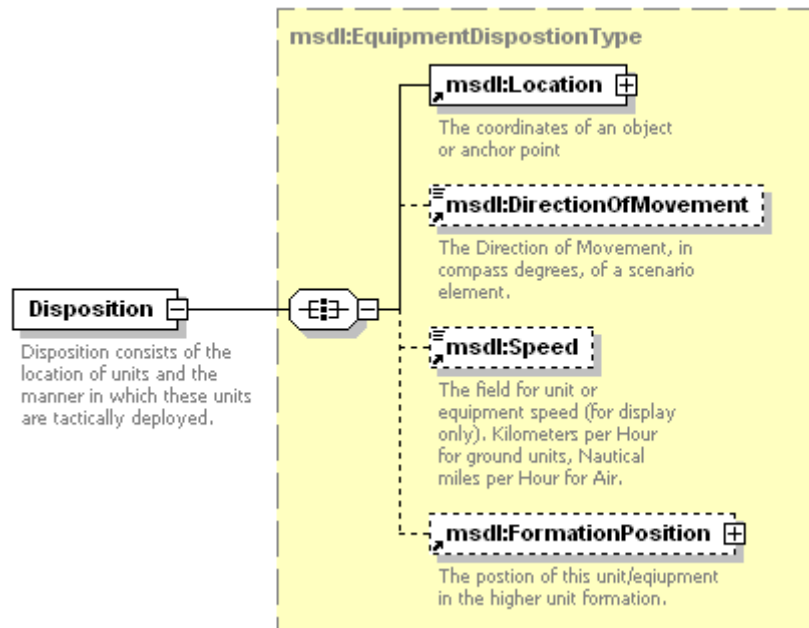
Figure 69: *Disposition* **Element Structure**

1361   1.   *msdl:Location* - For every *Disposition* element there shall be one *msdl:Location* element. The
1362   *msdl:Location* element specifies the coordinates of the equipment. The domains type is
1363   *msdl:Coordinates* as defined within section 6.3.4.4.3 for *msdl:UpperRight*.

1364   2.   **msdl:DirectionOfMovement** - For every **Disposition** element there shall be zero or one
1365   **msdl:DirectionOfMovement** element. The **msdl:DirectionOfMovement** element specifies the direction
1366   of movement in compass degress of a military scenario element. The domain type
1367   **msdl:floatCompassDegrees3_3.**

1368   3.   **msdl:Speed** - For every **Disposition** element there shall be zero or one **msdl:Speed** element. The
1369   **msdl:Speed** element specifies the equipment's rate of movement in the direction as specified in the
1370   **msdl:DirectionofMovement** element. The domain type is **msdl:floatSpeed6_2.**

1371   4.   **msdl**:**FormationPosition** - For every **Disposition** element there shall be zero or one
1372   **msdl:FormationPosition** element. The **msdl:FormationPosition** element specifies the position of the
1373   specific msdl:EquipmentItem with relation to the other pieces of equipment within the formation.   It is an
1374   xs:all compositor comprised of the elements shown in Figure 70 and described in the following
1375   subsections. Domain type is **msdl:FormationPositionType**.
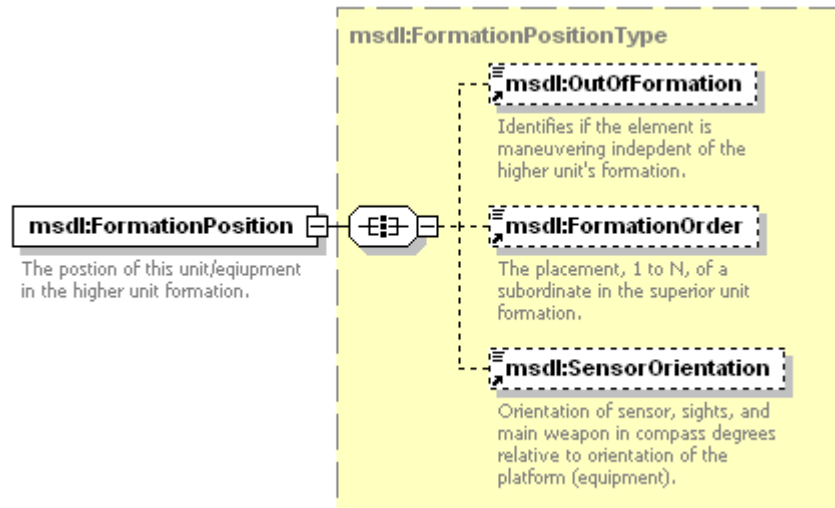
1376

1377   **Figure 70: msdl:FormationPosition Element Structure**

1378   a)   **msdl:OutOfFormation** - For every **msdl:FormationPosition** element there shall be zero or one
1379   **msdl:OutOfFormation** element. The **msdl:OutOfFormation** element specifies if the element is
1380   maneuvering independent of the its higher unit's formation. The domain type is
1381   **msdl:booleanOutOfFormation**.

1382   b)   **msdl:FormationOrder** - For every **msdl:FormationPosition** element there shall be zero or one
1383   **msdl:FormationOrder** element. The **msdl:FormationOrder** element specifies the placement, 1 to
1384   N, of a subordinate in the superior unit's formation. The domain type is **msdl:integerSequence6.**

1385   c)   **msdl**:**SensorOrientation** - For every **msdl:FormationPosition** element there shall be zero or one
1386   **msdl:SensorOrientation** element. The **msdl:SensorOrientation** element specifies the orientation
1387   of sensors, sights, and the main weapon of the unit's equipment. If both a unit and equipment:
1388   msdlSensorOrientation are defined the equipment's msdl:SensorOrientation shall be used.   The
1389   domain type is **msdl:floatCompassDegrees3_3.**

1390   **6.5.2.1.7**   **msdl:Relations Element**

1391   For every **msdl:EquipmentItem** element there shall be one **msdl:Relations** element. The **msdl:Relations**
1392   element specifies the relationship of equipment items to units in terms of command, support, and organic
1393   relationships. It is an xs:all compositor comprised of the elements shown in Figure 71 and described in the
1394   following subsections. Domain type is **msdl:EquipmentRelationsType**.

1395
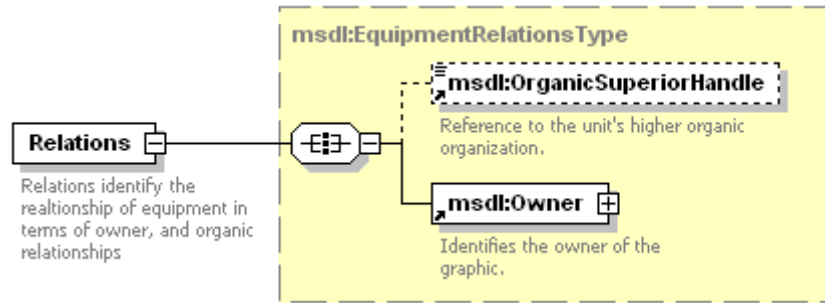
Figure 71: *Relations* Element Structure

1397   1.   ***msdl:OrganicSuperiorHandle*** - For every ***msdl:Relations*** element there shall be zero or one
1398   ***msdl:OrganicSuperiorHandle*** element. The ***msdl:OrganicSuperiorHandle*** element specifies a
1399   reference to the unit that is the equipment item's higher organic organization. The domain type is
1400   ***msdl:patternUUIDRef32.***

1401   2.   ***msdl***:***Owner*** - For every ***msdl:Relations*** element there shall be one ***msdl:Owner*** element. The
1402   ***msdl:Owner*** element specifies the unit that is the owner of the equipment item. The ***msdl:Owner***
1403   complex type, an xs:sequence compositor contains all the elements shown in Figure 72 and described in
1404   the subsequent subsections.The domain type is ***msdl:Owner***.

1405

Figure 72: *msdl:AreaOfInterest* Type Structure
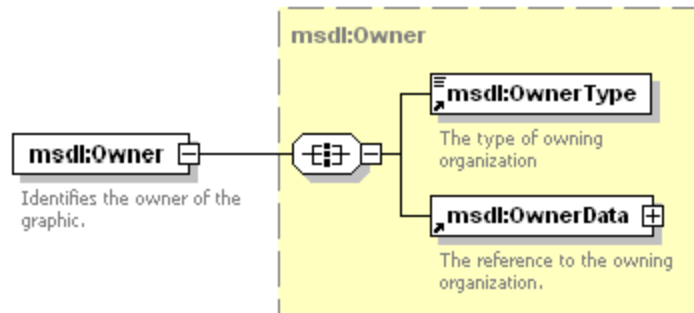
1407   a)   ***msdl:OwnerType*** Element - For every ***msdl:Owner*** complex type there shall be one
1408   ***msdl:OwnerType*** element. The ***msdl:OwnerType*** element specifies the type of owning
1409   organization. The domain type is ***msdl:enumForceOwnerType.***

1410   b)   ***msdl:OwnerData*** Element - For each ***msdl:Owner*** complex type there shall be one
1411   ***msdl:OwnerData*** element. The ***msdl:OwnerData*** element, an xs:choice compositor, specifies the
1412   reference to the owning organization and is made up of one and only one of the child elements as
1413   shown in Figure 73. Domaint type is ***msdl:OwnerDataType***.

1414
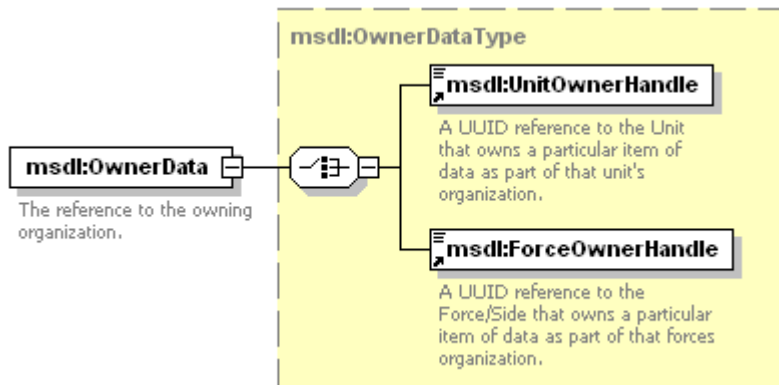
1415 **Figure 73: *msdl:OwnerData* Element Structure**

1416   i)   ***msdl:UnitOwnerHandle*** Element - For each ***msdl:OwnerData*** element there shall be zero or
1417   one ***msd:UnitOwnerHandle*** element. The ***msd:UnitOwnerHandle*** element specifies the UUID
1418   reference to the unit that owns a particular item of data as part of the unit's organization. The
1419   domain type is ***msdl:patternUUIDRef32.***

1420   ii)   ***msdl:ForceOwnerHandle*** Element - For each ***msdl:OwnerData*** element there shall be zero or
1421   one ***msdl:ForceOwnerHandle*** element. The ***msdl:ForceOwnerHandle*** element specifies the
1422   UUID reference to the Force/Side that owns a particular item of data as part of that forces
1423   organization. The domain type is ***msdl:patternUUIDRef32.***

1424 **6.5.2.1.8   *Model* Element**

1425 For every ***msdl:EquipmentItem*** element there shall be one ***Model*** element. The ***Model*** element specifies
1426 the information impacting import of the military scenario. It is an xs:all compositor comprised of the elements
1427 shown in Figure 74 and described in the following subsections. Domain type is
1428 ***msdl:EquipmentModelType***.

1429
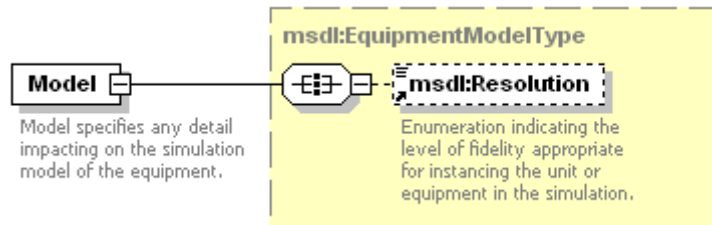
1430 **Figure 74: *Model* Element Structure**

1431 1.   ***msdl:Resolution*** - For every ***msdl:EquipmentItem*** element there shall be zero or one
1432   ***msdl:Resolution*** element. The ***msdl:Resolution*** element specifies an enumeration indicating the level
1433   of fidelity appropriate for instancing the unit or equipment in the simulation. The domain type is
1434   ***msdl:enumModelResolutionType***.

1435 **6.6   *msdl:Overlays* Element**

1436 For every ***msdl:MilitaryScenario*** element there shall be zero or one ***msdl:Overlays*** element. The
1437 ***msdl:Overlays*** element is used to specific the overlays within the context of the military scenario. The
1438 ***msdl:Overlays*** element is an xs:sequence compositor containing all the elements shown in Figure 75 and
1439 described in the subsequent subsections. Domain type is ***msdl:OverlaysType***.

1440
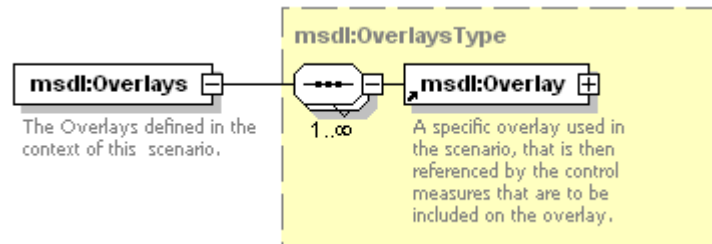
1441 **Figure 75: *msdl:Overlays* Element Structure**

1442 **6.6.1   *msdl:Overlay* Element**

1443 For every ***msdl:Overlays*** element there shall be one or more ***msdl:Overlay*** element. Overlays are used to
1444 organize the intelligence information described by the control measures. It is expected that control measures
1445 owned by opposing forces, sides, or units will not appear in the same overlay. The ***msdl:Overlay*** element,
1446 an xs:all compositor, specifies a specific overlay used in the scenario that is then referenced by the control

1447   measures that are to be included on the overlay and is show in Figure 76. Domain type is
1448   **msdl:OverlayType**.

1449
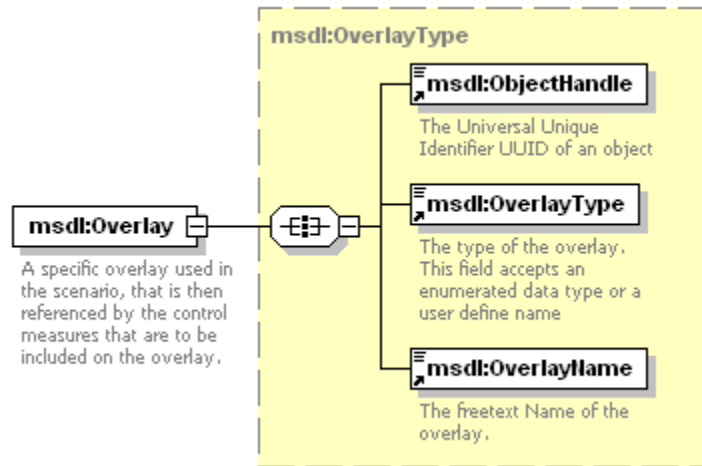
1450   **Figure 76: *msdl:Overlay* Element Structure**

1451   **6.6.1.1   *msdl:ObjectHandle* Element**

1452   For every **msdl:Overlay** element there shall be one **msdl:ObjectHandle** element. The **msdl:ObjectHandle**
1453   element specifies the UUID of the **msdl:Overlay**. The domain type is a **msdl:patternUUID32.**

1454   **6.6.1.2   *msdl:OverlayType* Element**

1455   For every **msdl:Overlay** element there shall be one **msdl:OverlayType** element. The **msdl:OverlayType**
1456   element specifies an enumerated type for the overlay The domain type is a **msdl:enumOverlayType**.

1457   **6.6.1.3   *msdl:OverlayName* Element**

1458   For every **msdl:Overlay** element there shall be one **msdl:OverlayName** element. The **msdl:OverlayName**
1459   element specifies the free text name of the overlay. The domains type is **msdl:textName255.**

1460   **6.7   *msdl:Installations* Element**

1461   For every **msdl:MilitaryScenario** element there shall be zero or one **msdl:Installations** element. The
1462   **msdl:Installations** element is used to specify the mission/scenario specific installations within the military
1463   scenario document to include all military service, governmental, and nongovernmental organizations. The
1464   mapping of the battle dimension instances other than ground into the installation elements is application
1465   defined. The **msdl:Installations** element ,an xs:sequence compositor, contains all the elements shown in
1466   Figure 77 and described in the subsequent subsections. Domain type is **msdl:InstallationsType**.

1467
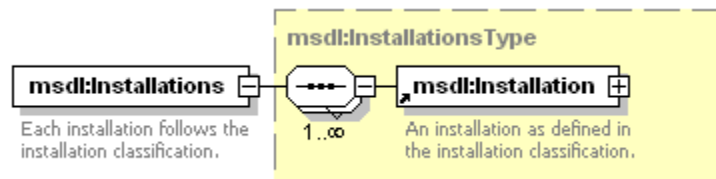
1468   **Figure 77: *msdl:Installations* Element Structure**

1469   **6.7.1   *msdl:Installation* Element**

1470   For every **msdl:Installations** element there shall be one or more **msdl:Installation** elements. An Installation
1471   description is tactical information that is part of the COP of the force, side, or unit specified in the

1472 **msdl:Owner** element. Its level of threat as determined through intelligence gathering is specified in the
1473 **msdl:Affliation** and **msdl:FrameShapeModifier** elements. The quality of the gathered intelligence used to
1474 create this tactical information is specified in the **msdl:EvaluationRating** element. The time when the
1475 information was gathered is specified in the **msdl:DateTimeGroup** element. This tactical information is
1476 organized within the COP through the overlays specified in the **msdl:AssociatedOverlays** element. Each
1477 COP (one per opposing side) may have its own Installation description for the same actual Installation. The
1478 **msdl:Installation** element, an xs:all compositor, specifies the installations within the military scenario
1479 document and is show in Figure 78 **msdl:Installation**. Domain type is **msdl:InstallationType**.
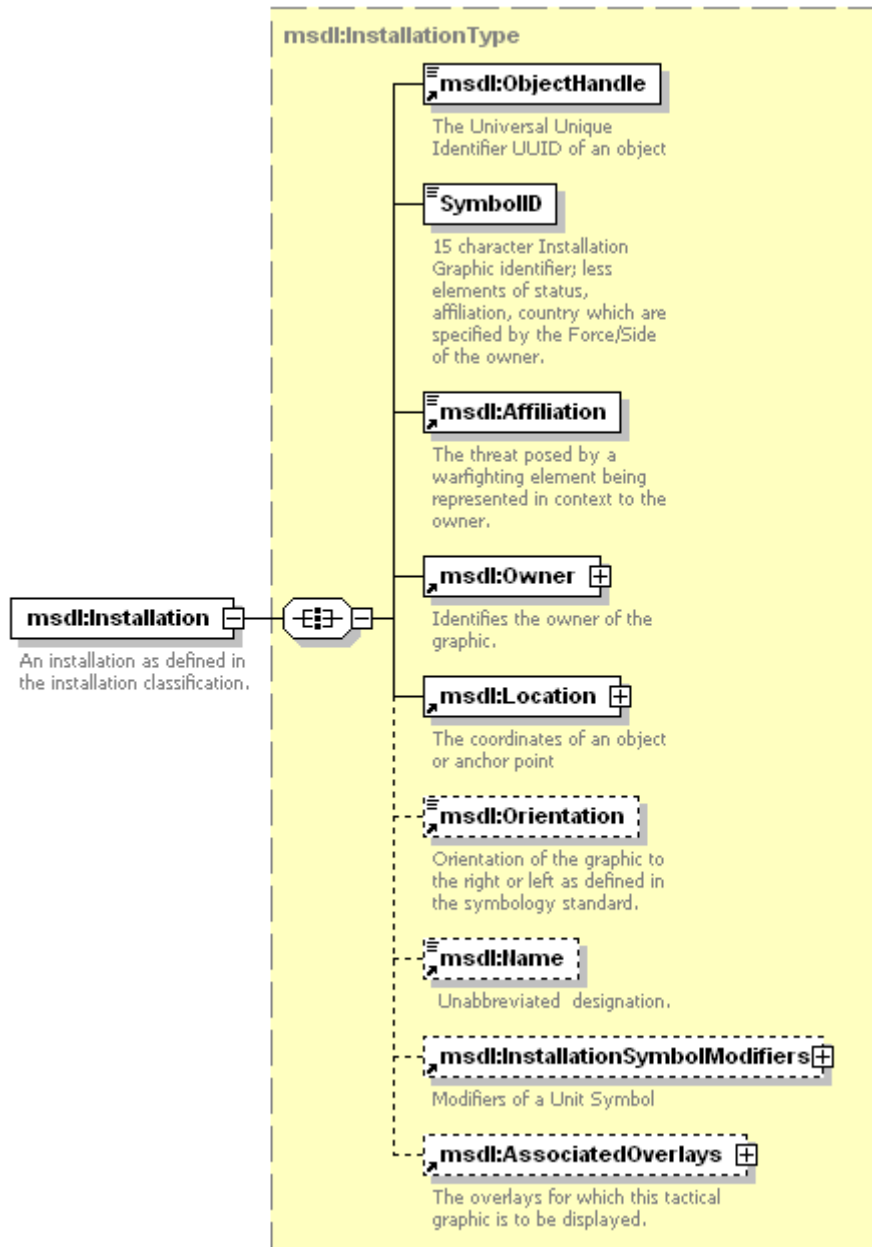
1480
1481   **Figure 78: *msdl:Installation* Element Structure**

1482 **6.7.1.1** *msdl:ObjectHandle* **Element**

1483 For every *msdl:Installation* element there shall be one *msdl:ObjectHandle* element. The
1484 *msdl:ObjectHandle* element specifies the UUID of the *msdl:Installation*. The domain type is a
1485 *msdl:patternUUID32.*

1486 **6.7.1.2** *msdl:SymbolID* **Element**

1487 For every *msdl:Installation* element there shall be one *msdl:SymbolID* element. The *msdl:SymbolID*
1488 element specifies the 15 character symbol identifier with fields that shall not be restricted using dashes.
1489 Thse fields would be redundant to other explicit elements in the standard. Affiliation, Status and Country
1490 Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceSide data.
1491 The domain type is a *msdl:patternInstallationSymbolID15.*

1492 **6.7.1.3** *msdl:Affiliation* **Element**

1493 For every *msdl:Installation* element there shall be one *msdl:Affiliation* element. The *msdl:Affiliation*
1494 element specifies the threat posed by a warfighting element being represented in context to the owner. The
1495 domains type is *msdl:enumBaseAffiliation.*

1496 **6.7.1.4** *msdl:Owner* **Element**

1497 For every *msdl:Installation* element there shall be one *msdl:Owner* element. The *msdl:Owner* element
1498 specifies the owner of the graphic. The domain type is *msdl:Owner*.

1499 **6.7.1.5** *msdl:Location* **Element**

1500 For every *msdl:Installation* element there shall be one *msdl:Location* element. The *msdl:Location*
1501 element specifies the coordinates of the unit. The domains type is *msdl:Coordinates* as defined within
1502 section 6.3.4.4.3 for *msdl:UpperRight.*

1503 **6.7.1.6** *msdl:Orientation* **Element**

1504 For every *msdl:Installation* element there shall be one *msdl:Orientation* element. The *msdl:Orientation*
1505 element specifies the orientation of the graphic to the right or left as defined in the symbology standard. The
1506 domains type is *msdl:enumOrientationType*.

1507 **6.7.1.7** *msdl:Name* **Element**

1508 For every *msdl:Installation* element there shall be zero or one *msdl:Name* element. The *msdl:Name*
1509 element specifies the unabbreviated designation of the *msdl:Installations*. The domain type is
1510 *msdl:textName255.*

1511 **6.7.1.8** *msdl:InstallationSymbolModifiers* **Element**

1512 For every *msdl:Installation* element there shall be zero or one *msdl:InstallationSymbolModifiers*
1513 element. The *msdl:InstallationSymbolModifiers* element specifies the modifiers of an equipment symbol.
1514 It is an xs:all compositor comprised of the elements shown in Figure 79 and described in the following
1515 subsections. Domain type is *msdl:InstallationSymbolModifiersType*.

Figure 79: *msdl:InstallationSymbolModifiers* Element Structure

6.7.1.8.1   *msdl:FrameShapeModifier* Element

For every ***msdl:InstallationSymbolModifiers*** element there shall be zero or one
msdl:FrameShapeModifier element. The ***msdl:FrameShapeModifier*** element specifies the modifier of the
frame shape to support affiliations beyond hostile, friend, unknown, and neutral. The domain type is a
restricted ***msdl:textFrameShapeModifier1.***

6.7.1.8.2   *msdl:StaffComments* Element

For every ***msdl:InstallationSymbolModifiers*** element there shall be zero or one ***msdl:StaffComments***
element. The ***msdl:StaffComments*** element specifies the text modifier for staff comments field. The
domain type is ***msdl:text20.***

6.7.1.8.3   *msdl:AdditionalInfo* Element

For every ***msdl:InstallationSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo***
element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an additional information field. The
domain type is ***msdl:text20.***

1531 **6.7.1.8.4** *msdl:CombatEffectiveness* **Element**

1532 For every *msdl:InstallationSymbolModifiers* element there shall be zero or one
1533 *msdl:CombatEffectiveness* elements. The *msdl:CombatEffectiveness* element specifies the text modifier
1534 that indicates the installation's level of capability. The domain type is
1535 *msdl:enumCombatEffectivenessType*.

1536 **6.7.1.8.5** *msdl:IFF* **Element**

1537 For every *msdl:InstallationSymbolModifiers* element there shall be zero or one *msdl:IFF* element. The
1538 *msdl:IFF* element specifies the text modifier displaying IFF/SIF identification modes and codes. The domain
1539 type is *msdl:textIFF5.*

1540 **6.7.1.8.6** *msdl:UniqueDesignation* **Element**

1541 For every *msdl:InstallationSymbolModifiers* element there shall be one *msdl:UniqueDesignation*
1542 element. The *msdl:UniqueDesignation* element specifies the text modifier for the symbols unique
1543 designation. The domain type is *msdl:text21.*

1544 **6.7.1.8.7** *msdl:DateTimeGroup* **Element**

1545 For every *msdl:InstallationSymbolModifiers* element there shall be zero or one *msdl:DateTimeGroup*
1546 element. The *msdl:DateTimeGroup* element specifies the date time group relative ot the
1547 msdl:ScenarioTime element from which a symbol is valid. The domain type is
1548 *msdl:patternTimeDTGRelative8.*

1549 **6.7.1.9** *msdl:AssociatedOverlays* **Element**

1550 For every *msdl:Installation* element there shall be one *msdl:AssociatedOverlays* element. The
1551 *msdl:AssociatedOverlays* element specifies the overlays for which this tactical graphic is to be displayed.
1552 It is an xs:all compositor comprised of the elements shown in Figure 80 and described in the following
1553 subsections. Domain type is *msdl:AssociatedOverlaysType*.

1554
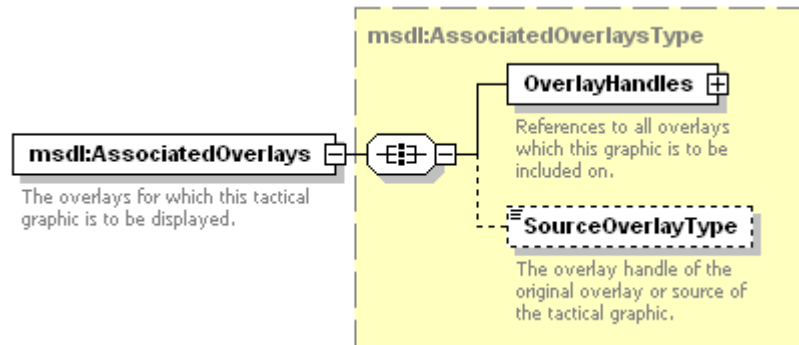
1555 **Figure 80: *msdl:AssociatedOverlays* Element Structure**

1556 **6.7.1.9.1** *msdl:OverlayHandles* **Element**

1557 For every *msdl:AssociatedOverlays* element there shall be one *msdl:OverlayHandles* elements. The
1558 *msdl:OverlayHandles* element specifies a reference to all overlays which this graphic is to be included on.
1559 It is an xs:sequence compositor comprised of the elements shown in Figure 81 and described in the following
1560 subsections. Domain type is *msdl:OverlayHandlesType*.

1561
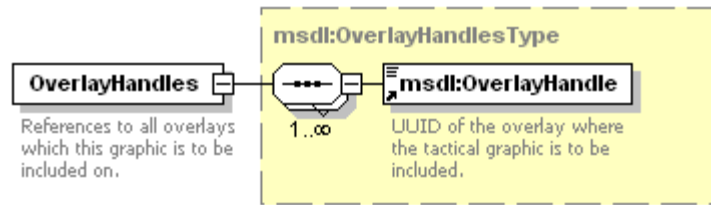
1562   **Figure 81:** *msdl:OverlayHandles* **Element Structure**

1563   1. *msdl:OverlayHandle* - For every *msdl:OverlayHandles* element there shall be one or more
1564   *msdl:OverlayHandle* element. The *msdl:OverlayHandle* element specifies the UUID of the overlay
1565   where the tactical graphic is to be included. The domain type is *msdl:patterUUIDRef32*.

1566   **6.7.1.9.2   *msdl:SourceOverlayType* Element**

1567   For every *msdl:AssociatedOverlays* element there shall be zero or one *msdl:SourceOverlayType*
1568   elements. The *msdl:SourceOverlayType* element specifies the type of the overriding overlay type for all
1569   associated overlays. The domain type is *msdl:enumOverlayType*.

1570   **6.8   *msdl:TacticalGraphics* Element**

1571   For every *msdl:MilitaryScenario* element there shall be zero or one *msdl:TacticalGraphics* element. The
1572   *msdl:TacticalGraphics* element is used to specify the control measures for the military scenario. The
1573   *msdl:TacticalGraphics* element , an xs:sequence compositor, contains all the elements shown in Figure 82
1574   and described in the subsequent subsections. Domain type is *msdl:TacticalGraphicsType*.

1575
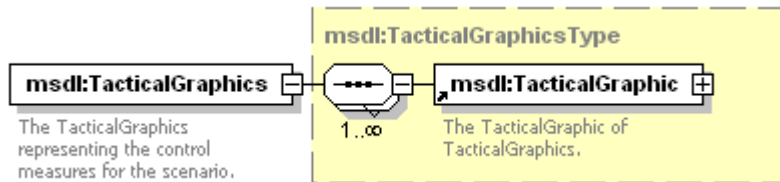
1576   **Figure 82:** *msdl:TacticalGraphics* **Element Structure**

1577   **6.8.1   *msdl:TacticalGraphic* Element**

1578   For every *msdl:TacticalGraphics* element there shall be zero or one *msdl:TacticalGraphic* element. The
1579   *msdl:TacticalGraphic* element is used to specify the mission/scenario specific control measures within the
1580   military scenario. A tactical graphic description is tactical information that is part of the COP of the force, side
1581   or unit specified in the *msdl:Owner* element. Its level of threat as determined through intelligence gathering
1582   is specified in the *msdl:Affiliation* and *msdl:FrameShapeModifier* elements. The quality of the gathered
1583   intelligence used to create this tactical information is specified in the *msdl:EvaluationRating* element. The
1584   time when the information was gathered is specified in the *msdl:DateTimeGroup* element.This tactical
1585   information is organized within the COP through the overlays specified in the *msdl:AssociatedOverlays*
1586   element. The *msdl:TacticalGraphic* element, an xs:all compositor, is comprised of an XML "sequence"
1587   structure containing all the elements shown in Figure 83 and described in the subsequent subsections.
1588   Domain type is *msdl:TacticalGraphicType*.
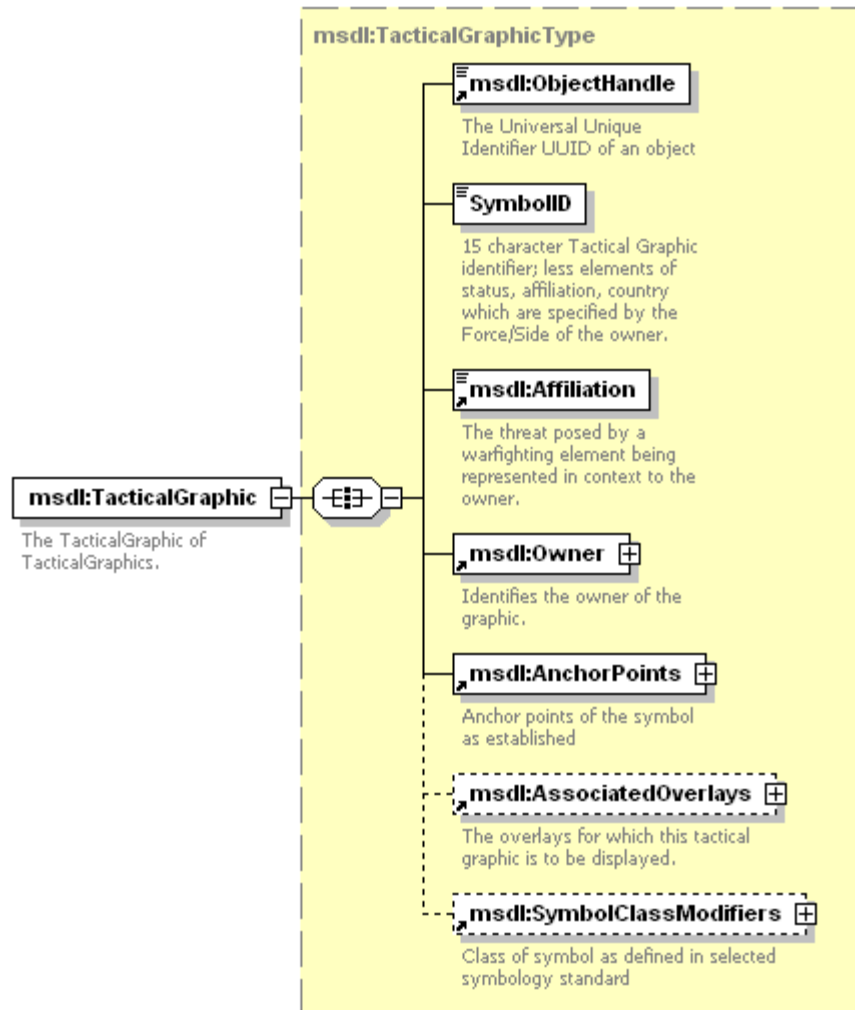
Figure 83: *msdl:TacticalGraphic* Element Structure

1589

1590

1591   **6.8.1.1   *msdl:ObjectHandle* Element**

1592   For every **msdl:TacticalGraphic** element there shall be one **msdl:ObjectHandle** element. The
1593   **msdl:ObjectHandle** element specifies the UUID of the **msdl:TacticalGraphic**. The domain type is a
1594   **msdl:patternUUID32.**

1595   **6.8.1.2   *msdl:SymbolID* Element**

1596   For every **msdl:TacticalGraphic** element there shall be one **msdl:SymbolID** element. The **msdl:SymbolID**
1597   element specifies the 15 character symbol identifier with fields that shall not be restricted using dashes.
1598   Thse fields would be redundant to other explicit elements in the standard. Affiliation, Status and Country
1599   Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceSide data.
1600   The domain type is a **msdl:patternTacticalGraphicSymbolID15.**

1601   **6.8.1.3   *msdl:Affiliation* Element**

1602   For every **msdl:TacticalGraphic** element there shall be one **msdl:Affiliation** element. The **msdl:Affiliation**
1603   element specifies the threat posed by a warfighting element being represented in context to the owner. The
1604   domains type is **msdl:enumBaseAffiliation.**

69

1605 **6.8.1.4   *msdl:Owner* Element**

1606 For every *msdl:TacticalGraphic* element there shall be one *msdl:Owner* element. The *msdl:Owner*
1607 element specifies the owner of the graphic. The domain type is *msdl:Owner* as defined within Section
1608 6.5.2.1.7 within *msdl:EquipmentItem*.

1609 **6.8.1.5   *msdl:AnchorPoints* Element**

1610 For every *msdl:TacticalGraphic* element there shall be one *msdl:AnchorPoints* element. The
1611 *msdl:AnchorPoints* element specifies the anchor points for the tactical graphic. It is an xs:sequence
1612 compositor comprised of the elements shown in Figure 84 and described in the following subsections.
1613 Domain type is *msdl:AnchorPointsType*.
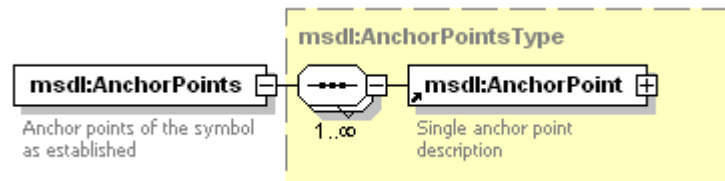
1614
1615 **Figure 84: *msdl:AnchorPoints* Element Structure**

1616 **6.8.1.5.1   *msdl:AnchorPoint* Element**

1617 For every *msdl:AnchorPoints* element there shall be one or more *msdl:Anchorpoint* elements. The
1618 *msdl:AnchorPoint* element specifies a a single anchor point. It is an xs:all compositor comprised of the
1619 elements shown in Figure 85 and described in the following subsections. Domain type is
1620 *msdl:AnchorPointType*.
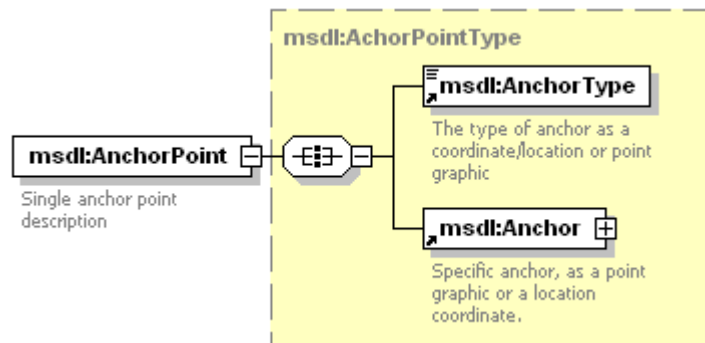
1621
1622 **Figure 85: *msdl:AnchorPoint* Element Structure**

1623 1. *msdl:AnchorType* - For every *msdl:AnchorPoint* element there shall be one *msdl:AnchorType*
1624   element. The *msdl:AnchorType* element specifies the type of anchor as a coordinate/location or a point
1625   graphic. The domain type is a restricted *msdl:enumAnchorPointType*.
1626 2. *msdl:Anchor* - For every *msdl:AnchorPoint* element there shall be one *msdl:Anchor* elements. The
1627   *msdl:Anchor* element specifies a location for the anchor. It is an xs:choice compositor comprised of the
1628   elements shown in Figure 86 and described in the following subsections. Domain type is
1629   *msdl:AnchorType*.
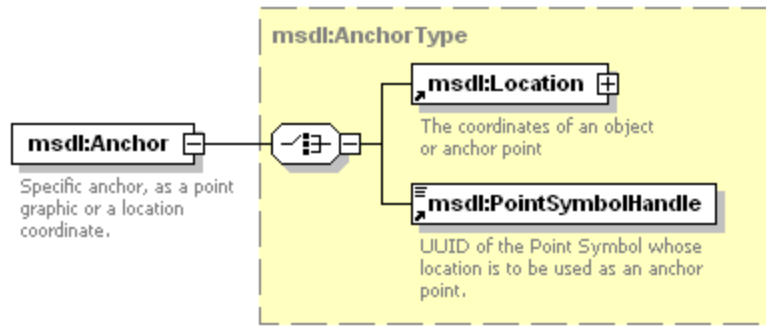
1630
1631
Figure 86: *msdl:Anchor* Element Structure

1632   a) ***msdl:Location*** - For every ***msdl:Anchor*** element there shall be one ***msdl:Location*** element. The
1633   ***msdl:Location*** element specifies the coordinates of the unit. The domains type is
1634   ***msdl:Coordinates*** as defined within section 6.3.4.4.3 for ***msdl:UpperRight***.

1635   b) ***msdl:PointSymbolHandle*** - For every ***msdl:Anchor*** element there shall be one
1636   ***msdl:PointSymbolHandle*** element. The ***msdl:PointSymbolHandle*** element specifies a UUID of
1637   the point symbol whose location is to be used as an anchor point. The domain type
1638   ***msdl:patternUUIDRef32.***

1639   **6.8.1.6   *msdl:AssociatedOverlays* Element**

1640   For every ***msdl:TacticalGraphic*** element there shall be zero or one ***msdl:AssociatedOverlays*** element.
1641   The ***msdl:AssociatedOverlays*** element specifies the overlays for which this tactical graphic is to be
1642   displayed. It is an xs:all compositor comprised of the elements shown in Figure 87 and described in the
1643   following subsections. Domain type is ***msdl:AssociatedOverlaysType***.
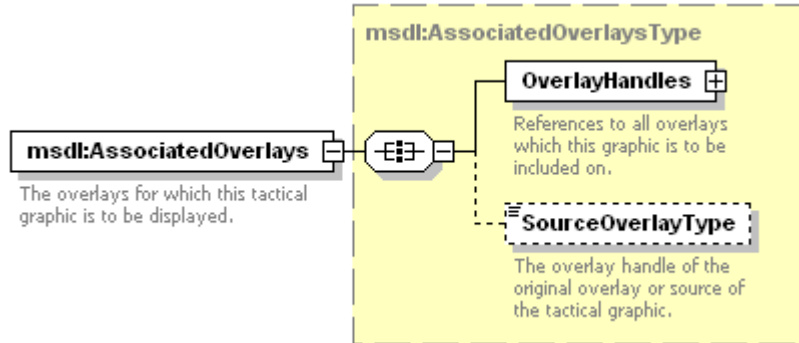
1644
1645
Figure 87: *msdl:AssociatedOverlays* Element Structure

1646   **6.8.1.6.1   *msdl:OverlayHandles* Element**

1647   For every ***msdl:AssociatedOverlays*** element there shall be one ***msdl:OverlayHandles*** elements. The
1648   ***msdl:OverlayHandles*** element specifies a reference to all overlays which this graphic is to be included on.
1649   It is an xs:sequence compositor comprised of the elements shown in Figure 88 and described in the following
1650   subsections. Domain type is ***msdl:OverlayHandlesType***.

1651
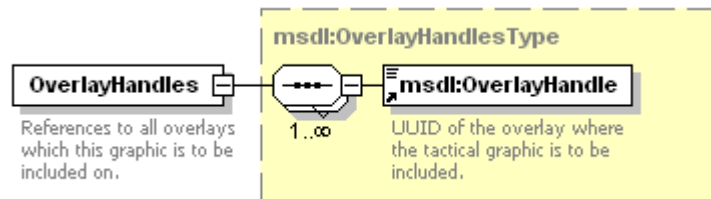
1652   **Figure 88: *msdl:OverlayHandles* Element Structure**

1653   1.   ***msdl:OverlayHandle*** - For every ***msdl:OverlayHandles*** element there shall be one or more
1654   ***msdl:OverlayHandle*** element. The ***msdl:OverlayHandle*** element specifies the UUID of the overlay
1655   where the tactical graphic is to be included. The domain type is ***msdl:patterUUIDRef32.***

1656   **6.8.1.6.2**   ***msdl:SourceOverlayType* Element**

1657   For every ***msdl:AssociatedOverlays*** element there shall be zero or one ***msdl:SourceOverlayType***
1658   elements. The ***msdl:SourceOverlayType*** element specifies the type of the original overlay. The domain
1659   type is ***msdl:enumOverlayType***.

1660   **6.8.1.7**   ***msdl:SymbolClassModifiers* Element**

1661   For every ***msdl:TacticalGraphic*** element there shall be zero or one ***msdl:SymbolClassModifiers*** element.
1662   The ***msdl:SymbolClassModifiers*** element characterizes the class of symbol as defined in the selected
1663   symbology standard. The selection is derived from the value of position 1 and position 5 to 10 in the
1664   ***msdl:SymbolID*** element. It is an xs:choice compositor comprised one and only one of the elements shown
1665   in Figure 89 and described in the following subsections. Domain type is ***msdl:SymbolClassModifiersType***.
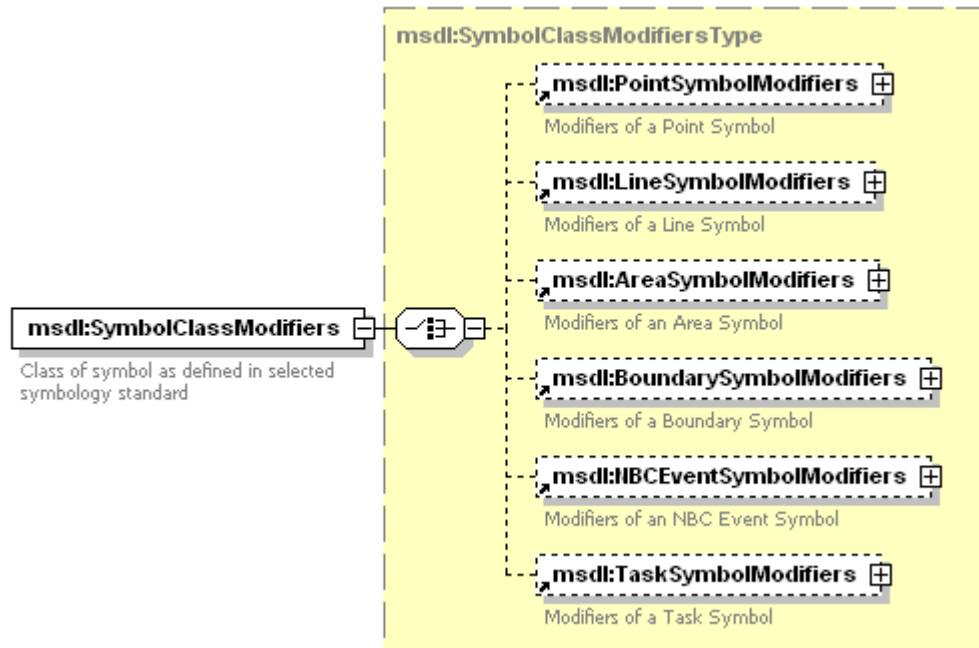
1666
1667   **Figure 89: *msdl:SymbolClassModifiers* Element Structure**

1668   **6.8.1.7.1**   ***msdl:PointSymbolModifiers* Element**

1669   For every ***msdl:SymbolClassModifiers*** element there shall be zero or one ***msdl:PointSymbolModifiers***
1670   element. The domain type is ***msdl:SymbolClassModifiers***. It is an xs:all compositor comprised of the
1671   elements shown in Figure 90 and described in the following subsections. Domain type is
1672   ***msdl:PointSymbolModifiersType***.
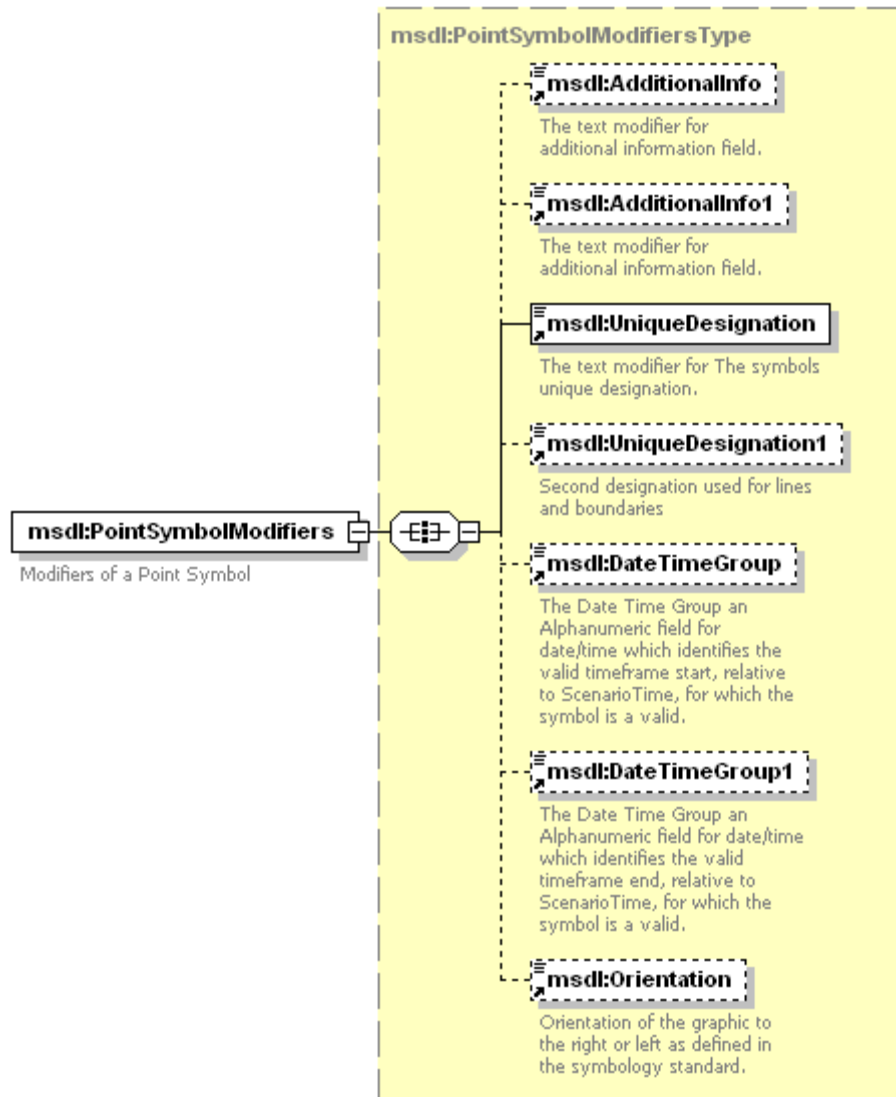
1674 **Figure 90: msdl:PointSymbolModifiers Element Structure**

1675 1. ***msdl:AdditionalInfo*** - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one
1676   ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an
1677   additional information field. The domain type is ***msdl:text20.***

1678 2. ***msdl:AdditionalInfo1*** - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one
1679   ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo1*** element specifies the text modifier for an
1680   additional information field. The domain type is ***msdl:text20.***

1681 3. ***msdl:UniqueDesignation*** - For every ***msdl:PointSymbolModifiers*** element there shall be one
1682   ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier
1683   for the symbols unique designation. The domain type is ***msdl:text21.***

1684 4. ***msdl:UniqueDesignation1*** - For every ***msdl:PointSymbolModifiers*** element there shall be one
1685   ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation1*** element specifies the text modifier
1686   for the symbols unique designation. The domain type is ***msdl:text21.***

1687 5. ***msdl***:DateTimeGroup - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one
1688   ***msdl:DateTimeGroup*** element. The ***msdl:DateTimeGroup*** element specifies the date time group as
1689   from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8.***

1690   6.   **msdl**:DateTimeGroup1 - For every **msdl:PointSymbolModifiers** element there shall be zero or one
1691   **msdl:DateTimeGroup1 element**. The **msdl:DateTimeGroup1 element** specifies the date time group
1692   as from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative8.**

1693   7.   **msdl**:**Orientation** - For every **msdl:PointSymbolModifiers** element there shall be zero or one
1694   **msdl:Orientation element**. The **msdl:Orientation element** specifies the orientation of the graphic to
1695   the right or left as defined in the symbology standard. The domain type is **msdl:enumOrientationType.**

1696   **6.8.1.7.2**   **msdl:LineSymbolModifiers Element**

1697 For every **msdl:SymbolClassModifiers** element there shall be zero or one **msdl:LineSymbolModifiers**
1698 element. The **msdl:LineSymbolModifiers** element specifies the modifiers for a line symbol. It is an xs:all
1699 compositor comprised of the elements shown in Figure 91 and described in the following subsections.
1700 Domain type is **msdl:LineSymbolModifiers**.
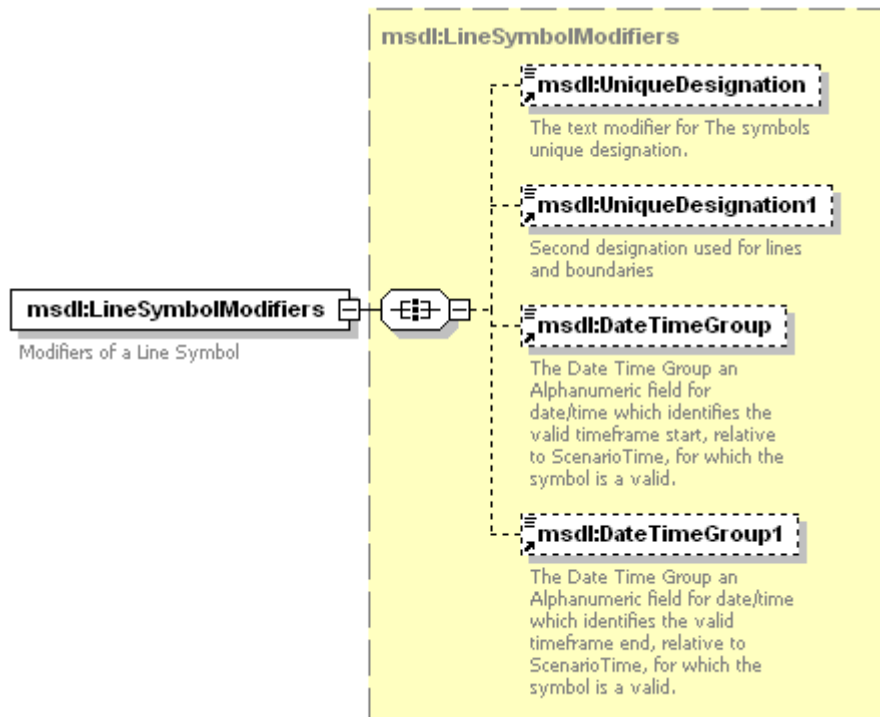
1701
1702   **Figure 91: msdl:LineSymbolModifiers Element Structure**

1703   1.   **msdl:UniqueDesignation** - For every **msdl:LineSymbolModifiers** element there shall be zero or one
1704   **msdl:UniqueDesignation** element. The **msdl:UniqueDesignation** element specifies the text modifier
1705   for the symbols unique designation. The domain type is **msdl:text21.**

1706   2.   **msdl**:UniqueDesignation1 - For every **msdl:LineSymbolModifiers** element there shall be be zero or
1707   one **msdl:UniqueDesignation1 element**. The **msdl:UniqueDesignation1 element** specifies the text
1708   modifier for the symbols unique designation. The domain type is **msdl:text21.**

1709   3.   **msdl**:DateTimeGroup - For every **msdl:LineSymbolModifiers** element there shall be zero or one
1710   **msdl:DateTimeGroup** element. The **msdl:DateTimeGroup** element specifies the date time group as
1711   from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative8.**

1712   4.   **msdl**:DateTimeGroup1 - For every **msdl:LineSymbolModifiers** element there shall be zero or one
1713   **msdl:DateTimeGroup1 element**. The **msdl:DateTimeGroup1 element** specifies the date time group
1714   as from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative8.**

1715   **6.8.1.7.3**   **msdl:AreaSymbolModifiers Element**

1716   For every **msdl:SymbolClassModifiers** element there shall be zero or one **msdl:AreaSymbolModifiers**
1717   element. The **msdl:AreaSymbolModifiers** element specifies the modifiers for an area symbol. It is an xs:all
1718   compositor comprised of the elements shown in Figure 92 and described in the following subsections.
1719   Domain type is **msdl:AreaSymbolModifiersType**.
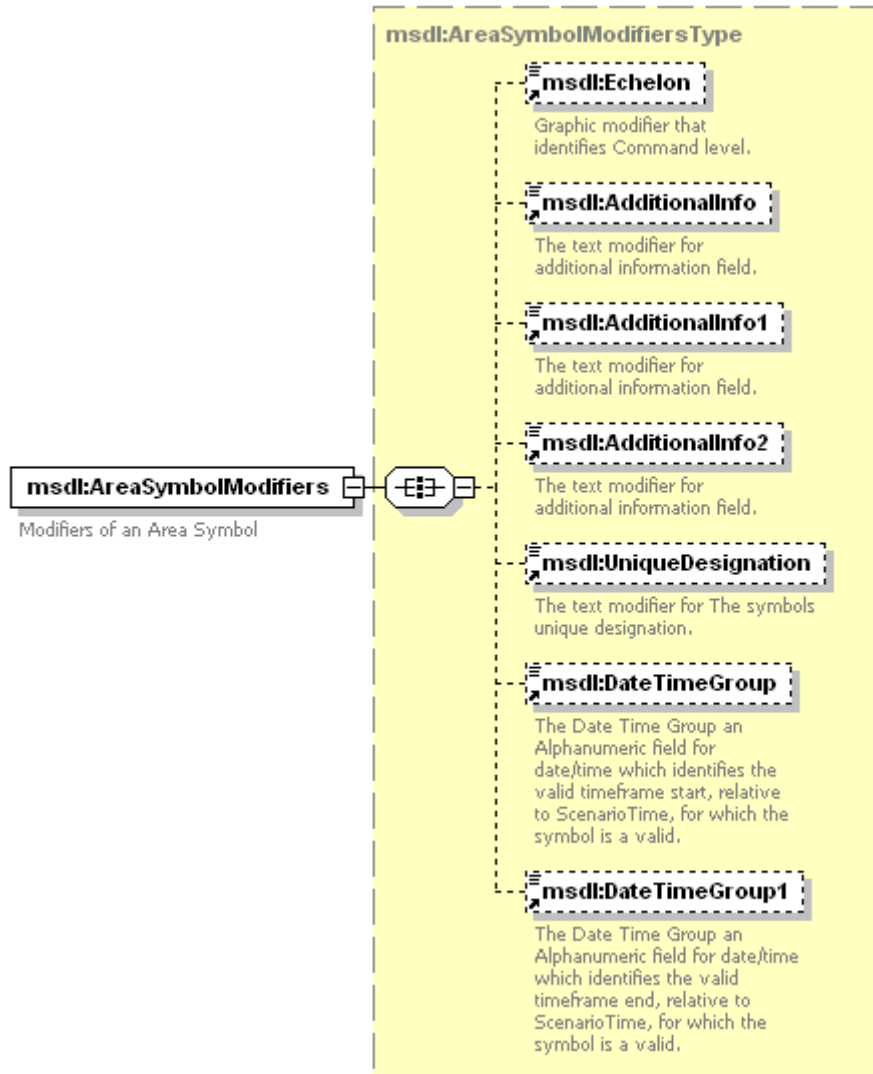
1720

1721   **Figure 92: msdl:AreaSymbolModifiers Element Structure**

1722   1.   **msdl:Echelon** - For every **msdl:AreaSymbolModifiers** element there shall be zero or one
1723   **msdl:Echelon** elements. The **msdl:Echelon** element specifies the graphic modifier that identifies
1724   command level. The domain type is restricted **msdl:enumEchelon**.

1725   2.   **msdl:AdditionalInfo** - For every **msdl:AreaSymbolModifiers** element there shall be zero or one
1726   **msdl:AdditionalInfo** element. The **msdl:AdditionalInfo** element specifies the text modifier for an
1727   additional information field. The domain type is **msdl:text20.**

1728   3.   **msdl**:AdditionalInfo1 - For every **msdl:AreaSymbolModifiers** element there shall be zero or one
1729   **msdl:AdditionalInfo1 element**. The **msdl:AdditionalInfo1 element** specifies the text modifier for an
1730   additional information field. The domain type is **msdl:text20.**

1731   4.   **msdl**:AdditionalInfo2 - For every **msdl:AreaSymbolModifiers** element there shall be zero or one
1732   **msdl:AdditionalInfo2 element**. The **msdl:AdditionalInfo2 element** specifies the text modifier for an
1733   additional information field. The domain type is **msdl:text20.**

1734   5.   **msdl**:UniqueDesignation - For every **msdl:AreaSymbolModifiers** element there shall be zero or one
1735   **msdl:UniqueDesignation** element. The **msdl:UniqueDesignation** element specifies the text modifier
1736   for the symbols unique designation. The domain type is **msdl:text21.**

1737   6.   **msdl**:DateTimeGroup - For every **msdl:AreaSymbolModifiers** element there shall be zero or one
1738   **msdl:DateTimeGroup** element. The **msdl:DateTimeGroup** element specifies the date time group as
1739   from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative8.**

1740   7.   **msdl**:DateTimeGroup1 - For every **msdl:AreaSymbolModifiers** element there shall be zero or one
1741   **msdl:DateTimeGroup1 element**. The **msdl:DateTimeGroup1 element** specifies the date time group
1742   as from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative8.**

1743   **6.8.1.7.4**   **msdl:BoundarySymbolModifiers Element**

1744   For every **msdl:SymbolClassModifiers** element there shall be zero or one
1745   **msdl:BoundarySymbolModifiers** element. The **msdl:BoundarySymbolModifiers** element specifies the
1746   modifiers for a boundary symbol. It is an xs:all compositor comprised of the elements shown in Figure 93
1747   and described in the following subsections. Domain type is **msdl:BoundaySymbolModifiersType**.
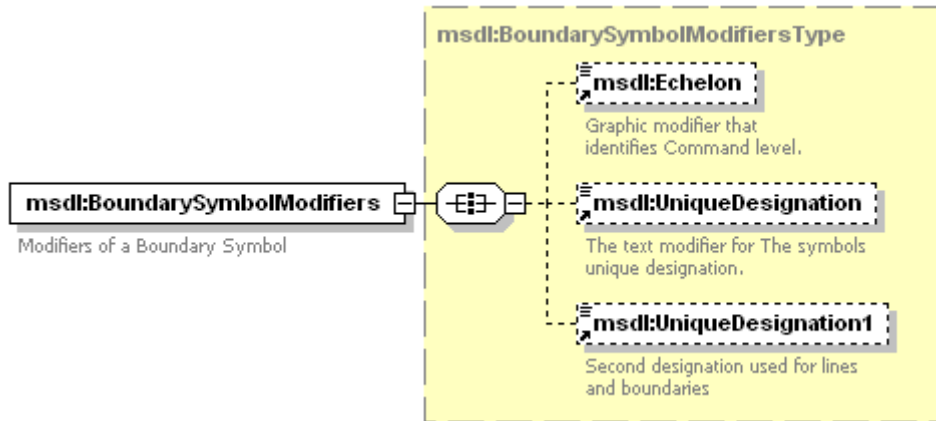
1748
1749   **Figure 93: msdl:BoundarySymbolModifiers Element Structure**

1750   1.   **msdl:Echelon** - For every **msdl:BoundarySymbolModifiers** element there shall be zero or one
1751   **msdl:Echelon** elements. The **msdl:Echelon** element specifies the graphic modifier that identifies
1752   command level. The domain type is restricted **msdl:enumEchelon**.

1753   2.   **msdl:UniqueDesignation** - For every **msdl:BoundarySymbolModifiers** element there shall be zero or
1754   one **msdl:UniqueDesignation** element. The **msdl:UniqueDesignation** element specifies the text
1755   modifier for the symbols unique designation. The domain type is **msdl:text21.**

1756   3.   **msdl**:UniqueDesignation1 - For every **msdl:BoundarySymbolModifiers** element there shall be zero
1757   or one **msdl:UniqueDesignation1 element**. The **msdl:UniqueDesignation1 element** specifies the text
1758   modifier for the symbols unique designation. The domain type is **msdl:text21.**

1759   **6.8.1.7.5**   **msdl:NBCEventSymbolModifiers Element**

1760   For every **msdl:SymbolClassModifiers** element there shall be zero or one
1761   **msdl:NBCEventSymbolModifiers** element. The **msdl:NBCEventSymbolModifiers** element specifies the
1762   modifiers for a NBC Event symbol. It is an xs:all compositor comprised of the elements shown in Figure 94
1763   and described in the following subsections. Domain type is **msdl:NBCEventSymbolModifiersType**.

1764
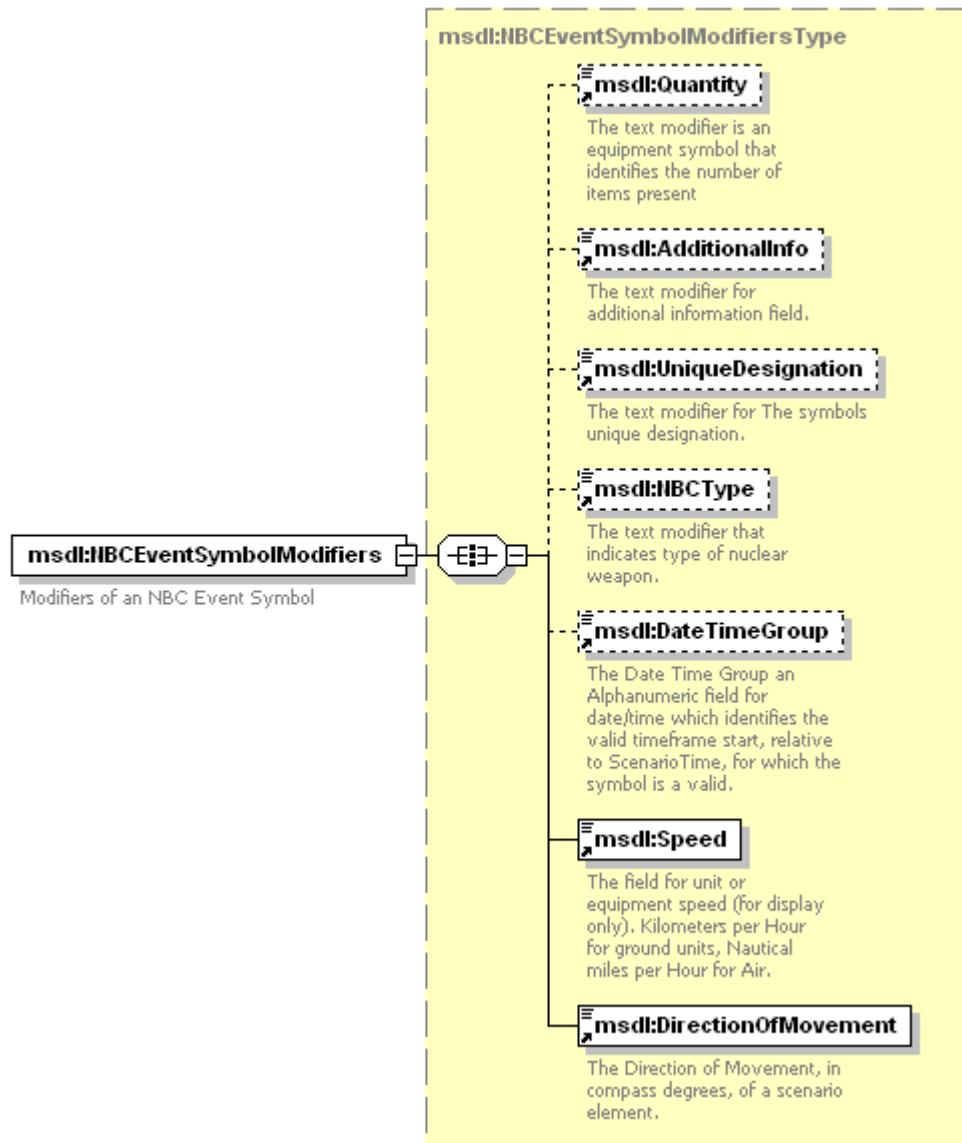
Figure 94: *msdl:NBCEventSymbolModifiers* Element Structure

1766   1.   ***msdl:Quantity*** - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one
1767   ***msdl:Echelon*** elements. The ***msdl:Echelon*** element specifies the text modifier that identifies the
1768   number of items present. The domain type is ***msdl:integerQuantity9.***

1769   2.   ***msdl***:AdditionalInfo - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one
1770   ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an
1771   additional information field. The domain type is ***msdl:text20.***

1772   3.   ***msdl:UniqueDesignation*** - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or
1773   one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text
1774   modifier for the symbols unique designation. The domain type is ***msdl:text21.***

1775   4.   ***msdl***:NBCType - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one
1776   ***msdl:NBCType*** element. The ***msdl:NBCType*** element specifies the text for the type of nuclear weapon.
1777   The domain type is ***msdl:text20.***

1778   5.   ***msdl***:DateTimeGroup - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or
1779   one ***msdl:DateTimeGroup*** element. The ***msdl:DateTimeGroup*** element specifies the date time group

1780   relative to the **msdl:ScenarioTime** from which a symbol is valid. The domain type is
1781   **msdl:patternTimeDTGRelative8**

1782   6. **msdl:Speed** - For every **msdl:NBCEventSymbolModifiers** element there shall be zero or one
1783   **msdl:Speed** element. The **msdl:Speed** element specifies the rate of movement of the item represented
1784   by the graphic in the direction specified by the msdl:DirectionOfMovementIndicator element. The domain
1785   type is **msdl:floatSpeed6_2.**

1786   7. **msdl**:**DirectionOfMovement** - For every **msdl:NBCEventSymbolModifiers** element there shall be one
1787   **msdl:DirectionOfMovement** element. The **msdl:DirectionOfMovement** element specifies the graphic
1788   modifier thatidentifies the direction of movement or intended direction of movement. The domain type is
1789   **msdl:booleanDirectionOfMovementIndicator**.

6.8.1.7.6   msdl:TaskSymbolModifiers Element

1791   For every **msdl:SymbolClassModifiers** element there shall be zero or one **msdl:TaskSymbolModifiers**
1792   element. The **msdl:TaskSymbolModifiers** element specifies the modifiers for a task symbol. It is an xs:all
1793   compositor comprised of the elements shown in Figure 95 and described in the following subsections.
1794   Domain type is **msdl:TaskSymbolModifiersType**.
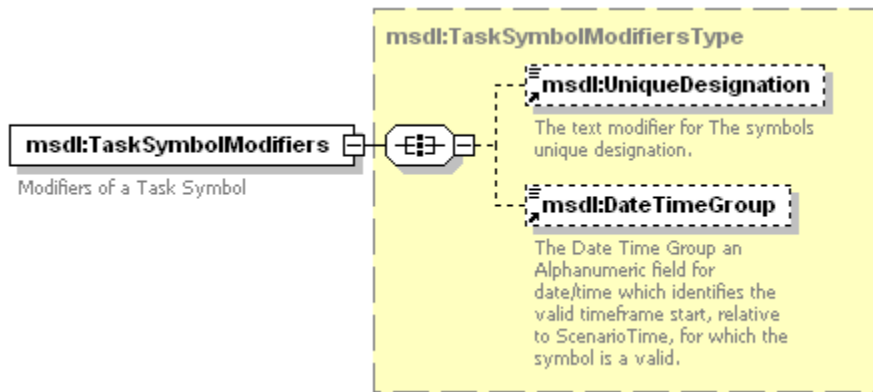
1795
1796   **Figure 95: TaskSymbolModifiers Element Structure**

1797   1. **msdl:UniqueDesignation** - For every **msdl:TaskSymbolModifiers** element there shall be be zero or
1798   one **msdl:UniqueDesignation** element. The **msdl:UniqueDesignation** element specifies the text
1799   modifier for the symbols unique designation. The domain type is **msdl:text21.**

1800   2. **msdl**:**DateTimeGroup** - For every **msdl:TaskSymbolModifiers** element there shall be zero or one
1801   **msdl:DateTimeGroup** element. The **msdl:DateTimeGroup** element specifies the date time group
1802   relative to the **msdl:ScenarioTime** from which a symbol is valid. The domain type is
1803   **msdl:patternTimeDTGRelative8.**

6.9   msdl:MOOTWGraphics Element

1805   For every **msdl:MilitaryScenario** element there shall be zero or one **msdl:MOOTWGraphics** element. The
1806   **msdl:MOOTWGraphics** element is used to specify the MOOTW graphics for the military scenario. The
1807   **msdl:MOOTWGraphics** element , an xs:sequence compositor, contains all the elements shown in Figure 96
1808   and described in the subsequent subsections. Domain type is **msdl:MOOTWGraphicsType**.

1809
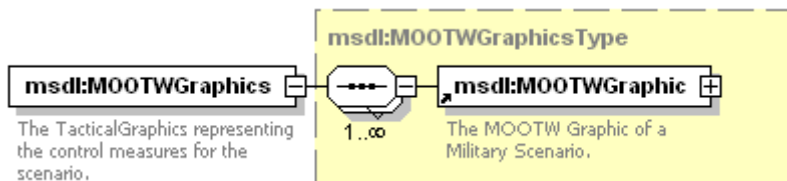
1810   **Figure 96: *msdl:MOOTWGraphics* Element Structure**

1811   **6.9.1   *msdl:MOOTWGraphic* Element**

1812   For every ***msdl:MOOTWGraphics*** element there shall be zero or one ***msdl:MOOTWGraphic*** element. The
1813   ***msdl:MOOTWGraphic*** element is used to specify the MOOTW graphics within the military scenario. A
1814   MOOTW graphic description is tactical information that is part of the COP of the force, side or unit specified
1815   in the owner element. Its level of threat as determined through intelligence gathering is specified in the
1816   ***msdl:Affiliation*** and ***msdl:FrameShapeModifier*** elements. The quality of the gathered intelligence used to
1817   create this tactical information is specified in the ***msdl:EvaluationRating*** element. The time when the
1818   information was gathered is specified in the ***msdl:DateTimeGroup*** element. This tactical information is
1819   organized within the COP through the overlays specified in the ***msdl:AssociatedOverlays*** element. Each
1820   COP (one per opposing sides) may have its own MOOTW instance description for the same actual MOOTW
1821   instance. The ***msdl:MOOTWGraphic*** element, an xs:sequence compositor, contains all the elements shown
1822   in Figure 97 and described in the subsequent subsections. Domain type is ***msdl:MOOTWGraphicType***.
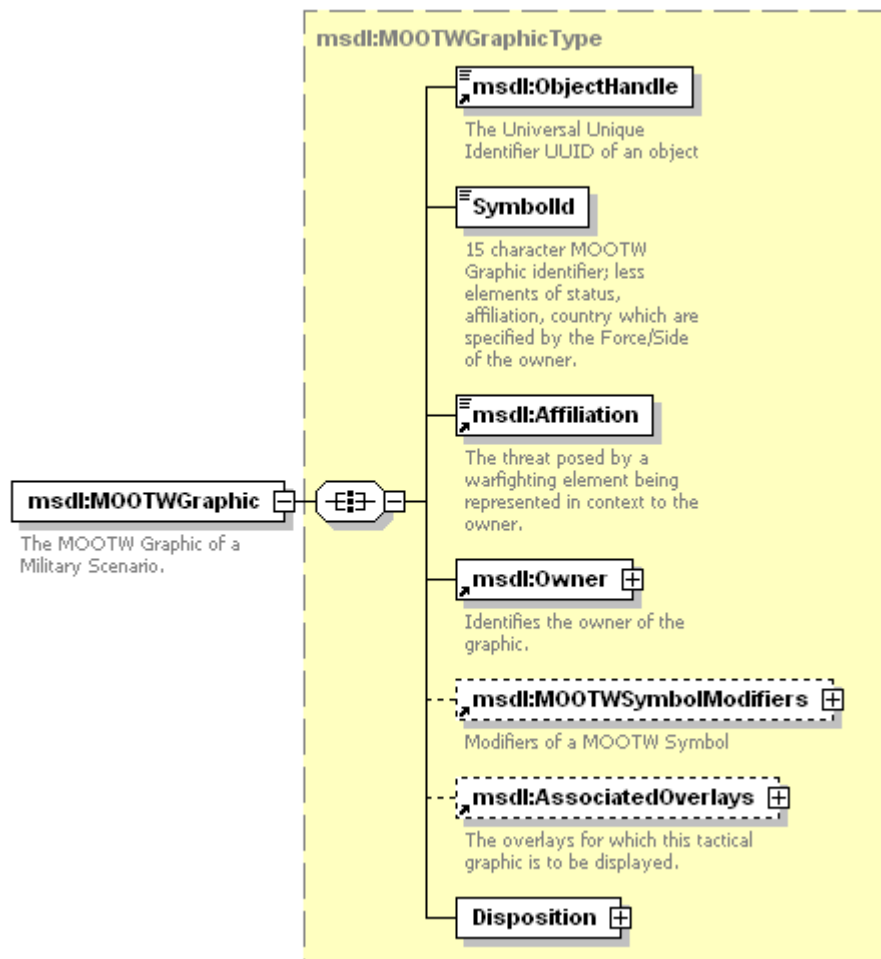
1823
1824   **Figure 97: *msdl:MOOTWGraphic* Element Structure**

1825   **6.9.1.1   *msdl:ObjectHandle* Element**

1826   For every ***msdl:MOOTWGraphic*** element there shall be one ***msdl:ObjectHandle*** element. The
1827   ***msdl:ObjectHandle*** element specifies the UUID of the ***msdl:MOOTWGraphic***. The domain type is a
1828   ***msdl:patterUUID32.***

1829 **6.9.1.2** *msdl:SymbolID* **Element**

1830 For every ***msdl:MOOTWGraphic*** element there shall be one ***msdl:SymbolID*** element. The ***msdl:SymbolID***
1831 element specifies the 15 character symbol identifier with fields that shall not be restricted using dashes.
1832 Thse fields would be redundant to other explicit elements in the standard. Affiliation, Status and Country
1833 Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceSide data.
1834 The domain type is a ***msdl:patternMOOTWSymbolID15.***

1835 **6.9.1.3** *msdl:Affiliation* **Element**

1836 For every ***msdl:MOOTWGraphic*** element there shall be one ***msdl:Affiliation*** element. The ***msdl:Affiliation***
1837 element specifies the threat posed by a warfighting element being represented in context to the owner. The
1838 domains type is ***msdl:enumBaseAffiliation.***

1839 **6.9.1.4** *msdl:Owner* **Element**

1840 For every ***msdl:MOOTWGraphic*** element there shall be one ***msdl:Owner*** element. The ***msdl:Owner***
1841 element specifies the owner of the graphic. The domain type is ***msdl:Owner*** as defined in Section 6.5.2.1.7
1842 within ***msdl:EquipmentItem***.

1843 **6.9.1.5** *msdl:MOOTWsymbolModifiers* **Element**

1844 For every ***msdl:MOOTWGraphic*** element there shall be zero or one ***msdl:MOOTWSymbolModifiers***
1845 element. The ***msdl:MOOTWSymbolModifiers*** element specifies the modifiers of a MOOTW symbol. It is an
1846 xs:all compositor comprised of the elements shown in Figure 98 and described in the following subsections.
1847 Domain type is ***msdl:MOOTWSymbolModifiers***.

1848
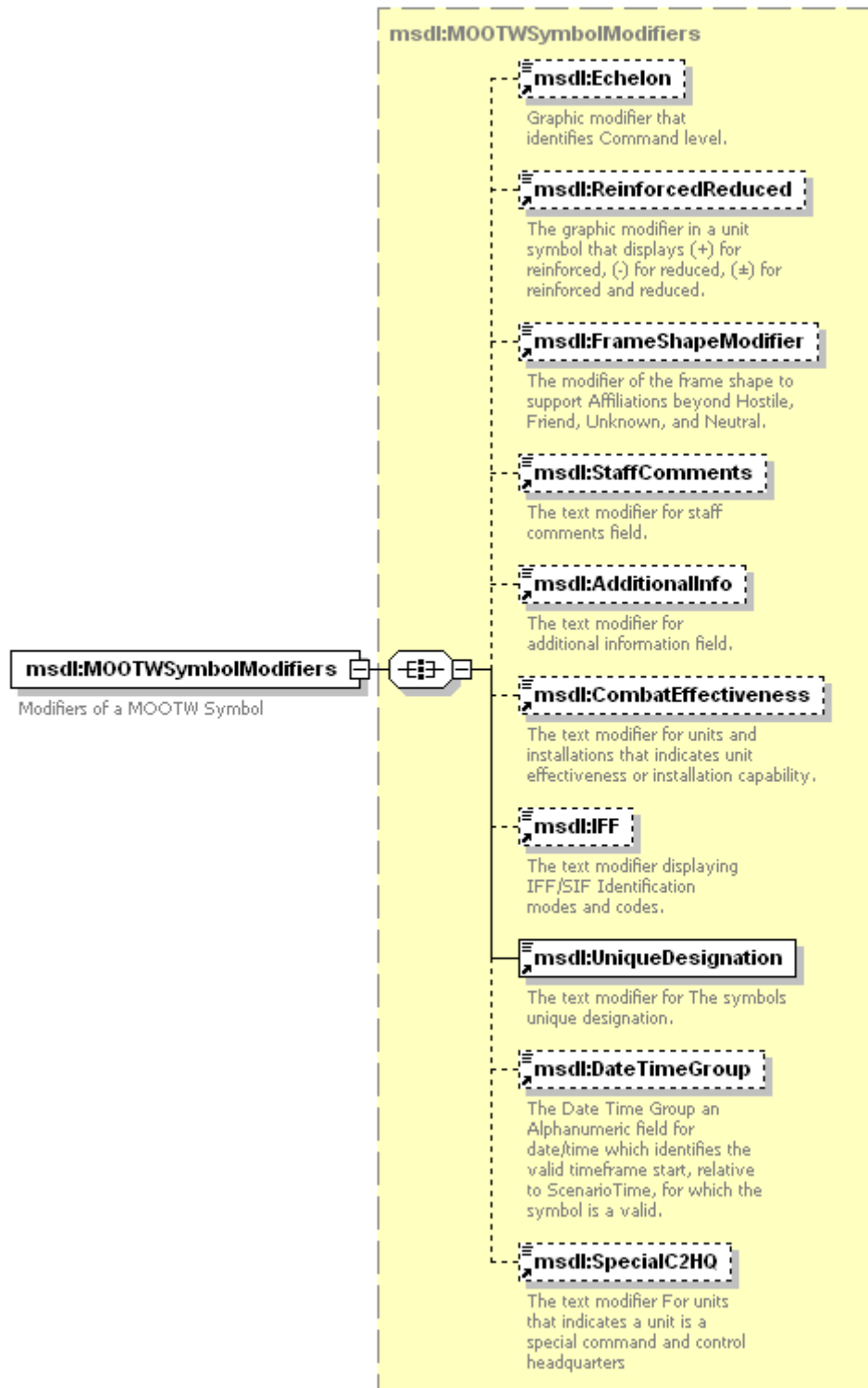
1849

1850 **Figure 98:** *msdl:MOOTWSymbolModifiers* **Element Structure**

1851 **6.9.1.5.1** *msdl:Echelon* **Element**

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1852 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:Echelon** elements. The
1853 **msdl:Echelon** element specifies the graphic modifier that identifies command level. The domain type is
1854 **msdl:enumEchelon**.

1855 **6.9.1.5.2   msdl:ReinforcedReduced Element**

1856 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:ReinforcedReduced**
1857 element (need example). The domain type is **msdl:enumReinforcedReducedType**.

1858 **6.9.1.5.3   msdl:FrameShapeModifier Element**

1859 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:FrameShapeModifier**
1860 element. The **msdl:FrameShapeModifier** element specifies the modifier of the frame shape to support
1861 affiliations beyond hostile, friend, unknown, and neutral. The domain type is
1862 **msdl:textFrameShapeModifier1.**

1863 **6.9.1.5.4   msdl:StaffComments Element**

1864 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:StaffComments**
1865 element. The **msdl:StaffComments** element specifies the text modifier for staff comments field. The
1866 domain type is **msdl:text20.**

1867 **6.9.1.5.5   msdl:AdditionalInfo Element**

1868 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:AdditionalInfo**
1869 element. The **msdl:AdditionalInfo** element specifies the text modifier for an additional information field. The
1870 domain type is **msdl:text20.**

1871 **6.9.1.5.6   msdl:CombatEffectiveness Element**

1872 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:CombatEffectiveness**
1873 elements. The **msdl:CombatEffectiveness** element specifies the text modifier that indicates the ability of a
1874 MOOTW instance to perform its mission. Factors such as ammunition, personnel, status of fuel, and
1875 weapons systems may be included in the assessment. The domain type is restricted
1876 **msdl:enumCombatEffectivenessType**.

1877 **6.9.1.5.7   msdl:IFF Element**

1878 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:IFF** element. The
1879 **msdl:IFF** element specifies the text modifier displaying IFF/SIF identification modes and codes. The domain
1880 type is **msdl:textIFF5.**

1881 **6.9.1.5.8   msdl:UniqueDesignation Element**

1882 For every **msdl:MOOTWSymbolModifiers** element there shall be one **msdl:UniqueDesignation** element.
1883 The **msdl:UniqueDesignation** element specifies the text modifier for the symbols unique designation. The
1884 domain type is **msdl:text21.**

1885 **6.9.1.5.9   msdl:DateTimeGroup Element**

1886 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:DateTimeGroup**
1887 element. The **msdl:DateTimeGroup** element specifies the date time group relative to the
1888 **msdl:ScenarioTime** from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative8.**

1889 **6.9.1.5.10   msdl:SpecialC2HQ Element**

1890 For every **msdl:MOOTWSymbolModifiers** element there shall be zero or one **msdl:SpecialC2HQ** element.
1891 The **msdl:SpecialC2HQ** element specifies the text modifier for units, that indicates a unit is a special
1892 command and control headquarters. The domain type is **msdl:textSpecialC2HQ1.**

1893 ### 6.9.1.6   msdl:AssociatedOverlays Element

1894 For every **msdl:MOOTWGraphic** element there shall be zero or one **msdl:MOOTWSymbolModifiers**
1895 element. The **msdl:AssoicatedOverlays** element specifies the overlays to which the tactical graphic is to be
1896 displayed. It is an xs:all compositor comprised of the elements shown in Figure 99 and described in the
1897 following subsections. Domain type is **msdl:AssociatedOverlaysType**.
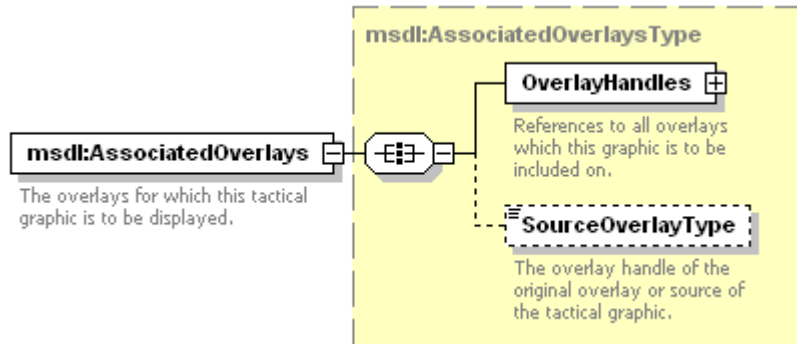
1898

1899 **Figure 99: _msdl:AssociatedOverlaysType_ Element Structure**

1900 **6.9.1.6.1   _msdl:OverlayHandles_ Element**

1901 For every **msdl:AssociatedOverlays** element there shall be one **msdl:OverlayHandles** elements. The
1902 **msdl:OverlayHandles** element specifies a reference to all overlays which this graphic is to be included on.
1903 It is an xs:sequence compositor comprised of the elements shown in Figure 100 and described in the
1904 following subsections. Domain type is **msdl:OverlayHandlesType**.
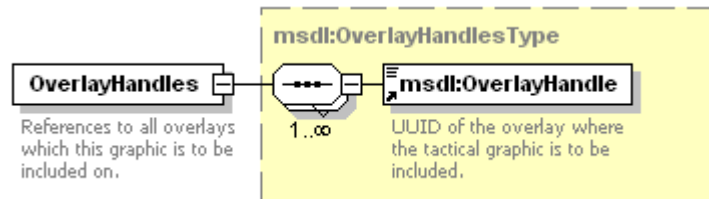
1905

1906 **Figure 100: _msdl:OverlayHandles_ Element Structure**

1907 1.   **msdl:OverlayHandle** - For every **msdl:OverlayHandles** element there shall be one or more
1908   **msdl:OverlayHandle** element. The **msdl:OverlayHandle** element specifies the UUID of the overlay
1909   where the tactical graphic is to be included. The domain type is **msdl:patterUUIDRef32**.

1910 **6.9.1.6.2   _msdl:SourceOverlayType_ Element**

1911 For every **msdl:AssociatedOverlays** element there shall be zero or one **msdl:SourceOverlayType**
1912 elements. The **msdl:SourceOverlayType** element specifies the type of the overriding overlay type for all
1913 associated overlays. The domain type is **msdl:enumOverlayType**.

1914 ### 6.9.1.7   Disposition Element

1915 For every **msdl:MOOTWGraphic** element there shall be one **Disposition** element. The **Disposition**
1916 element specifies the location of MOOTW instances and the manner in which these MOOTW instances are
1917 tactically deployed. It is an xs:all compositor comprised of the elements shown in Figure 101 and described
1918 in the following subsections. Domain type is **msdl:MOOTWDispositionType**.
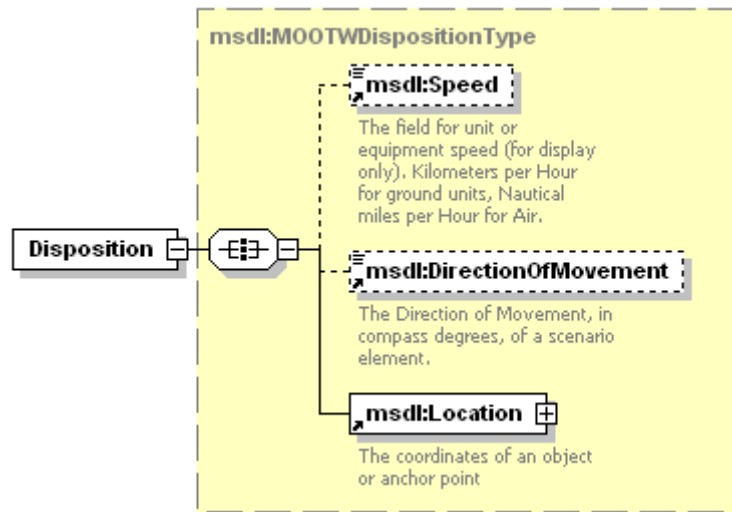
1919
1920   **Figure 101: *Disposition* Element Structure**

1921   ***6.9.1.7.1   msdl:Speed***

1922   For every ***Disposition*** element there shall be zero or one ***msdl:Speed*** element. The ***msdl:Speed*** element
1923   specifies the rate of movement of the item identified by the MOOTW graphic in the direction specified by the
1924   ***msdl:DirectionOfMovement*** element. This shall either be the position of the lead element or the center of
1925   mass of the unit as specified in the ***msdl:FormationLocationType***. The domains type is
1926   ***msdl:floatSpeed6_2***.

1927   ***6.9.1.7.2   msdl:DirectionOfMovement***

1928   For every ***Disposition*** element there shall be zero or one ***msdl:DirectionOfMovement*** element. The
1929   ***msdl:DirectionOfMovement*** element specifies the direction of movement in compass degress, of the item
1930   identified by the MOOTW graphic. The domains type is ***msdl:floatCompassDegrees3_3***.

1931   ***6.9.1.7.3   msdl:Location***

1932   For every ***Disposition*** element there shall be one ***msdl:Location*** element. This element provides the
1933   coordinates of the ***msdl:MOOTWGraphic***. The domain type is ***msdl:Coordinates*** as defined within section
1934   6.3.4.4.3 for ***msdl:UpperRight***.

1935 **7   Data Types**

1936   Within MSDL reuseable simple and complex data types are offered through the use of XML data type
1937   declarations. This section specifies the current set of complex and simple data types that have not already
1938   been defined in use by the previously defined element declarations. Additional data types will be added as
1939   MSDL is extended through active use as will specific element declarations that extend or restrict specific
1940   data types. Restricting or extending data types will enable configuration management to control and
1941   integrate extensions to the MSDL specification.

1942   **7.1   Simple Type *msdl:enumAnchorPointType***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:AnchorType***
facets	enumeration	COORDINATE
	enumeration	POINT_TACTICAL_G RAPHIC

1943   **7.2   Simple Type *msdl:enumBaseAffiliation***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:Affiliation***
facets	enumeration	HOSTILE
	enumeration	FRIEND
	enumeration	NEUTRAL
	enumeration	UNKNOWN

1944   **7.3   Simple Type *msdl:enumCombatEffectivenessType***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:CombatEffectiveness***
Annotation	documentation	
	The text modifier for units and installations that indicates unit effectiveness or installation capability.	
facets	enumeration	GREEN
	enumeration	AMBER
	enumeration	RED

1945   ***7.4   Simple Type msdl:enumCommandRelationshipType***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:CommandRelationshipType**

facets	enumeration	ORGANIC
	enumeration	ATTACHED
	enumeration	OPCON
	enumeration	TACON
	enumeration	ADCON
	enumeration	NONE
annotation	documentation	Enumerated choice for the type of command under which the unit has been task organized as taken from FM 100-7 'The Army In Theater Operations'

1946   **7.5   Simple Type *msdl:enumCommunicationNetType***

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element ***msdl:CommunicationNetType***
annotation	documentation
	The typical list of Communications Net Types for Army Units.
facets	enumeration	OTHER
	enumeration	COMMAND_NET
	enumeration	OPERATIONS_INTELLIGENCE_NET
	enumeration	ADMIN_LOGISTICS_NET
	enumeration	FIRE_SUPPORT_NET

1947   **7.6   Simple Type *msdl:enumCommunicationServiceType***

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element ***msdl:CommunicationService***
annotation	documentation
	The typical list of Communications Net Types for Army Units.
facets	enumeration	DATTRF
	enumeration	FAX
	enumeration	IIF
	enumeration	IMAGE
	enumeration	MCI
	enumeration	MHS
	enumeration	TDL
	enumeration	VIDSVC
	enumeration	VOCSVC
	enumeration	NOS

1948   *7.7*   **Simple Type *msdl:enumCoordinateSystemType***

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:CoordinateSystemType**
facets	enumeration MGRS
	enumeration GDC
	enumeration UTM
	enumeration GCC
annotation	documentation Enumerated choice for the type of coordinate as MGRS, UTM, GCC, and GCS.

1949   *7.8*   **Simple Type *msdl:enumEchelon***

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:AggregateEchelon msdl:Echelon**
facets	enumeration NONE
	enumeration TEAM
	enumeration CREW
	enumeration SQUAD
	enumeration SECTION
	enumeration PLATOON
	enumeration DETACHMENT
	enumeration COMPANY
	enumeration BATTERY
	enumeration TROOP
	enumeration BATTALION
	enumeration SQUADRON
	enumeration REGIMENT
	enumeration GROUP
	enumeration BRIGADE
	enumeration DIVISION
	enumeration CORPS
	enumeration ARMY
	enumeration ARMYGROUP
	enumeration FRONT
	enumeration REGION
annotation	documentation Graphic modifier that identifies Command level.

1950   *7.9*   **Simple Type *msdl:enumForceOwnerType***

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:OrganicRelationType msdl:OwnerType**
facets	enumeration UNIT
	enumeration FORCE_SIDE
	enumeration NOT_SPECIFIED
annotation	documentation Enumerated choice for the type of owning organization as a force or unit.

1951   **7.10   simpleType msdl:enumFormationLocationType**

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:OwnFormationType/FormationLocationType**
facets	enumeration LEAD_ELEMENT
	enumeration CENTER_OF_MASS

annotation   documentation   Enumerated choice for the method used to correlate formation to location as cetner of mass or lead element.

1952   7.11   simpleType msdl:enumFormationType

namespace   http://www.sisostds.org/Schemas/msdl/v1

type   restriction of **xs:string**

used by   element   **msdl:FormationType**

facets   enumeration   GROUND
enumeration   AIR
enumeration   SURFACE
enumeration   SUBSURFACE

annotation   documentation   Enumerated choice for The type of formation being Ground, Air, Surface or Subsurface

1953   7.12   simpleType msdl:enumGroundFormationType

namespace   http://www.sisostds.org/Schemas/msdl/v1

type   restriction of **xs:string**

used by   element   **msdl:GroundFormationType**

facets   enumeration   COLUMN
enumeration   STAGGERED_COLUMN
enumeration   ECHELON_LEFT
enumeration   ECHELON_RIGHT
enumeration   LINE
enumeration   WEDGE
enumeration   VEE
enumeration   ASSAULT_VEE
enumeration   FSE_COLUMN
enumeration   STACK
enumeration   NONE

annotation   documentation   This is the ground formation from which subordinate elements are placed in formation.

1954   7.13   simpleType msdl:enumMilitaryDomainType

namespace   http://www.sisostds.org/Schemas/msdl/v1

type   restriction of **xs:string**

used by   element   **msdl:MilitaryDomain**

facets   enumeration   ACR
enumeration   RDA
enumeration   TEMO

annotation   documentation   Military domain for the scenario of ACR, RDA, and TEMO.

1955   7.14   simpleType msdl:enumModelResolutionType

namespace   http://www.sisostds.org/Schemas/msdl/v1

type   restriction of **xs:string**

used by   element   **msdl:Resolution**

facets   enumeration   NONE
enumeration   MINIMAL
enumeration   STANDARD
enumeration   ENHANCED
enumeration   HIGH
enumeration   NOT_SPECIFIED

annotation   documentation   Enumeration indicating the level of fidelity appropriate for instancing the unit or equipment in the simulation

1956   **7.15**   **simpleType** msdl:enumMOPPLevelType

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:MOPPLevel**
facets	enumeration LEVEL_0
	enumeration LEVEl_1
	enumeration LEVEL_2
	enumeration LEVEL_3
	enumeration LEVEL_4
annotation	documentation Unit specific status of Mission Oriented Protective Posture

1957   **7.16**   **simpleType** msdl:enumOrientationType

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:Orientation**
facets	enumeration ORIENT_RIGHT
	enumeration ORIENT_LEFT
annotation	documentation Orientation of the graphic to the right or left as defined in the symbology standard

1958   **7.17**   **simpleType** msdl:enumOverlayType

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:OverlayType msdl:AssociatedOverlaysType/SourceOverlayType**
facets	enumeration OPERATIONS
	enumeration FIRE_SUPPORT
	enumeration MODIFIED_COMBINED_OBSTACLES
	enumeration INTEL
	enumeration RECON_SURVEILLANCE
	enumeration OBSTACLE
	enumeration AIR_DEFENSE
	enumeration LOGISTICS
	enumeration A2C2
	enumeration USER_DEFINED
annotation	documentation A specific overlay used in the scenario, that is then referenced by the control measures that are to be included on the overlay

1959   **7.18**   **simpleType** msdl:enumReinforcedReducedType

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:ReinforcedReduced**
facets	enumeration (+)
	enumeration (-)
	enumeration (+/-)
	enumeration _
annotation	documentation The graphic modifier in a unit symbol that displays (+) for reinforced, (-) for reduced, (±) for reinforced and reduced.

1960   **7.19**   **simpleType** msdl:enumSubsurfaceFormationType

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**

used by	element	**msdl:SubsurfaceFormationType**
facets	enumeration	NOT_SPECIFIED
annotation	documentation	This is the subsurface formation from which subordinate elements are placed in formation

1961   **7.20**   **simpleType** msdl:enumSupportRelationType

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:string**	
used by	element	**msdl:SupportType**
facets	enumeration	GS
	enumeration	DS
	enumeration	RS
	enumeration	GS-R
	enumeration	NONE
annotation	documentation	The support relationship of this unit with respect to the unit being supported

1962   **7.21**   **simpleType** msdl:enumSupportRoleType

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:string**	
used by	element	**msdl:SupportRoleType**
facets	enumeration	FIRES
	enumeration	INTELLIGENCE
	enumeration	ENGINEER
	enumeration	CHEMICAL
	enumeration	NOT_SPECIFIED
annotation	documentation	The support role taken from classes of Priority of Effort being Chemical, Engineer, Fires, and Intelligence

1963   **7.22**   **simpleType** msdl:enumSurfaceFomationType

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:string**	
used by	element	**msdl:SurfaceFomationType**
facets	enumeration	NOT_SPECIFIED
annotation	documentation	This is the surface formation from which subordinate elements are placed in formation

1964   **7.23**   **simpleType** msdl:enumSymbologyStandardType

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:string**	
used by	element	**msdl:SymbologyStandard**
facets	enumeration	MILSTD_2525B
	enumeration	NATO_APP-6
annotation	documentation	Enumerated choice for the type of symbology standandard.

1965   **7.24**   **simpleType** msdl:enumWeaponControlStatusType

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:string**	
used by	element	**msdl:WeaponControlStatus**

facets	enumeration	WEAPONS_FREE
	enumeration	WEAPONS_TIGHT
	enumeration	WEAPONS_HOLD
annotation	documentation	Degree of fire control, values include free, tight, and hold.

1966   **7.25**   **simpleType** msdl:boolean

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	**xs:boolean**
used by	elements **msdl:AggregateBased msdl:AuxiliaryEquipment msdl:OutOfFormation**
annotation	documentation The MSDL base type for boolean values.

1967   **7.26**   **simpleType** msdl:floatCartesianValue9_3

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	**xs:double**
used by	elements **msdl:X msdl:Y msdl:Z**
annotation	documentation The double precision X component of the Geocetric coordindate.

1968   **7.27**   **simpleType** msdl:floatCompassDegrees3_3

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:float**	
used by	elements **msdl:DirectionOfMovement msdl:FormationOrientation msdl:SensorOrientation**	
facets	minInclusive	0.00
	maxInclusive	360.00
annotation	documentation	Compass degreest.

1969   **7.28**   **simpleType** msdl:floatElevationAGL6_2

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:float**	
used by	element **msdl:ElevationAGL**	
facets	minInclusive	-999999.0
	maxInclusive	999999.0
annotation	documentation	Altitude or hieight relative to ground level in meters.

1970   **7.29**   **simpleType** msdl:floatLatitudeLongitude3_3

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:float**	
used by	elements **msdl:Latitude msdl:Longitude**	
facets	maxInclusive	180.0
	minExclusive	-180.0
annotation	documentation	Fractional degress of longitude/latitude.

1971   **7.30**   **simpleType** msdl:floatSpacing4_3

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:float**

	used by	element	**msdl:FormationSpacing**
	facets	minInclusive	1.
		maxExclusive	9999.999
	annotation	documentation	The default Spacing in meteres between subordinates elements on echelon below.

1972   **7.31**   **simpleType** msdl:floatSpeed6_2

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:float**
used by	element **msdl:Speed**
facets	minInclusive 0.0
	maxInclusive 999999.0
annotation	documentation The field for unit or equipment speed (for display only). Kilometers per Hour for ground units, Nautical miles per Hour for Air.

1973   **7.32**   **simpleType** msdl:floatUTMEasting9_2

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:float**
used by	element **msdl:UTMEasting**
facets	minInclusive 0.0
annotation	documentation The easting component of the UTM coordindate to the precsion value of the MGRS precision element.

1974   **7.33**   **simpleType** msdl:floatUTMNorthing9_2

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:float**
used by	element **msdl:UTMNorthing**
facets	minInclusive 0.0
annotation	documentation The northing component of the UTM coordindate to the precsion value of the MGRS precision element.

1975   **7.34**   **simpleType** msdl:floatWidth4_1

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:float**
used by	element **msdl:Width**
facets	minInclusive 0.0
	maxInclusive 1000.0
annotation	documentation Width, in meters, of a line tactical graphic

1976   **7.35**   **simpleType** msdl:integerCredibility1

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:int**
used by	element **msdl:Credibility**
facets	minInclusive 1
	maxInclusive 6
annotation	documentation The text modifier indicator that establishes the credibility of a unit, equipment or installation. Credibility Ratings: 1-confirmed by other sources, 2-probably true, 3-possibly true, 4-doubtfully true, 5-improbable, 6-truth cannot be judged.

1977 **7.36 simpleType** msdl:integerMGRSEasting5

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:long**
used by	element **msdl:MGRSEasting**
facets	minInclusive 0 maxInclusive 99999
annotation	documentation The easting component of the MGRS coordindate to the precsion value of the MGRS precision element.

1978 **7.37 simpleType** msdl:integerMGRSNorthing5

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:long**
used by	element **msdl:MGRSNorthing**
facets	minInclusive 0 maxInclusive 99999
annotation	documentation The northing component of the MGRS coordindate to the precsion value of the MGRS precision element.

1979 **7.38 simpleType** msdl:integerMGRSPrecision1

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:int**
used by	element **msdl:MGRSPrecision**
facets	minInclusive 2 maxInclusive 5
annotation	documentation The precision, 2 (km) to 5 (meters), used for each MGRS coordinate

1980 **7.39 simpleType** msdl:integerPriorityCode1

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:integer**
facets	minInclusive 1 maxInclusive 5
annotation	documentation 1= top priority, 2=urgent, 3=normal, 4=routine, 5=unknown

1981 **7.40 simpleType** msdl:integerPriorityOfEffort1

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:integer**
facets	minInclusive 0 maxInclusive 5
annotation	documentation The priority to effort; 1= top priority, 2=urgent, 3=normal, 4=routine, 5=unknown

1982 **7.41 simpleType** msdl:integerPriorityToSupport1

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:integer**
used by	element **msdl:PriorityToSupport**
facets	minInclusive 0 maxInclusive 9
annotation	documentation The Supporting Unit's priority to Support another unit from 1 to N where 1 is the top priority.

1983 **7.42 simpleType** msdl:integerQuantity9

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:int**	
used by	element	**msdl:Quantity**
facets	minInclusive	0
	maxInclusive	999999999
annotation	documentation	The text modifier is an equipment symbol that identifies the number of items present

1984 **7.43 simpleType** msdl:integerSequence6

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	**xs:integer**	
used by	element	**msdl:FormationOrder**
annotation	documentation	The sequence of an event within a phase.

1985 **7.44 simpleType** msdl:patternForceSymbolID15

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	elements	**msdl:ForceSymbolId msdl:SymbolId**
facets	length	15
	pattern	[SGWIO]{1}[\-]{1}[PAGMOSTUFVXLIZ\-]{1}[\-]{1}[A-Z\-]{6}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}
annotation	documentation	The 15 character Symbol identifier with fields that shall not be interpreted restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values.

1986 **7.45 simpleType** msdl:patternInstallationSymbolID15

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:InstallationType/SymbolID**
facets	length	15
	pattern	[S]{1}[\-]{1}[G]{1}[AP\-]{1}[I]{1}[A-Z\-]{5}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}
annotation	documentation	The 15 character Symbol identifier with fields that shall not be interpreted restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values.

1987 **7.46 simpleType** msdl:patternMETOCSymbolID15

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:METOCGraphicType/SymbolId**
facets	length	15
	pattern	W[AOS]{1}\-\-[BCGHILMOPTW\-]{1}[ABCDEFHIJLMNOPRSTX\-]{1}[ABCDFGHILMNOPQRSTUVW\-]{1}[ABCDEFGHIKLMOPQRSTUVWZ\-]{1}[ABCDEFGHILMNOPRSTVW\-]{1}[ABCEFGHILMOPQSTUVWYZ\-]{1}\-\-\-\-\-
annotation	documentation	15 character METOC Symbol identifier

1988 **7.47** **simpleType** msdl:patternMGRSGridSquare2

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	elements	**msdl:MGRSGridSquare** **msdl:MGRSGridZone**
facets	length	2
	pattern	[ABCDEFGHJKLMNPQRSTUVWXYZ]{2}
annotation	documentation	The MGRS one hundred thousand meter grid square designator, as defined by NIMA TM 8358.1

1989 **7.48** **simpleType** msdl:patternMGRSGridZone3

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
facets	length	3
	pattern	[0-9]{2}[ABCDEFGHJKLMNPQRSTUVWXYZ]{1}
annotation	documentation	The MGRS Grid Zone designator, to include the number and letter as defined by NIMA TM 8358.1

1990 **7.49** **simpleType** msdl:patternMOOTWSymbolID15

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:MOOTWGraphicType/SymbolId**
facets	length	15
	pattern	[O]{1}[\-]{1}[VXLIZ\-]{1}[AP\-]{1}[A-Z\-]{6}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}
annotation	documentation	The 15 character Symbol identifier with fields that shall not be interpreted restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values.

1991 **7.50** **simpleType** msdl:patternReliability1

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
facets	pattern	[A-F]{1}
annotation	documentation	The text modifier indicator that establishes the reliability of a unit, equipment or installation. Reliability Ratings: A-completely reliable, B-usually reliable, C-fairly reliable, D-not usually reliable, E-unreliable, F-realibility cannot be judged.

1992 **7.51** **simpleType** msdl:patternSIGINT1

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:SIGINT**
facets	length	1
	pattern	[MSU]{1}
annotation	documentation	Enumeration type that describes the signal intelligence equipment mobility Indicators of MILSTD2525.

1993 **7.52** **simpleType** msdl:patternSymbolID15

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
facets	length	15
	pattern	[SGWIMO]{1}[PUAFNSHJKO\-*]{1}[PAGMOSTUFVX\-]{1}[\-*]{1}[A-Z\-]{6}[A-Z\-*]{1}[A-Z\-*]{1}[A-Z-

]{2}[AECGNSX\-]{1}

annotation   documentation   The 15 character Symbol identifier

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1994   **7.53**   **simpleType** msdl:patternTacticalGraphicSymbolID15

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:TacticalGraphicType/SymbolID**
facets	length 15 pattern [G]{1}[\-]{1}[PAGMOSTUFVXLIZ\-]{1}[AP\-]{1}[A-Z\-]{6}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}
annotation	documentation The 15 character Symbol identifier with fields that shall not be interpreted restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values.

1995   **7.54**   **simpleType** msdl:patternTimeDTG14

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:ScenarioTime**
facets	pattern [0-9]{2}[0-9]{2}[0-9]{2}[0-9]{2}[A-Z]{1}[A-Z]{3}[0-9]{2}
annotation	documentation The DateTime Group format DDHHMMSSZMONYY.

1996   **7.55**   **simpleType** msdl:patternTimeDTGRelative8

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:DateTimeGroup msdl:DateTimeGroup1 msdl:RelativeTime**
facets	pattern [0-9]{2}[0-9]{2}[0-9]{2}[0-9]{2}
annotation	documentation The DateTime Group format DDHHMMSS relative to ScenarioTime.

1997   **7.56**   **simpleType** msdl:patternUTMGridZone3

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:UTMGridZone**
facets	length 3 pattern [0-9]{2}[ABCDEFGHJKLMNPQRSTUVWXYZ]{1}
annotation	documentation The UTM Grid Zone designator, to include the number and letter as defined by NIMA TM 8358.1

1998   **7.57**   **simpleType** msdl:patternUUID32

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:AllegianceHandle msdl:ObjectHandle**
facets	pattern [0-9a-z]{8}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{12}
annotation	documentation The Universal Unique Identifier UUID of an object as defined ISO/IEC 11578:1996 Information technology - Open Systems Interconnection - Remote Procedure Call RPC.

1999 **7.58 simpleType** msdl:patternUUIDRef32

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:AffiliateHandle msdl:CommandingSuperiorHandle msdl:ForceOwnerHandle msdl:ForceSideHandle msdl:MostDangerousActivityHandle msdl:MostProbableActivityHandle msdl:OrganicForceSideHandle msdl:OrganicSuperiorHandle msdl:OverlayHandle msdl:PointSymbolHandle msdl:SupportedUnitHandle msdl:SupportingUnitHandle msdl:TacticalGraphicHandle msdl:UnitHandle msdl:UnitOwnerHandle**
facets	pattern [0-9a-z]{8}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{12}
annotation	documentation The Universal Unique Identifier UUID of an object as defined ISO/IEC 11578:1996 Information technology - Open Systems Interconnection - Remote Procedure Call RPC.

2000 **7.59 simpleType** msdl:text20

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:AdditionalInfo msdl:AdditionalInfo1 msdl:AdditionalInfo2 msdl:NBCType msdl:StaffComments**
facets	minLength 0 maxLength 20 pattern ([-z]{1})* documentation General text of length 20 characters.
annotation	

2001 **7.60 simpleType** msdl:text21

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:HigherFormation msdl:UniqueDesignation msdl:UniqueDesignation1**
facets	minLength 0 maxLength 21 pattern ([-z]{1})* documentation General text of length 21 characters.
annotation	

2002 **7.61 simpleType** msdl:textBookmark255

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
facets	minLength 0 maxLength 255 pattern ([-z]{1})* documentation Bookmark text of length 255 characters.
annotation	

2003 **7.62 simpleType** msdl:textCommunicationNetId32

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
facets	minLength 0 maxLength 32 pattern ([-z]{1})* documentation The Name or ID of the Communication net
annotation	

2004 **7.63 simpleType** msdl:textDatum8

namespace	http://www.sisostds.org/Schemas/msdl/v1

type	restriction of **xs:string**	
used by	element	**msdl:Datum**
facets	minLength	0
	maxLength	8
	pattern	([-z]{1})*
annotation	documentation	The Datum used to calculate cooridinates

2005 **7.64 simpleType** msdl:textEquipmentType24

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:EquipmentType**
facets	minLength	0
	maxLength	24
	pattern	([-z]{1})*
annotation	documentation	The text modifier that indicates type of equipment.

2006 **7.65 simpleType** msdl:textFrameShapeModifier1

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:FrameShapeModifier**
facets	length	1
	pattern	[UJK?_]{1}
annotation	documentation	The affiliation modifer from the base friend, hostile, neutral, and unknown applied to overlay graphics.

2007 **7.66 simpleType** msdl:textIdentifier64

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	elements	**msdl:CommunicationNetId msdl:MSDLVersion msdl:SymbologyChangeModification msdl:SymbologyVersion**
facets	minLength	0
	maxLength	64
	pattern	([-z]{1})*
annotation	documentation	The general text indetifier.

2008 **7.67 simpleType** msdl:textIFF5

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	**msdl:IFF**
facets	minLength	0
	maxLength	5
	pattern	([-z]{1})*
annotation	documentation	Text modifer for identify friend or foe (IFF)

2009 **7.68 simpleType** msdl:textName255

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	elements	**msdl:ForceSideName msdl:Name msdl:OverlayName**

facets	minLength	0
	maxLength	255
	pattern	([-z]{1})*
annotation	documentation	A character string (i.e. a finite set of characters) generally in the form of words of a language.

2010   **7.69**   **simpleType** msdl:textParagraph1024

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	elements **msdl:AttachmentsDetachments msdl:Command msdl:ConceptOfOperation msdl:Coordination msdl:EnemyForces msdl:FriendlyForces msdl:GlobalWeather msdl:Intent msdl:Mission msdl:ServiceGeneral msdl:ServiceMaterial msdl:ServiceMedical msdl:ServicePersonnel msdl:Signal msdl:TaskOrganization msdl:TasksCSS msdl:TasksManeuver**
facets	minLength 0
	maxLength 1024
annotation	documentation General pargarph text.

2011   **7.70**   **simpleType** msdl:textReliability1

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:Reliability**
facets	pattern [A-F]{1}
annotation	documentation Reliability of A-completely reliable, B-usually reliable, C-fairly reliable, D-not usually reliable, E-unreliable, F-reliability cannot be judged.

2012   **7.71**   **simpleType** msdl:textSpecialC2HQ1

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:SpecialC2HQ**
facets	minLength 0
	maxLength 9
	pattern ([-z]{1})*
annotation	documentation The name of the special C2 headquarters

2013   **7.72**   **simpleType** msdl:textTitle255

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
facets	minLength 0
	maxLength 255
annotation	documentation General title text

2014   **7.73**   **simpleType** msdl:textURN12

namespace	http://www.sisostds.org/Schemas/msdl/v1
type	restriction of **xs:string**
used by	element **msdl:URN**
facets	length 12
	pattern ([-z]{1})*
annotation	documentation The Unit Reference Number of the Digital communications device

2015 **7.74   simpleType** ApplicationDomainEnumerations

namespace	http://www.sisostds.org/schemas/modelID
type	restriction of **xs:string**
used by	**ApplicationDomainUnion**

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facets	enumeration	Analysis
	enumeration	Training
	enumeration	Test and Evaluation
	enumeration	Engineering
	enumeration	Acquisition

2016 **7.76   simpleType** ApplicationDomainUnion

namespace	http://www.sisostds.org/schemas/modelID	
type	union of (**ApplicationDomainEnumerations**, **xs:string**)	
used by	complexType	**applicationDomainType**

2017 **7.77   simpleType** glyphTypeEnumerations

namespace	http://www.sisostds.org/schemas/modelID	
type	restriction of **xs:string**	
used by	simpleType	**glyphTypeUnion**
facets	enumeration	BITMAP
	enumeration	JPG
	enumeration	GIF
	enumeration	PNG
	enumeration	TIFF

2018 **7.78   simpleType** glyphTypeUnion

namespace	http://www.sisostds.org/schemas/modelID	
type	union of (**glyphTypeEnumerations**, **xs:string**)	
used by	attribute	**glyphType/@type**

2019 **7.79   simpleType** nonEmptyString

namespace	http://www.sisostds.org/schemas/modelID	
type	restriction of **xs:string**	
used by	complexType	**NonEmptyString**
	simpleTypes	**OMTypeUnion POCTypeUnion SecurityClassificationUnion**
facets	minLength	1

2020 **7.80   simpleType** OMTypeEnumerations

namespace	http://www.sisostds.org/schemas/modelID	
type	restriction of **xs:string**	
used by	simpleType	**OMTypeUnion**
facets	enumeration	FOM
	enumeration	SOM
	enumeration	BOM

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2021   **7.81**   **simpleType** OMTypeUnion

namespace	http://www.sisostds.org/schemas/modelID
type	union of (**OMTypeEnumerations**, **nonEmptyString**)
used by	complexType **modelType**

2022   **7.82**   **simpleType** POCTypeEnumeration

namespace	http://www.sisostds.org/schemas/modelID
type	restriction of **xs:string**
used by	simpleType **POCTypeUnion**
facets	enumeration Primary author enumeration Contributor enumeration Proponent enumeration Sponsor enumeration Release authority enumeration Technical POC

2023   **7.83**   **simpleType** POCTypeUnion

namespace	http://www.sisostds.org/schemas/modelID
type	union of (**POCTypeEnumeration**, **nonEmptyString**)
used by	complexType **pocTypeType**

2024   **7.84**   **simpleType** referenceTypeEnumerations

namespace	http://www.sisostds.org/schemas/modelID
type	restriction of **xs:string**
used by	simpleType **referenceTypeUnion**
facets	enumeration Source Material enumeration Conceptual Model enumeration Related BOM

2025   **7.85**   **simpleType** referenceTypeUnion

namespace	http://www.sisostds.org/schemas/modelID
type	union of (**referenceTypeEnumerations**, **xs:string**)
used by	element **referenceType/type**

2026   **7.86**   **simpleType** SecurityClassificationEnumeration

namespace	http://www.sisostds.org/schemas/modelID
type	restriction of **xs:string**
used by	simpleType **SecurityClassificationUnion**
facets	enumeration Unclassified enumeration Confidential enumeration Secret enumeration Top Secret

2027   **7.87**   **simpleType** SecurityClassificationUnion

namespace	http://www.sisostds.org/schemas/modelID
type	union of (**SecurityClassificationEnumeration**, **nonEmptyString**)

used by	complexType	**securityClassificationType**				

2028   7.88   **simpleType attributeGroup** commonAttributes

namespace	http://www.sisostds.org/schemas/modelID	
used by	elements	**referenceType/identification modelIdentificationType/modificationDate modelIdentificationType/poc referenceType/type**
	complexTypes	**applicationDomainType glyphType IdentifierType keywordType modelIdentificationType modelType NonEmptyString pocTypeType referenceType securityClassificationType String**

attributes	Name	Type	Use	Default	Fixed	Annotation
	notes	xs:IDREFS	optional			
	idtag	xs:ID	optional			

2029   7.89   **simpleType** AtmosphereInversionLayerCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **Atmosphere/InversionLayerCode**
facets	enumeration A enumeration B enumeration C
annotation	documentation The specific value that represents the height of the inversion layer in the atmosphere. The stability class describes the degree of mixing of released material in the atmosphere.

2030   7.90   **simpleType** AtmosphereTemperatureGradientCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **Atmosphere/TemperatureGradientCode**
facets	enumeration NEUTRL enumeration NKN enumeration STABLE enumeration UNSTAB
annotation	documentation The specific value that represents heat change with respect to the ground and 100 m in elevation in a certain area. Acts as an indication of vertical air movement between the ground and higher elevations.

2031   7.91   **simpleType** WindAirStabilityCategoryCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **Wind/AirStabilityCategoryCode**
facets	enumeration 1 enumeration 2 enumeration 3 enumeration 4 enumeration 5 enumeration 6 enumeration 7 enumeration N enumeration S enumeration U
annotation	documentation The specific value used to indicate the class of air stability.

2032   7.92   **simpleType** WindAltitudeLayerCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**

used by	element	**Wind/AltitudeLayerCode**
facets	enumeration	10
	enumeration	12
	enumeration	14
	enumeration	16
	enumeration	18
	enumeration	2
	enumeration	20
	enumeration	22
	enumeration	24
	enumeration	26
	enumeration	28
	enumeration	30
	enumeration	4
	enumeration	6
	enumeration	8
annotation	documentation	The specific value used to indicate the class of the altitude for a specific set of reported wind data.

2033   7.93   **simpleType** WindCategoryCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**

used by	element	**Wind/CategoryCode**
facets	enumeration	CONST
	enumeration	GUST
	enumeration	NKN
	enumeration	SQUAL
	enumeration	TRBLEX
	enumeration	TRBLLI
	enumeration	TRBLMO
	enumeration	TRBLSE
	enumeration	VRB
	enumeration	WSHEAR
annotation	documentation	The specific value that represents the class of WIND.

2034   7.94   **simpleType** AngleOptionalTypeRangeAngle7_4

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:decimal**

used by	elements	**Wind/DirectionAngle Wind/EffectiveDownwindDirectionAngle**
facets	minInclusive	0.0000
	maxInclusive	360.0000
	totalDigits	7
	fractionDigits	4
annotation	documentation	The rotational measurement between two lines and/or planes diverging from a common point and/or line. This measurement will be expressed in units of degrees.

2035   7.95   **simpleType** DatetimeOptionalTypeFix18

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:string**

used by	elements	**Light/DownDatetime Light/UpDatetime**
facets	minLength	18
	maxLength	18
annotation	documentation	A designation of a specified chronological point measured using Coordinated Universal Time (UTC) ISO 8601:2000 as a standard of reference, constrained to "zero meridian" i.e. 'Zulu' time zone only. This is expressed as a composite field using a compacted ISO notation YYYYMMDDHHMMSS.SSS where YYYY represents a year, MM represents a month in values from 00 to 12, and DD represents a day in values from 00 to 31, HH represents an hour, MM represents a minute, and SS.SSS represents

the number of seconds and milliseconds. (Optional)

2036   **7.96   simpleType** DimensionMandatoryType12_3

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:decimal**
used by	element **Visibility/RangeDimension**
facets	minInclusive -999999999.999 maxInclusive 999999999.999 totalDigits 12 fractionDigits 3
annotation	documentation A non-negative one-dimensional linear distance measure. This will be expressed in metres. (Mandatory)

2037   **7.97   simpleType** DimensionOptionalType12_3

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:decimal**
used by	elements **CloudCover/BaseDimension CloudCover/TopDimension**
facets	minInclusive -999999999.999 maxInclusive 999999999.999 totalDigits 12 fractionDigits 3
annotation	documentation A non-negative one-dimensional linear distance measure. This will be expressed in metres. (Optional)

2038   simpleType **AffiliationGeopoliticalCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **msdl:CountryCode**
facets	enumeration ABW enumeration AFG enumeration AGO enumeration AIA enumeration ALB enumeration AND enumeration ANT enumeration ARE enumeration ARG enumeration ARM enumeration ASM enumeration ATA enumeration ATF enumeration ATG enumeration AUS enumeration AUT enumeration AZE enumeration BDI enumeration BEL enumeration BEN enumeration BFA enumeration BGD enumeration BGR enumeration BHR enumeration BHS enumeration BIH enumeration BLR enumeration BLZ enumeration BMU enumeration BOL enumeration BRA enumeration BRB

enumeration	BRN
enumeration	BTN
enumeration	BVT
enumeration	BWA
enumeration	CAF
enumeration	CAN
enumeration	CCK
enumeration	CHE
enumeration	CHL
enumeration	CHN
enumeration	CIV
enumeration	CMR
enumeration	COD
enumeration	COG
enumeration	COK
enumeration	COL
enumeration	COM
enumeration	CPV
enumeration	CRI
enumeration	CSHH
enumeration	CUB
enumeration	CXR
enumeration	CYM
enumeration	CYP
enumeration	CZE
enumeration	DDDE
enumeration	DEU
enumeration	DJI
enumeration	DMA
enumeration	DNK
enumeration	DOM
enumeration	DZA
enumeration	ECU
enumeration	EGY
enumeration	ERI
enumeration	ESH
enumeration	ESP
enumeration	EST
enumeration	ETH
enumeration	FIN
enumeration	FJI
enumeration	FLK
enumeration	FRA
enumeration	FRO
enumeration	FSM
enumeration	FXX
enumeration	GAB
enumeration	GBR
enumeration	GEO
enumeration	GHA
enumeration	GIB
enumeration	GIN
enumeration	GLP
enumeration	GMB
enumeration	GNB
enumeration	GNQ
enumeration	GRC
enumeration	GRD
enumeration	GRL
enumeration	GTM
enumeration	GUF
enumeration	GUM
enumeration	GUY
enumeration	HKG
enumeration	HMD
enumeration	HND
enumeration	HRV
enumeration	HTI

enumeration	HUN
enumeration	IDN
enumeration	IND
enumeration	IOT
enumeration	IRL
enumeration	IRN
enumeration	IRQ
enumeration	ISL
enumeration	ISR
enumeration	ITA
enumeration	JAM
enumeration	JOR
enumeration	JPN
enumeration	KAZ
enumeration	KEN
enumeration	KGZ
enumeration	KHM
enumeration	KIR
enumeration	KNA
enumeration	KOR
enumeration	KWT
enumeration	LAO
enumeration	LBN
enumeration	LBR
enumeration	LBY
enumeration	LCA
enumeration	LIE
enumeration	LKA
enumeration	LSO
enumeration	LTU
enumeration	LUX
enumeration	LVA
enumeration	MAC
enumeration	MAR
enumeration	MCO
enumeration	MDA
enumeration	MDG
enumeration	MDV
enumeration	MEX
enumeration	MHL
enumeration	MKD
enumeration	MLI
enumeration	MLT
enumeration	MMR
enumeration	MNG
enumeration	MNP
enumeration	MOZ
enumeration	MRT
enumeration	MSR
enumeration	MTQ
enumeration	MUS
enumeration	MWI
enumeration	MYS
enumeration	MYT
enumeration	NAM
enumeration	NCL
enumeration	NER
enumeration	NFK
enumeration	NGA
enumeration	NIC
enumeration	NIU
enumeration	NLD
enumeration	NOR
enumeration	NOS
enumeration	NPL
enumeration	NRU
enumeration	NZL
enumeration	OMN

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enumeration	PAK
enumeration	PAN
enumeration	PCN
enumeration	PER
enumeration	PHL
enumeration	PLW
enumeration	PNG
enumeration	POL
enumeration	PRI
enumeration	PRK
enumeration	PRT
enumeration	PRY
enumeration	PSE
enumeration	PYF
enumeration	QAT
enumeration	REU
enumeration	ROU
enumeration	RUS
enumeration	RWA
enumeration	SAU
enumeration	SCG
enumeration	SDN
enumeration	SEN
enumeration	SGP
enumeration	SGS
enumeration	SHN
enumeration	SJM
enumeration	SLB
enumeration	SLE
enumeration	SLV
enumeration	SMR
enumeration	SOM
enumeration	SPM
enumeration	STP
enumeration	SUHH
enumeration	SUR
enumeration	SVK
enumeration	SVN
enumeration	SWE
enumeration	SWZ
enumeration	SYC
enumeration	SYR
enumeration	TCA
enumeration	TCD
enumeration	TGO
enumeration	THA
enumeration	TJK
enumeration	TKL
enumeration	TKM
enumeration	TLS
enumeration	TON
enumeration	TTO
enumeration	TUN
enumeration	TUR
enumeration	TUV
enumeration	TWN
enumeration	TZA
enumeration	UGA
enumeration	UKR
enumeration	UMI
enumeration	URY
enumeration	USA
enumeration	UZB
enumeration	VAT
enumeration	VCT
enumeration	VEN
enumeration	VGB
enumeration	VIR

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	enumeration	VNM
	enumeration	VUT
	enumeration	WLF
	enumeration	WSM
	enumeration	YEM
	enumeration	YUCS
	enumeration	ZAF
	enumeration	ZMB
	enumeration	ZWE
annotation	documentation	The specific value that represents the identification of the independent first-level geographic-political area and its dependencies, areas of quasi-independence, and areas with special unrecognised sovereignty, including outlying and disputed areas.

2039 simpleType **CloudCoverAverageCoverageCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **CloudCover/AverageCoverageCode**
facets	enumeration 0
	enumeration 1
	enumeration 2
	enumeration 3
	enumeration 4
	enumeration 5
	enumeration 6
	enumeration 7
	enumeration 78
	enumeration 8
annotation	documentation The specific value that represents the average density of a specific CLOUD-COVER as fractional coverage.

2040 simpleType **CloudCoverCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **CloudCover/CategoryCode**
facets	enumeration C
	enumeration RDACCL
	enumeration SMOKE
annotation	documentation The specific value that represents the prevailing class of a specific CLOUD-COVER.

2041 simpleType **IcingCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **Icing/CategoryCode**
facets	enumeration CLRICE
	enumeration MIXICE
	enumeration RIMICE
annotation	documentation The specific value that represents the class of a particular ICING.

2042 simpleType **IcingSeverityQualifierCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **Icing/SeverityQualifierCode**
facets	enumeration LIGHT
	enumeration MODER
	enumeration SEVERE
annotation	documentation The specific value that represents the severity of a particular ICING.

2043 simpleType **LightCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0

	type	restriction of **xs:token**
	used by	element **Light/CategoryCode**
	facets	enumeration CIVIL
		enumeration DARK
		enumeration DAY
		enumeration MOON
		enumeration NAUTIC
	annotation	documentation The specific value that represents the class of LIGHT.

2044   simpleType **LightMoonPhaseCode**

	namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
	type	restriction of **xs:token**
	used by	element **Light/MoonPhaseCode**
	facets	enumeration FUL
		enumeration NEW
		enumeration WAN
		enumeration WAX
	annotation	documentation The specific value that represents the phase of the moon for a specific LIGHT.

2045   simpleType **MilitaryOrganisationTypeServiceCode**

	namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
	type	restriction of **xs:token**
	used by	element **msdl:MilitaryService**
	facets	enumeration AIRFRC
		enumeration ARMY
		enumeration BRDRGD
		enumeration COASTG
		enumeration COMBND
		enumeration CVLSVC
		enumeration GUERLL
		enumeration JOINT
		enumeration LCLDFF
		enumeration LCLMLT
		enumeration MARINE
		enumeration NAVY
		enumeration NKN
		enumeration NOS
		enumeration PAR
		enumeration SPFRC
		enumeration TERFRC
	annotation	documentation The specific value that represents a military, paramilitary, irregular force, force or group, capable of functioning as an offensive or defensive combat or support organisation.

2046   simpleType **NuclearYieldGroupCode**

	namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
	type	restriction of **xs:token**
	used by	element **Wind/NuclearYieldQualifierCode**
	facets	enumeration ALFA
		enumeration BRAVO
		enumeration CHARLI
		enumeration DELTA
		enumeration ECHO
		enumeration FOXTRT
		enumeration GOLF
		enumeration NKN
		enumeration NOS
	annotation	documentation The specific value that represents the explosive yield of a nuclear weapon that is the amount of energy discharged when the weapon is detonated, expressed in the equivalent mass of trinitrotoluene (TNT), either in kilotons (thousands of tons of TNT) or megatons (millions of tons of TNT).

2047   simpleType **ObjectItemHostilityStatusCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **msdl:Relationship**

facets		
	enumeration	AFR
	enumeration	AHO
	enumeration	AIV
	enumeration	ANT
	enumeration	FAKER
	enumeration	FR
	enumeration	HO
	enumeration	IV
	enumeration	JOKER
	enumeration	NEUTRL
	enumeration	PENDNG
	enumeration	SUSPCT
	enumeration	UNK

annotation	documentation The specific value that represents the perceived hostility status of a specific OBJECT-ITEM.

2048   simpleType **PrecipitationCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **Precipitation/CategoryCode**

facets		
	enumeration	DRZLE
	enumeration	FDRZLE
	enumeration	FRAIN
	enumeration	HAIL
	enumeration	ICECRY
	enumeration	ICEPLT
	enumeration	NPR
	enumeration	RAIN
	enumeration	RAINSR
	enumeration	SLEET
	enumeration	SNOW
	enumeration	SNWGRN
	enumeration	SNWSHR

annotation	documentation The specific value that represents the prevailing class of a specific PRECIPITATION.

2049   simpleType **VisibilityCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**
used by	element **Visibility/CategoryCode**

facets		
	enumeration	BLWSNW
	enumeration	DSTDVL
	enumeration	DSTSND
	enumeration	DSTSTR
	enumeration	FOG
	enumeration	FRZFOG
	enumeration	HAZE
	enumeration	NKN
	enumeration	NOS
	enumeration	SMOKE
	enumeration	SNDSTR

annotation	documentation The specific value that represents the class of obscurant that governs a particular VISIBILITY.

2050   simpleType **WindCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:token**

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used by	element	**Wind/CategoryCode**
facets	enumeration	CONST
	enumeration	GUST
	enumeration	NKN
	enumeration	SQUAL
	enumeration	TRBLEX
	enumeration	TRBLLI
	enumeration	TRBLMO
	enumeration	TRBLSE
	enumeration	VRB
	enumeration	WSHEAR
annotation	documentation	The specific value that represents the class of WIND.

2051   **7.98 simpleType** QuantityOptionalType8_4

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:decimal**	
used by	element	**Atmosphere/PressureQuantity**
facets	minInclusive	-9999.9999
	maxInclusive	9999.9999
	totalDigits	8
	fractionDigits	4
annotation	documentation	A numeric value that denotes a measure of the physical property of an object. Class word quantity has a fixed unit of measure that must be specified on an attribute-by-attribute basis. Class word quantity is not to be used where class words angle, coordinate, count, dimension, and rate apply. (Optional)

2052   **7.99 simpleType** RateOptionalType4_1

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:decimal**	
used by	element	**Precipitation/Rate**
facets	minInclusive	-999.9
	maxInclusive	999.9
	totalDigits	4
	fractionDigits	1
annotation	documentation	A numeric value that denotes a physical property of an object expressed as a proportion of a physical property with respect to a unit of time.The unit of measure for class word rate must be specified on an attribute-by-attribute basis. (Optional)

2053   **7.100 simpleType** RateOptionalType8_4

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:decimal**	
used by	element	**Wind/SpeedRate**
facets	minInclusive	-9999.9999
	maxInclusive	9999.9999
	totalDigits	8
	fractionDigits	4
annotation	documentation	A numeric value that denotes a physical property of an object expressed as a proportion of a physical property with respect to a unit of time.The unit of measure for class word rate must be specified on an attribute-by-attribute basis. (Optional)

2054   **7.101 simpleType** RatioOptionalTypeRangeRatio6_5

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:decimal**	
used by	element	**Atmosphere/HumidityRatio**

facets	minInclusive	0.00000
	maxInclusive	1.00000
	totalDigits	6
	fractionDigits	5
annotation	documentation	A numeric value representing the quotient of two values that have the same unit of measurement, i.e., ratio has no units of measure. May be used to express a percentage. The allowable range must be specified on an attribute-by-attribute basis. (Optional)

2055 **7.102 simpleType** RatioOptionalTypeRangeRatio7_6

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:decimal**
used by	element **CloudCover/LightRefractionRatio**
facets	minInclusive	0.000000
	maxInclusive	1.000000
	totalDigits	7
	fractionDigits	6
annotation	documentation	A numeric value representing the quotient of two values that have the same unit of measurement, i.e., ratio has no units of measure. May be used to express a percentage. The allowable range must be specified on an attribute-by-attribute basis. (Optional)

2056 **7.103 simpleType** TemperatureTypeRangeTemperature5_1

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0
type	restriction of **xs:decimal**
used by	element **Atmosphere/Temperature**
facets	minInclusive	-273.2
	maxInclusive	9999.9
	totalDigits	5
	fractionDigits	1
annotation	documentation	A measure of degree of hotness or coldness in an object or in space. This will be expressed in degrees Celsius.

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2058	**Annex B**	MilitaryScenario.xsd

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2060   <Conten.

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