



SISO-STD-007-2008

**Standard for
Military Scenario Definition
Language**

**Reaffirmed
11 May 2015**

**Prepared by
Command and Control Systems -
Simulation Systems Interoperation
Product Development Group**

SISO-STD-007-2008, Standard for Military Scenario Definition Language

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Revision History

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Introduction

SISO-STD-007-2008, Standard for Military Scenario Definition Language, was created as a community effort by the Military Scenario Definition Language (MSDL) Product Development Group (PDG). The MSDL PDG was chartered by the Simulation Interoperability Standards Organization (SISO) Standards Activity Committee (SAC) in March 2006. This SISO Standard would not have been possible without the hard work and dedicated efforts of the following individuals:

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In 2014, the MSDL PDG and the Coalition Battle Management Language PDG combined to form the Command and Control Systems - Simulation Systems Interoperation (C2SIM) PDG and Product Support Group (PSG). Many MSDL PDG members continued their participation in the C2SIM PDG/PSG.

The data files associated with this SISO Standard may be downloaded from this URL:
<http://www.sisostds.org/Schemas.aspx>

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Standard for Military Scenario Definition Language (MSDL)

1. Overview

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

- A common mechanism for verifying 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. 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.

1.2. 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 where each scenario consists of either the initial state or a state snapshot. 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.

1.3. 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 Audience

The primary audience for this document is the Modeling and Simulation (M&S) 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.

2. References (Normative)

SISO References

#	Document Number	Title	Date
1.	SISO-ADM-002-2008	SISO Policies and Procedures (P&P)	2008
2.	SISO-ADM-003-2008	SISO Balloted Products Development Process	2008
3.	SISO-ADM-005-2004	Policy for: The Style and Format of SISO documents	2004
4.	SISO-PN-MSDL-2005-002-15	MSDL Product Nomination	2005
5.	SISO-STD-003-1-2006	Guide for BOM Use and Implementation	2006
6.	SISO-STD-003-2006	Base Object Model (BOM) Template Specification	2006

2.2. Other References

#	Document Number	Title	Date
7.	MIL-STD-2525B	Defense Information Systems Agency, Department of Defense. MIL-STD-2525B, Common Warfighting Symbology	30 Jan 1999, w/Change 1, 1 Jul 2005
8.	MIP JC3IEDM web site	JC3IEDM, Annexes, and .xsd Domain Values http://www.mip-site.org/publicsite/04-Baseline_3.0	
9.	NIMA TM 8358.1	Datums, Ellipsoids, Grids, and Grid Reference Systems. Edition 1. US National Imagery and Mapping Agency (NIMA)	20 Sep 1990
10.	ISO 3166	Country Codes. Geographic coding standard for coding the names of countries and dependent areas. International Organization for Standardization (ISO)	
11.	FM 3-0	Field Manual No. 3-0 Operations; HQ Department of the Army, Washington, DC – Approved for Public Release Distribution Unlimited	14 Jun 2001
12.	FM 5-0	Field Manual No. 5-0 (101-5): Army Planning and Orders Production; HQ Department of the Army, Washington, DC – Approved for Public Release Distribution Unlimited	20 Jan 2005
13.	FM 100-7	Field Manual No. 100-7 Decisive Force: The Army In Theater Operations.; HQ Department of the Army, Washington, DC – Approved for Public Release Distribution Unlimited	31 May 1995
14.	JP 1-02	Joint Publication 1-02: Department of Defense Dictionary of Military and Associated Terms – Local reproduction is authorized and access to unclassified publications is unrestricted.	12 Apr 2001 (As amended thru 4 Mar 2008)
15.	APP-6	Military Symbols for Land Based Systems. NATO. July 1986	
16.	XML World Wide Web Consortium (W3C) web site	XML Schema http://www.w3.org/2001/XMLSchema http://www.w3.org/TR/xmlschema-1/	
17.	UN/CEFACT XML Naming and Design Rules	United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) XML Naming and Design Rules Version 2.0	17 Feb 2006

3. Definitions, Acronyms, and Abbreviations

3.1. Definitions

<u>Term</u>	<u>Definition</u>
COA	Course of Action: A sequence of activities that an individual or unit may follow. (Army Planning and Orders Production, FM 5-0, Department of the Army, USA)
Intelligence:	1. The product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information. 2. Information and knowledge obtained through observation, investigation, analysis, or understanding. (Dictionary of Military and Associated Terms, Joint Publication 1-02, Department of Defense, USA) ¹
METT-TC	Mission, enemy, terrain and weather, troops and support available, time available and civil considerations. The information that is gathered as part of the Intelligence Preparation of the Battlefield (IPB) process (Army Planning and Orders Production, FM 5-0, Department of the Army, USA).
MOOTW Graphics:	Military operations other than war graphics information captures and describes violent activities, locations, operations, and items. (MIL-STD-2525B)
Military scenario:	A specific description of the situation and course of action at a moment in time for each element in the scenario. The description of the scenario conveys reality (what is true about the situation, such as the forces identified as participants in the situation) and perceived reality (what is considered to be true based on intelligence information).

3.2. Acronyms and Abbreviations

<u>Acronym or Abbreviation</u>	<u>Meaning</u>
BMNT	Begin Morning Nautical Twilight
BSO	Battle Space Object
COA	Course of Action
COP	Common Operational Picture
DIS	Distributed Interactive Simulation
EENT	End Evening Nautical Twilight
EXCOM	Executive Committee
GCC	Geocentric Coordinate
GDC	Geodetic Coordinate
IFF	Identification, Friend of Foe
JC3IEDM	Joint Command, Control, and Consultation Information Exchange Data Model
JCDB	Joint Common Database
MDMP	Military Decision Making Process
METT-TC	Mission, Enemy, Terrain and weather, Troops and support available, Time available and Civil considerations
METOC	Meteorology & Oceanography
MGRS	Military Grid Reference System
MIL STD	Military Standard
MOPP	Mission-Oriented Protective Posture
MOOTW	Military Operation Other Than War
MSDB	Military Source Database
MSDE	Military Scenario Development Environment
MSDL	Military Scenario Definition Language
M&S	Modeling and Simulation

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.

**Acronym or
Abbreviation**

Meaning

MTO&E	Modified Table of Organization and Equipment
PDG	Product Development Group
POC	Point of Contact
SAC	Standard Activity Committee
SIF	Selective Identification Feature
SIMCI	Simulation to C4I Interoperability
SISO	Simulation Interoperability Standards Organization
UOB	Unit Order of Battle
UTM	Universal Transverse Mercator
UUID	Universally Unique Identifier
XML	Extensible Markup Language

4. Military Scenario Definition Language (MSDL)

4.1. MSDL Concepts

This section presents concepts that characterize MSDL.

4.1.1. Planning and Execution

As illustrated in Figure 1, an MSDL scenario represents an intermediate state or a link between the planning and execution for any number or type of military scenarios including training, analytical, and operational. It is independent of both the planning and execution systems to enable a broad range of interoperability and reuse.

For the planning and execution systems that do not directly support MSDL, scenarios must be converted between the alternative format and the standard MSDL format. Additionally, the conversion to the execution format may add information that the execution system requires.

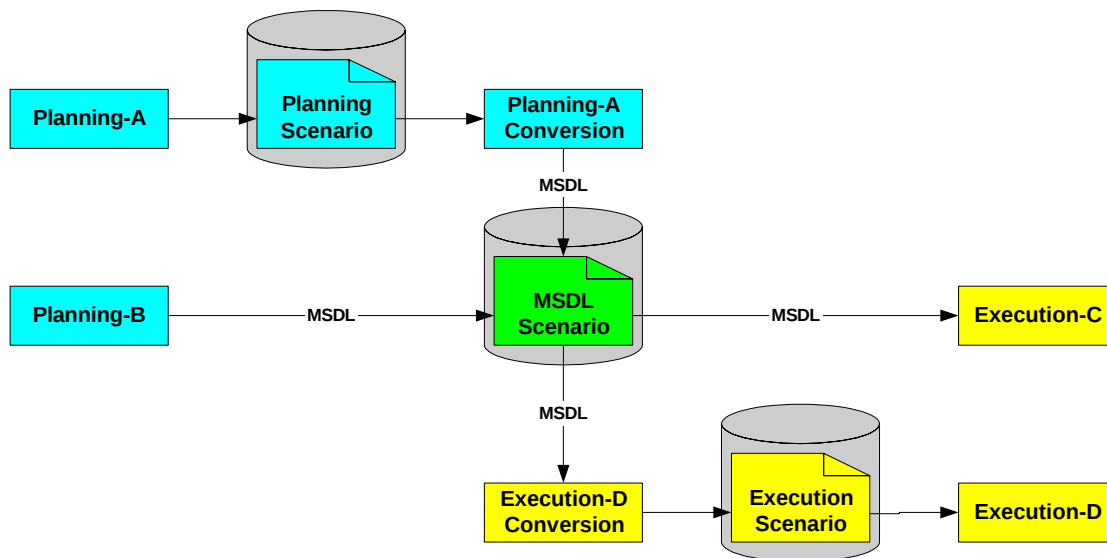


Figure 1: Planning to Execution

4.1.2. Reality and Intelligence

A scenario describes a battlespace containing elements² that interact with each other. In support of these interactions, each element may have certain knowledge of the other elements in the scenario. The actual description of the elements is referred to as the reality aspect of the scenario because what it describes is the reality in the context of the scenario. These descriptions are exact and not the result of interpretation by the scenario elements. The description of the knowledge, however, is referred to as the intelligence aspect of the scenario and is specific to each scenario element's knowledge of the battlespace. Multiple intelligence descriptions of a single element will exist in the intelligence context of the scenario since multiple other elements will have specific knowledge of that single element. These descriptions would represent the result of an intelligence gathering process performed by some real-world or simulated agents/actors prior to the execution of the scenario. As such, the intelligence descriptions are approximate derivations of the reality aspect values.

² The term "element" in this section describes battlespace and scenario things and does not equate to the XML "element" definition as in the rest of the specification.

4.1.3. Element Identification & Reference

All primary elements in MSDL are identified by a Universally Unique Identifier (UUID).

4.2. MSDL Content

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

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

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

The Environment element describes the natural environment in which the execution is to occur.

The ForceSides element describes the structure of the forces and sides involved in the execution.

The Organizations element describes the structure of the units and equipment involved in the execution.

The Overlays element describes the logical overlays used to group the intelligence elements/instances in the scenario/execution.

The Installations element describes the detected installations as determined by the intelligence gathering process by each force, side or unit individually. The description of any corresponding actual instances, the reality aspect, is unspecified in this version of MSDL.

The TacticalGraphics element describes the tactical information as known by a particular force, side or unit individually. The description of any corresponding actual instances, the reality aspect, is unspecified in this version of MSDL.

The MOOTWGraphics element describes the detected MOOTW Graphics instances as determined by the intelligence gathering process by each force, side or unit individually. The description of any corresponding actual instances, the reality aspect, is unspecified in this version of MSDL.

4.3. Schema Structure

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

4.3.1. Files and namespaces

The top-level schema MilitaryScenario.xsd specifies only one XML element, the MilitaryScenario element, as the base or root element of the MSDL schema. All other MSDL elements are declared within the globally declared complex types in the msdlComplexTypes.xsd schema and are bound to the "msdl" namespace. MSDL simple types are declared with msdlSimpleTypes.xsd and are bound to the "msdl" namespace. MSDL specific domain values are found in msdlCodes.xsd and are also bound to the "msdl" namespace.

Metadata describing the contents of an MSDL instance document are self contained within a ScenarioID element. The ScenarioID element reuses the ModelID element type as defined in SISO-STD-003-2006 Base Object Model to capture and store the metadata information. The MSDL schema imports and reuses the ModelID element as declared in the ModelID_v2006_FINAL.xsd schema.

The JC3IEDM specifies the minimum set of data that needs to be exchanged in coalition or multinational operations. It is intended to represent the core of the data identified for exchange across multiple functional areas and multiple views of the requirements. Toward that end, it lays down a common approach to describing the information to be exchanged in a command and control (C2) environment. Likewise, the MSDL schema definition reuses a number of meteorological and battlespace domain values as found in the JC3IEDM. These JC3IEDM domain values and meteorological data types and elements are defined in JC3IEDM-3.1-Codes-20061208.xsd and JC3IEDMMeteorological.xsd respectively. The MSDL schema imports both of these schemas.

Unless otherwise specified, the version 1.0 MSDL schema information is defined within the “urn:sisostds:scenario:military:data:draft:msdl:1” namespace and identified by the “msdl” prefix. The prefix “msdl” is used in the specification and is a suggested convention; however, it is not required to be used by users of the standard. MSDL imports two additional XML namespaces to define specific types and elements. These namespaces are “http://www.sisostds.org/schemas/modelID” identified with prefix “ModelID” and “urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0” identified with prefix “jc3iedm”.

4.3.2. MSDL Design Approach

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

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

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

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

4.3.3. Style & Diagram Notation

This section provides a summary of the style used to highlight MSDL elements within the text and to describe the graphical notation used within the figures. XMLSpy³ Version 4.1 was used to generate all of the XML schema figures in this document as well as autogenerate the type tables within Section 7.

4.3.3.1. Style

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

4.3.3.2. Mandatory Elements

The rectangle indicates an element and the solid border indicates that the element is required (as shown in Figure 2). The absence of a number range indicates a single element (i.e. minOccurs=1 and maxOccurs=1). The element is bounded when numbers are specified under the rectangle (i.e. minOccurs=1 and maxOccurs=5). The element is unbounded when infinity sign is specified as upper bound under the rectangle (i.e. minOccurs=1 and maxOccurs=unbounded). The minimum occurrence value can be higher than one.

³ XMLSpy in a registered commercial product and is trademarked by Altova, Inc.

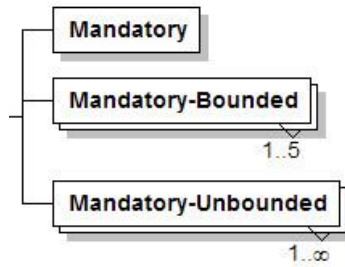


Figure 2: Mandatory Elements Notation

4.3.3.3. Optional Elements and Optional Attributes

The rectangle indicates an element, while the irregular octagon indicates an attribute. For either an element or an attribute a dashed border indicates that they are optional (as shown in Figure 3). The absence of a number range indicates a single element or attribute (i.e. minOccurs=0 and maxOccurs=1). The element or attribute is bounded when numbers are specified under the graphic (i.e. minOccurs=0 and maxOccurs=5). The element or attribute is unbounded when infinity sign is specified as upper bound under the graphic (i.e. minOccurs=0 and maxOccurs=unbounded).

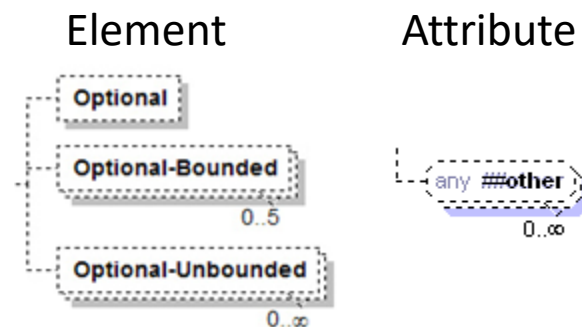


Figure 3: Optional Element and Attribute Notation

4.3.3.4. Expandable Element

As shown in Figure 4 a plus sign on the right side of an element indicates that the element contains child elements. When this appears in the diagrams, it means that the child elements are described somewhere else in the document.

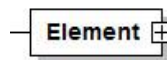


Figure 4: Expandable Element

4.3.3.5. Compositors

A compositor defines the order in which child elements occur. In Figure 5, there are three compositors: sequence, choice, and all. The elements defined within an xs:sequence compositor must appear in the defined order within an instance document. The elements declared within an xs:sequence compositor can either occur 0 or more times as set by the minOccurs and maxOccurs on the element declarations. The elements defined within an xs:choice compositor are mutually exclusive. This means that one and only one of the xs:choice's immediate children can appear in the instance document. The elements defined within an xs:all compositor can appear in any order within an instance document. xs:all elements may be declared within a complexType

or group and they may contain an element or annotation elements. Elements declared within an xs:all compositor can either occur 0 or 1 time as set by the minOccurs and maxOccurs on the element declarations. The compositors like the elements can be mandatory or optional and may be bounded or unbounded.

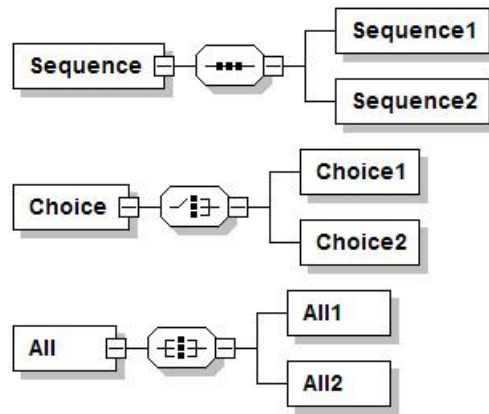


Figure 5: Compositors Notation

4.3.3.6. Complex Type

Complex types are shown as shaded boxes, as depicted in Figure 6, with the complex type name at the upper left of the shaded box. The complex type definitions used by MSDL are defined within the remainder of this specification. Keyword, keywordType, taxonomy and keywordValue below are provided only as an example.

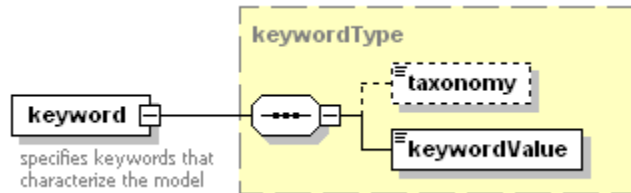


Figure 6: Complex Type Notation

5. msdl:MilitaryScenario Element

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

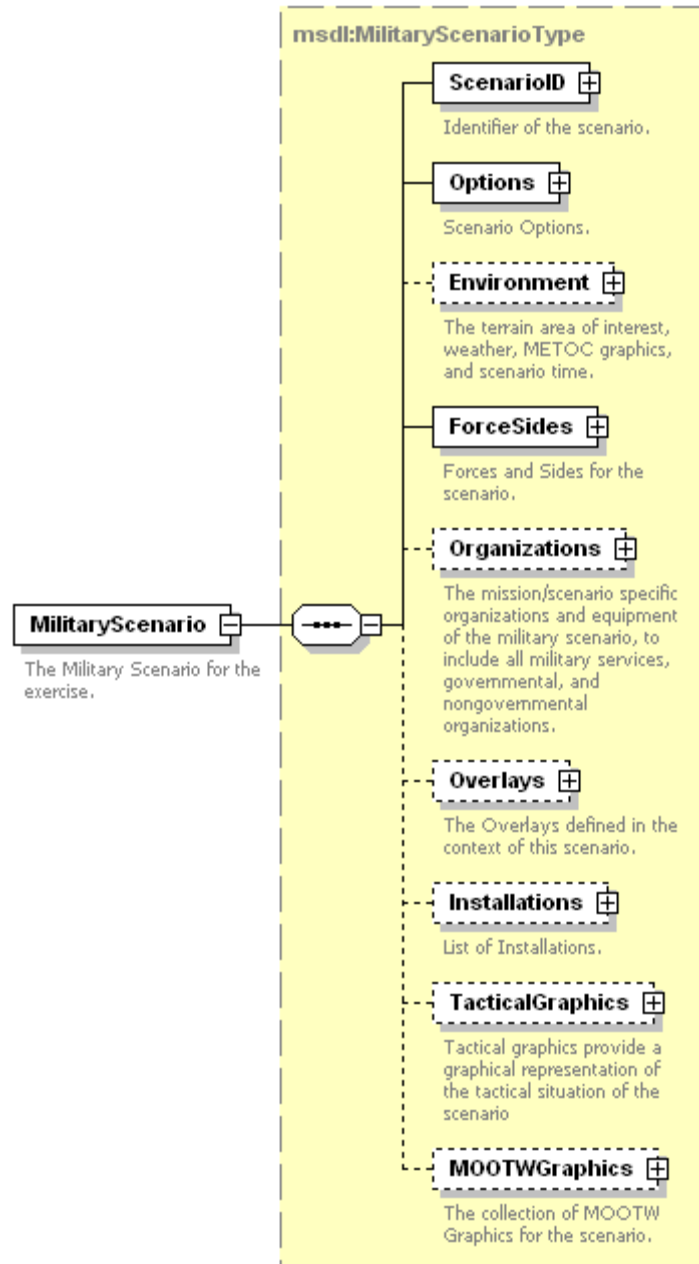


Figure 7: **msdl:MilitaryScenario** Element Structure

5.1. msdl:MilitaryScenarioType/ScenarioID Element

For every **msdl:MilitaryScenarioType** complex type there shall be one **ScenarioID** element. The **ScenarioID** defines the structure to hold military scenario metadata. The domain type is **modelID:modelIdentificationType**. The **modelID:modelIdentificationType** contains the optional attributes **id:notes** of type **xs:IDREFS** and **id:itag** of type **xs:ID**. These optional attributes are defined and are consistently used within each element of the **ModelID:modelIdentificationType**. The **id:notes** attribute is used to provide a reference to notes that may be

specified elsewhere in the schema; however, since the MSDL schema does not include a notes table this attribute will not be used. It is included here because the **ScenarioID** is being reused in its entirety from the SISO-STD-003-2006 (Base Object Model) standard. The id:itag is used to create a unique id that can be referenced from other parts of the instance document or from outside the instance document, this is an optional attribute and is not required. **ScenarioID** is an xs:sequence compositor comprised of all the elements shown in Figure 8 and described in the subsequent subsections. The domain type is ModelID:modelIdentificationType.

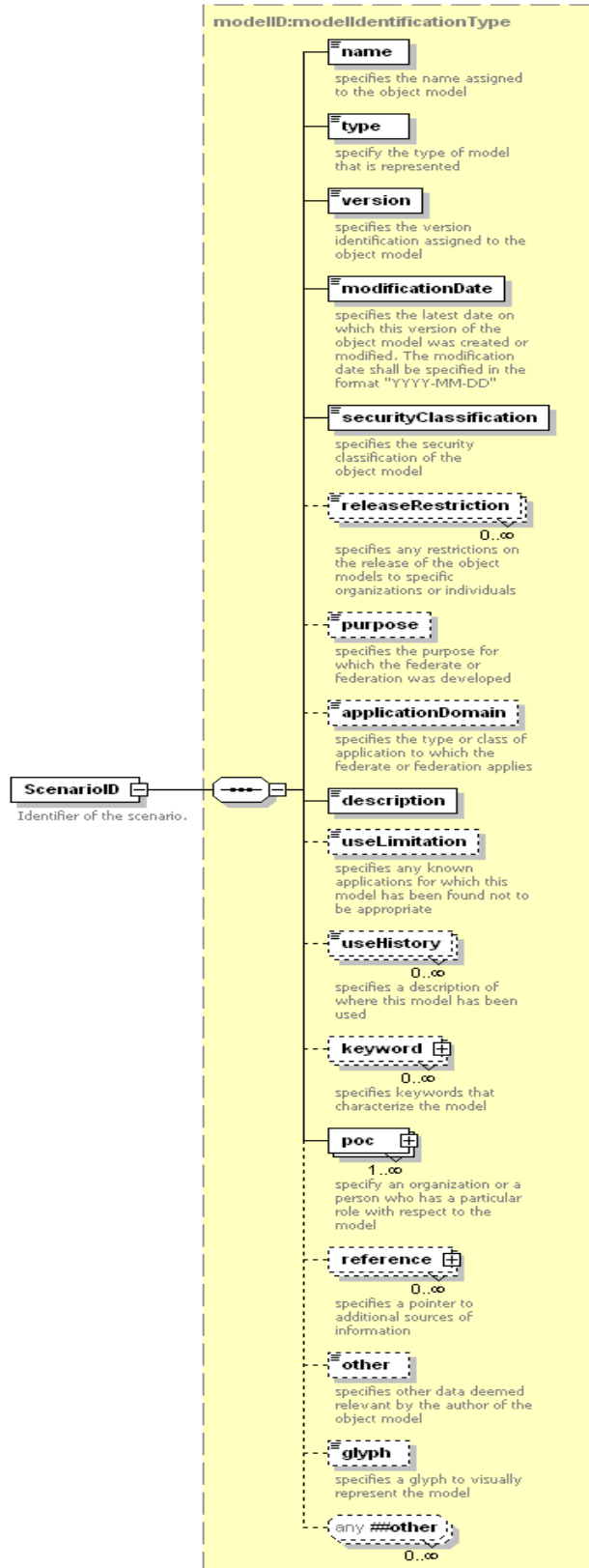


Figure 8: *msdl:MilitaryScenario/ScenarioID* Element Structure

5.1.1. modelID:modelIdentificationType/name Element

For every modelID:modelIdentificationType complex type there shall be one name element. The name element specifies the name assigned to the military scenario. The domain type is modelID:IdentifierType (extension of xs:NCName) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.2. modelID:modelIdentificationType/type Element

For every modelID:modelIdentificationType complex type there shall be one type element that follows the name element. The type element specifies the type of the military scenario that is represented. The domain type is modelID:modelType (extension of OMTypeUnion) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.3. modelID:modelIdentificationType/version Element

For every modelID:modelIdentificationType complex type there shall be one version element that follows the type element. The version element specifies the version identification assigned to the military scenario. The domain type is modelID:NonEmptyString (restriction of xs:string) with a minimum length of one and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.4. modelID:modelIdentificationType/modificationDate Element

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

5.1.5. modelID:modelIdentificationType/securityClassification Element

For every modelID:modelIdentificationType complex type there shall be one securityClassification element that follows the modificationDate element. The securityClassification element specifies the security classification of the military scenario. The domain type is modelID:securityClassificationType (union of SecurityClassificationEnumeration and nonEmptyString) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.6. modelID:modelIdentificationType/releaseRestriction Element

For every modelID:modelIdentificationType complex type there shall be zero or more releaseRestriction element that follows the securityClassification element. The releaseRestriction element specifies any restrictions on the release of the military scenario to specific organization or individuals. The domain type is modelID:String (extension of xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.7. modelID:modelIdentificationType/purpose Element

For every modelID:modelIdentificationType complex type there shall be zero or one purpose element that follow the releaseRestriction element. The purpose element specifies the purpose for which the military scenario was developed. The domain type is modelID:String (extension of xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.8. modelID:modelIdentificationType/applicationDomain Element

For every modelID:modelIdentificationType complex type there shall be zero or one applicationDomain element that follows the purpose element. The applicationDomain element specifies the type or class of application to which the military scenario applies. The domain type is modelID:applicationDomainType (union of ApplicationDomainEnumerations and xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.9. modelID:modelIdentificationType/description Element

For every modelID:modelIdentificationType complex type there shall be one description element that follows the applicationDomain element. The description element specifies the description of the military scenario. The domain type is modelID:NonEmptyString (restriction of xs:string minimum length of 1) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.10. modelID:modelIdentificationType/useLimitation Element

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

5.1.11. modelID:modelIdentificationType/useHistory Element

For every modelID:modelIdentificationType complex type there shall be zero or more useHistory elements that follow the useLimitation element. The useHistory element specifies a description of where this military scenario has been used. The domain type is modelID:String (extension of xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.12. modelID:modelIdentificationType/keyword Element

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

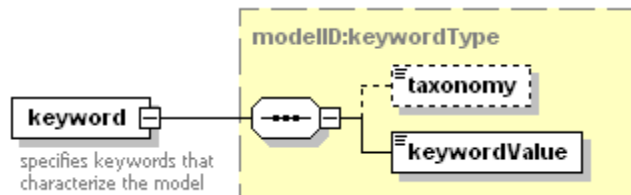


Figure 9: modelID:modelIdentificationType/keyword Element Structure

5.1.12.1. modelID:keywordType/taxonomy Element

For every modelID:keywordType complex type there shall be zero or one taxonomy element. The taxonomy element specifies the source of the keyword vocabulary, such as “Military warfare”. The domain type is modelID:String (extension of xs:string) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.12.2. modelID:keywordType/keywordValue Element

For every modelID:keywordType complex type there shall be one keywordValue element following the taxonomy element. The keywordValue element provides the word or concept describing the military scenario such as “Engagement”. The domain type is modelID:NonEmptyString (restriction of xs:string minimum length of 1) and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.13. modelID:modelIdentificationType/poc Element

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

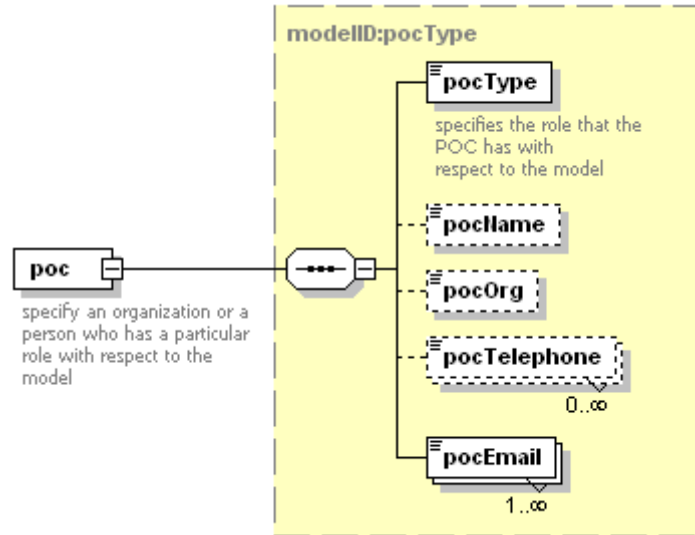


Figure 10: modelID:modelIdentificationType/pocType Element Structure

5.1.13.1. modelID:pocType/pocType Element

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

5.1.13.2. modelID:pocType/pocName Element

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

5.1.13.3. modelID:pocType/pocOrg Element

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

5.1.13.4. modelID:pocType/pocTelephone Element

For every `modelID:pocType` complex type there shall be zero or more `pocTelephone` elements following the `pocOrg` element. The `pocTelephone` element specifies the POC's telephone number. The POC's telephone number should include the international dialing code. The domain type is `modelID:String` (extension of `xs:string`) and contains the optional attributes `notes` of type `xs:IDREFS` and `idtag` of type `xs:ID`.

5.1.13.5. modelID:pocType/pocEmail Element

For every `modelID:pocType` complex type there shall be one or more `pocEmail` elements following the `pocTelephone` element. The `pocEmail` element specifies the POC's email address(es). The domain type is `modelID:String` (extension of `xs:string`) and contains the optional attributes `notes` of type `xs:IDREFS` and `idtag` of type `xs:ID`.

5.1.14. modelID:modelIdentificationType/reference Element

For every `modelID:modelIdentificationType` complex type there shall be zero or more reference element that follows the `poc` element. The reference element specifies the reference information for the military scenario.

Reference is an xs:sequence compositor containing all the elements shown in Figure 11 and described in the subsequent subsections.

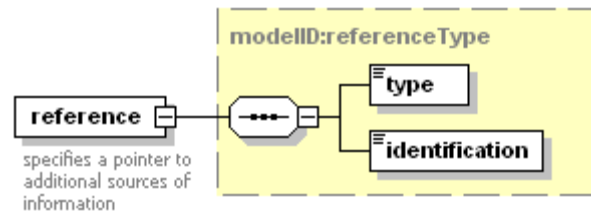


Figure 11: modelID:modelIdentificationType/reference Element Structure

5.1.14.1. modelID:referenceType/type Element

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

5.1.14.2. modelID:referenceType/identification Element

For every modelID:modelIdentificationType complex type there shall be one identification element following the type element. The identification element specifies the reference title. It is an extension of xs:anyURI and contains the optional attributes notes of type xs:IDREFS and idtag of type xs:ID.

5.1.15. modelID:modelIdentificationType/other Element

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

5.1.16. modelID:modelIdentificationType/glyph Element

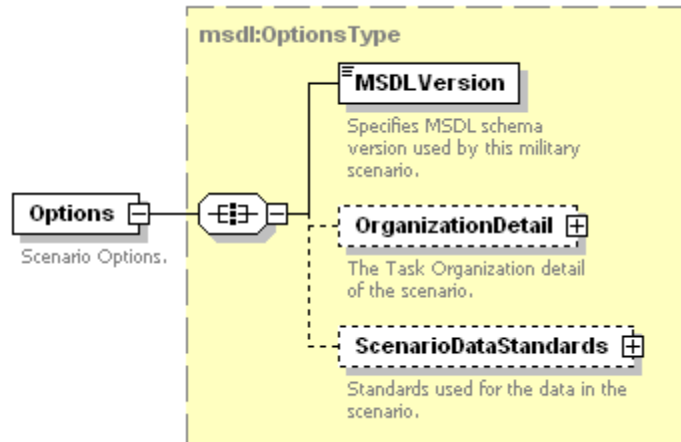
For every modelID:modelIdentificationType complex type there shall be zero or one glyph element following the other element. The glyph element specifies a glyph to visually represent the military scenario. The domain type is glyphType. It contains the optional attributes notes of type xs:IDREFS, idtag of type xs:ID, height of type xs:short, width of type xs:short, and alt of type xs:string, and required attribute type of type glyphTypeUnion(union of glyphTypeEnumerations and xs:string).

5.1.17. modelID:modelIdentificationType/any Element

For every modelID:modelIdentificationType complex type there shall be zero or more any elements following the glyph element. The any element allows any element not specified in the schema to be added to the end of the **ScenarioID** element. The domain type is undefined. This element is a result of reuse of the SISO-STD-003-2006 BOM specification and is not recommended for use since the values used to populate it within an instance schema cannot be verified or validated.

5.2. msdl:MilitaryScenarioType/Options Element

For every **msdl:MilitaryScenarioType** complex type there shall be one **Options** element. The **Options** element is used to identify how task organizations are specified (entity or aggregate based), the data standards being used within the scenario, and any application specific options embedded within the scenario. The **Options** element is comprised of an xs:all compositor containing the elements shown in Figure 12 and described in the subsequent subsections. The domain type is **msdl:OptionsType**.

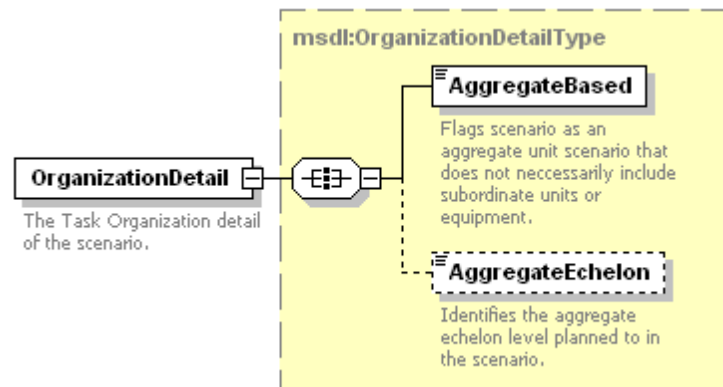
Figure 12: *msdl:MilitaryScenarioType/Options* Element Structure

5.2.1. *msdl:OptionsType/MSDLVersion* Element

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

5.2.2. *msdl:OptionsType/OrganizationDetail* Element

For every *msdl:OptionsType* complex type there shall be zero or one **OrganizationDetail** element. The **OrganizationDetail** element specifies the task organization detail of the scenario including the unit and echelon aggregate information. The **OrganizationDetail** element, an xs:all compositor, is comprised of the elements shown in Figure 13 and described in the following subsections. The domain type is *msdl:OrganizationalDetailType*.

Figure 13: *msdl:OptionsType/OrganizationDetail* Element Structure

5.2.2.1. *msdl:OrganizationDetail/AggregateBased* Element

For every *msdl:OrganizationDetailType* complex type there shall be one **AggregateBased** element. The **AggregateBased** element indicates if the scenario is an aggregate unit scenario that does not necessarily include subordinate units. Setting the value to “true” indicates the scenario is aggregate-based, a “false” setting indicates an entity-based scenario. When the **AggregateBased** element is set to “true” the **AggregateEchelon** element, described in section 6.2.2.2, holds an echelon enumeration describing the minimum level of complete unit and equipment detail within the scenario document. There may be additional,

but incomplete unit and equipment information, at the echelons below that described in the **AggregateEchelon**. The domain type is **msdl:boolean**.

5.2.2.2. msdl:OrganizationDetail/AggregateEchelon Element

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

5.2.3. msdl:OptionsType/ScenarioDataStandards Element

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

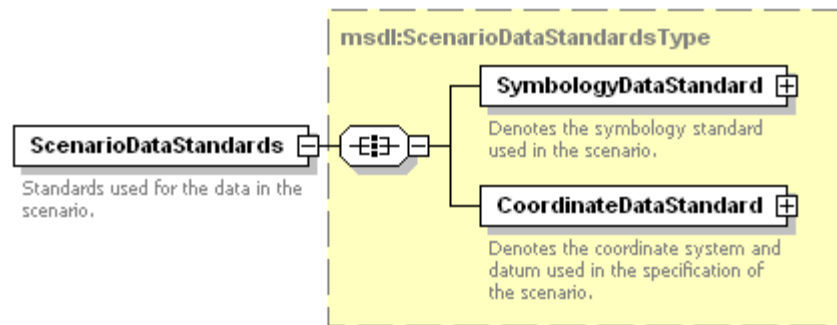


Figure 14: **msdl:OptionsType/ScenarioDataStandards** Element Structure

5.2.3.1. msdl:ScenarioDataStandardsType/SymbologyDataStandard Element

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

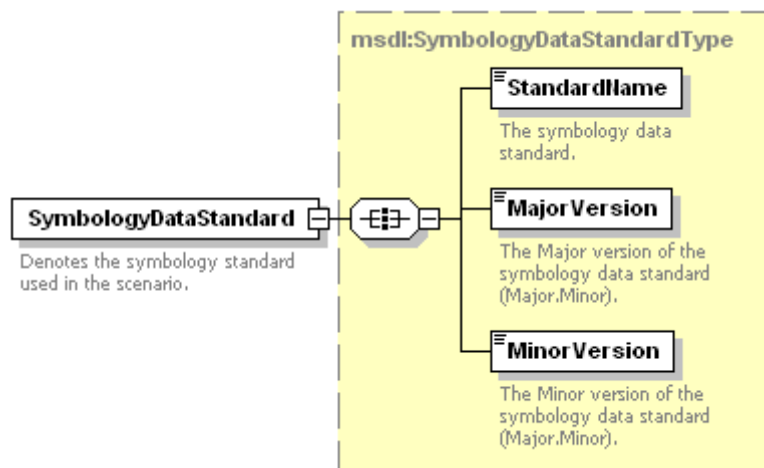


Figure 15: **msdl:ScenarioDataStandardType/SymbologyDataStandard** Element Structure

5.2.3.1.1. **msdl:SymbologyDataStandardType/StandardName Element**

For every **msdl:SymbologyDataStandardType** complex type there shall be one **StandardName** element. The **StandardName** element specifies the symbology standard used within the military scenario document. The domain type is **msdl:enumSymbologyStandardType**.

5.2.3.1.2. **msdl:SymbologyDataStandardType/MajorVersion Element**

For every **msdl:SymbologyDataStandardType** complex type there shall be one **MajorVersion** element. The **MajorVersion** element specifies the major version (major.minor) of the symbology standard used within the military scenario. For standards not using the major.minor naming convention the **MajorVersion** element should be populated with text describing the standard version first. Additional versioning information should be held in the **MinorVersion** element. The domain type is **msdl:textIdentifier64**.

5.2.3.1.3. **msdl:SymbologyDataStandardType/MinorVersion Element**

For every **msdl:SymbologyDataStandardType** complex type there shall be one **MinorVersion** element. The **MinorVersion** element specifies the minor version of the symbology standard used within the military scenario. The domain type is **msdl:textIdentifier64**.

5.2.3.2. **msdl:ScenarioDataStandardType/CoordinateDataStandard Element**

For every **msdl:ScenarioDataStandardType** complex type there shall be one **CoordinateDataStandard** element. The **CoordinateDataStandard** element specifies the coordinate standard and version used in the specification of the military scenario. The specification of the coordinate system is expected to be adhered to in all location specific detail of the associated objects/symbology included in the military scenario. The datum must be provided in order for location values to be unambiguously exchanged. The **CoordinateDataStandard**, an xs:all compositor, is comprised of the elements shown in Figure 16 and described in the following subsections. The domain type is **msdl:CoordinateDataStandardType**.

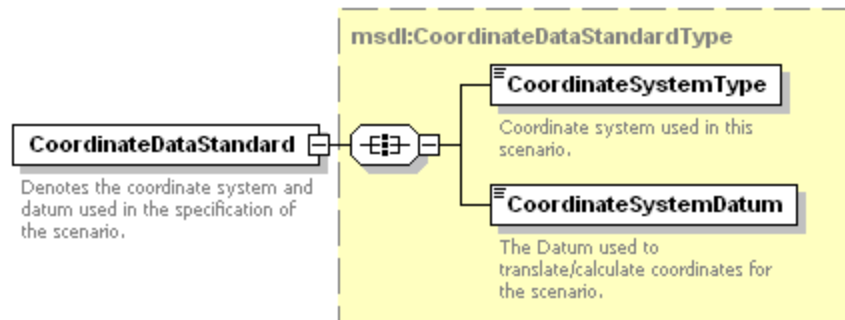


Figure 16: **msdl:ScenarioDataStandardType/CoordinateDataStandard** Element Structure

5.2.3.2.1. **msdl:CoordinateDataStandardType/CoordinateSystemType Element**

For every **msdl:CoordinateDataStandardType** complex type there shall be one **CoordinateSystemType** element. The **CoordinateSystemType** element specifies the coordinate system to be used within the military scenario for all location specific detail. The domain type is **msdl:enumCoordinateSystemType**.

5.2.3.2.2. **msdl:CoordinateDataStandardType/CoordinateSystemDatum Element**

For every **msdl:CoordinateDataStandardType** complex type there shall be one **CoordinateSystemDatum** element. The **CoordinateSystemDatum** element specifies the datum used to calculate coordinates. The domain type is **msdl:textDatum8**.

5.3. **msdl:MilitaryScenarioType/Environment Element**

For every **msdl:MilitaryScenarioType** complex type there shall be zero or one **Environment** element following the **Options** element. The **Environment** element describes the surroundings, at a synoptic level, of

the military scenario. It includes the **ScenarioTime**, the scenario **AreaOfInterest**, the **ScenarioWeather** and the **METOC** information. The **METOC** element covers the Meteorological, the Oceanographical and the Space elements of the environment. Within these elements, it also covers some geographical elements (mostly the effects of the weather).

In this context, the Weather information appears in both the **ScenarioWeather** elements and the **METOC** elements. The **ScenarioWeather** elements describe the overall weather while the **METOC** elements describe the specific details. Because of this care must be taken to ensure consistency between the **ScenarioWeather** elements and the **METOC** elements when populating both forms within a scenario instance. The consistency of the scenario is assumed prior to the initialization of the applications.

Finally, environmental changes that occur during the course of the execution can be specified within the **ScenarioWeather** and the **METOC** information. The following list identifies the elements that influence the evolution of the environment.

- **Atmosphere** - **InversionLayerCode** and **TemperatureGradientCode**.
- **Precipitation** - **Rate**.
- **Wind** - **AirStabilityCategoryCode**, **SpeedRate**, **NuclearYieldQualifierCode**.
- **METOCGraphic** - **DateTimeGroup** and **Speed**.

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

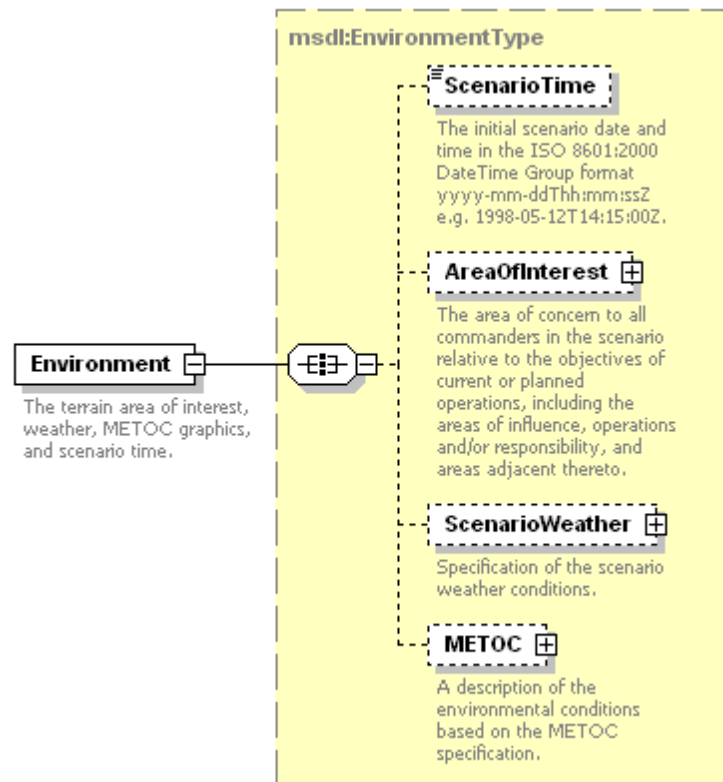


Figure 17: **msdl:MilitaryScenarioType/Environment** Element Structure

5.3.1. **msdl:EnvironmentType/ScenarioTime** Element

For every **msdl:EnvironmentType** complex type there shall be zero or one **ScenarioTime** element. The **ScenarioTime** element indicates the absolute simulation time at the start of the execution. The time of the

execution start time is used when this element is not present. **ScenarioTime** is the reference for all relative times in the scenario. The domain type is **msdl:patternTimeDTG20**.

5.3.2. msdl:EnvironmentType/AreaOfInterest Element

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

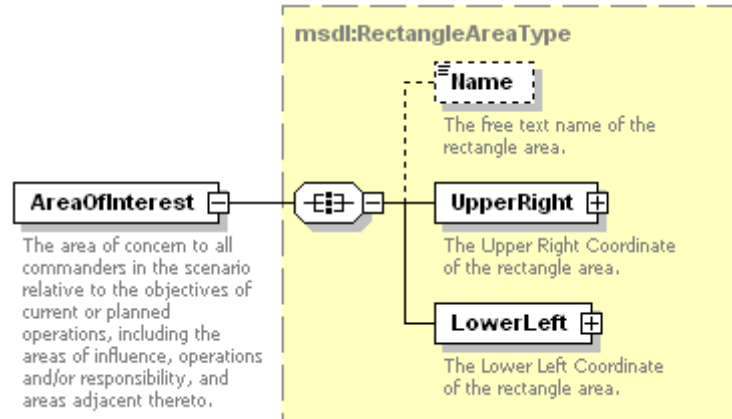


Figure 18: **msdl:EnvironmentType/AreaOfInterest** Element Structure

5.3.2.1. msdl:RectangleAreaType/Name Element

For every **msdl:RectangleAreaType** complex type there shall be zero or one **Name** element. The **Name** element specifies the free text name of the rectangle area. The domain type is **msdl:Name255**.

5.3.2.2. msdl:RectangleAreaType/UpperRight Element

For every **msdl:RectangleAreaType** complex type there shall be one **UpperRight** element. The **UpperRight** element defines the upper right coordinate of the rectangle area. The **UpperRight**, an xs:all compositor, is comprised of one and only one of the subelements shown in Figure 19 and described in the following subsections. The domain type is **msdl:CoordinatesType**.

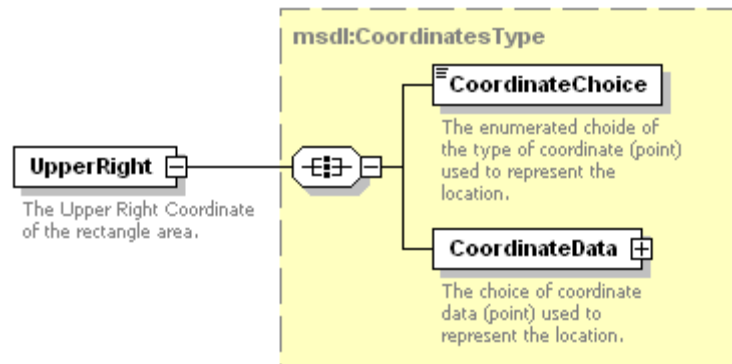


Figure 19: **msdl:RectangleAreaType/UpperRight** Element Structure

5.3.2.2.1. **msdl:CoordinatesType/CoordinateChoice Element**

For every **msdl:CoordinatesType** complex type there shall be one **CoordinateChoice** element. This element provides the type of coordinate used to represent the location. The domain type is **msdl:enumCoordinatesSystemType**.

5.3.2.2.2. **msdl:CoordinatesType/CoordinateData Element**

For every **msdl:CoordinatesType** complex type there shall be one **CoordinateData** element. This element provides the coordinate data of the location in the datatype specified by the **CoordinateChoice** element.

MSDL supports coordinate systems of MGRS, UTM, GDC, and GCC. Each coordinate element provides a choice of the coordinate system to be used. The intent of MSDL is that the choice correlates with the coordinate system specified in **msdl:ScenarioDataStandardsType/coordinateDataStandard**. For coordinates of MGRS, UTM, and GCC, the Datum shall be specified in a **msdl:CoordinateDataStandardType/CoordinateSystemDatum** element.

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

The **CoordinateData** element, an xs:choice compositor, is comprised of one and only one of the subelements shown in Figure 20 and described in the following subsections. The domain type is **msdl:CoordinatePointType**.

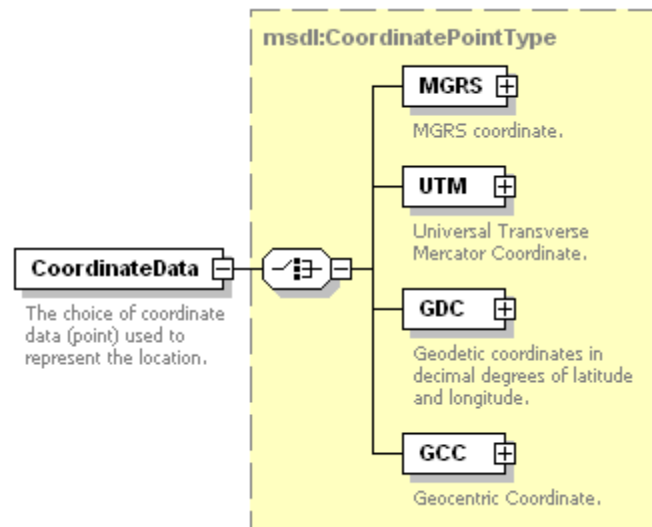


Figure 20: *msdl:CoordinatesType/CoordinateData* Element Structure

1. **msdl:CoordinatePointType/MGRS** Element - For each **msdl:CoordinatePointType** complex type there shall be zero or one **MGRS** element. The **MGRS** element, an xs:all compositor, specifies the Military Grid Reference System (MGRS) coordinate and is made up of the child elements as shown in Figure 21. The domain type is **msdl:MGRSType**.

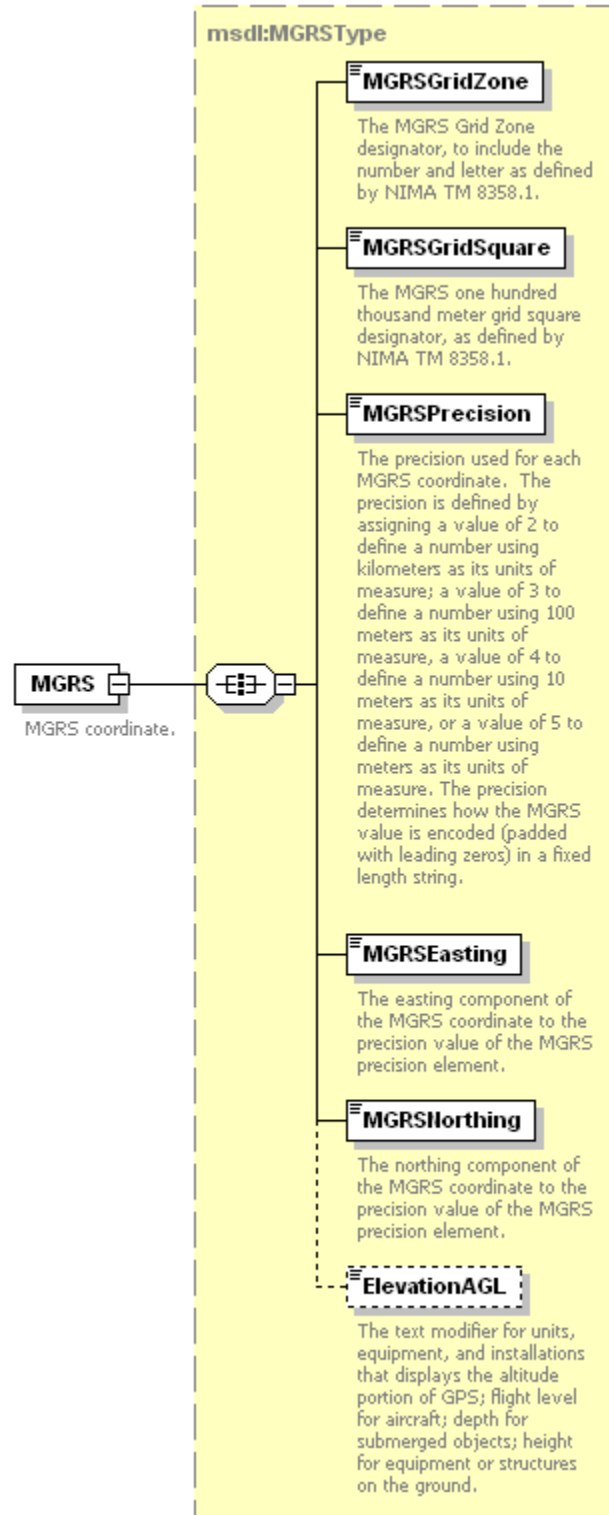


Figure 21: *msdl:CoordinatePointType/MGRS* Element structure

- a) *msdl:MGRSType/MGRSGridZone* Element - For each *msdl:MGRSType* complex type there shall be one *MGRSGridZone* element. The *MGRSGridZone* element specifies the MGRS Grid Zone designator to include the number and letter as defined by NIMA TM 8358.1. The domain type is *msdl:patternMGRSGridSquare2*.

- b) ***msdl:MGRSType/MGRSGridSquare*** Element - For each ***msdl:MGRSType*** complex type there shall be one ***MGRSGridSquare*** element. The ***MGRSGridSquare*** element specifies the one hundred thousand meter grid square designator as defined by NIMA TM 8358.1. The domain type is ***msdl:patternMGRSGridSquare2***.
 - c) ***msdl:MGRSType/MGRSPrecision*** Element - For each ***msdl:MGRSType*** complex type there shall be one ***MGRSPrecision*** element. The ***MGRSPrecision*** element specifies the precision or scale of easting and northing values. ***MGRSPrecision*** can be assigned a value of 2 to define a number using kilometers as its units of measure; a value of 3 to define a number using 100 meters as its units of measure, a value of 4 to define a number using 10 meters as its units of measure, or a value of 5 to define a number using meters as its units of measure. The precision determines how the MGRS value is encoded (padded with leading zeros) in a fixed length string. The domain type is ***msdl:integerMGRSPrecision1***.
 - d) ***msdl:MGRSType/MGRSEasting*** Element - For each ***msdl:MGRSType*** complex type there shall be one ***MGRSEasting*** element. The ***MGRSEasting*** element specifies the easting component of the MGRS coordinates to the precision value of the MGRS precision element. The domain type is ***msdl:integerMGRSEasting5***.
 - e) ***msdl:MGRSType/MGRSNorthing*** Element - For each ***msdl:MGRSType*** complex type there shall be one ***MGRSNorthing*** element. The ***MGRSNorthing*** element specifies the northing component of the MGRS coordinates to the precision value of the MGRS precision element. The domain type is ***msdl:integerMGRSNorthing5***.
 - f) ***msdl:MGRSType/ElevationAGL*** Element - For each ***msdl:MGRSType*** complex type there shall be zero or one ***ElevationAGL*** element. The ***ElevationAGL*** element specifies the altitude, in meters of a position for the flight level for aircraft; depth for submerged objects; height of equipment or structures on the ground. The domain type is ***msdl:floatElevationAGL6_2***.
2. ***msdl:CoordinatePointType/UTM*** Element - For each ***msdl:CoordinatePointType*** complex type there shall be zero or one ***UTM*** element. The ***UTM*** element, an xs:all compositor, specifies the Universal Transverse Mercator (UTM) coordinate and is made up of the child elements as shown in Figure 22. The domain type is ***msdl:UTMType***.

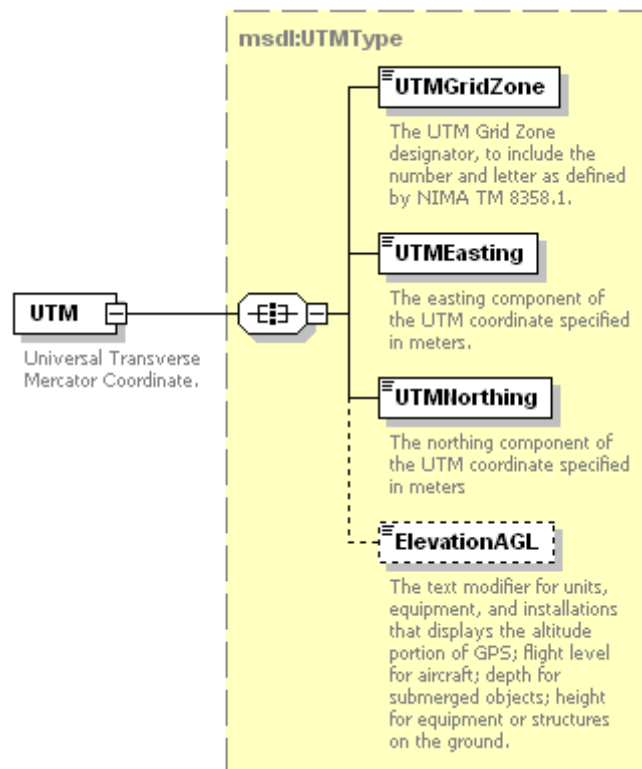


Figure 22: *msdl:CoordinatePointType/UTM* Element Structure

- a) ***msdl:UTMType/UTMGridZone*** Element - For each ***msdl:UTMType*** complex type there shall be one ***UTMGridZone*** element. The ***UTMGridZone*** element specifies the UTM Grid Zone designator to include the number and letter as defined by NIMA TM 8358.1. The domain type is ***msdl:patternUTMGridZone3***.
 - b) ***msdl:UTMType/UTMEasting*** Element - For each ***msdl:UTMType*** complex type there shall be one ***UTMEasting*** element. The ***UTMEasting*** element specifies the easting component of the UTM coordinate. The domain type is ***msdl:floatUTMEasting9_2***.
 - c) ***msdl:UTMType/UTMNorthing*** Element - For each ***msdl:UTMType*** complex type there shall be one ***UTMNorthing*** element. The ***UTMNorthing*** element specifies the northing component of the UTM coordinate. The domain type is ***msdl:floatUTMNorthing9_2***.
 - d) ***msdl:UTMType/ElevationAGL*** Element - For each ***msdl:UTMType*** complex type there shall be zero or one ***ElevationAGL*** element. The ***ElevationAGL*** element specifies the altitude, in meters of a position for the flight level for aircraft; depth for submerged objects; height of equipment or structures on the ground. The domain type is ***msdl:floatElevationAGL6_2***.
3. ***msdl:CoordinatePointType/GDC*** Element - For each ***msdl:CoordinatePointType*** complex type there shall be zero or one ***GDC*** element. The ***GDC*** element, an xs:all compositor, specifies the Geodetic Coordinate (GDC) and is made up of the child elements as shown in Figure 23. The domain type is ***msdl:GDCType***.

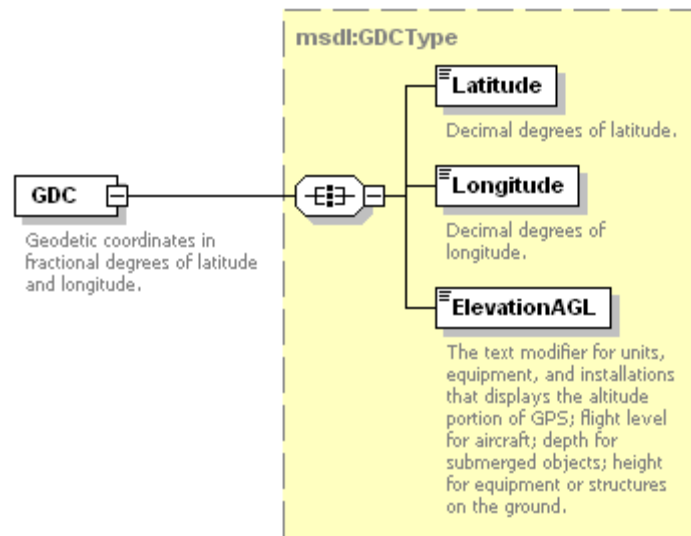


Figure 23: *msdl:CoordinatePointType/GDC* Element Structure

- a) ***msdl:GDCType/Latitude*** Element - For each ***msdl:GDCType*** complex type there shall be one ***Latitude*** element. The ***Latitude*** element specifies the decimal degrees of latitude. The domain type is ***msdl:floatLatitudeLongitude3_3***.
 - b) ***msdl:GDCType/Longitude*** Element - For each ***msdl:GDCType*** complex type there shall be one ***Longitude*** element. The ***Longitude*** element specifies the decimal degrees of longitude. The domain type is ***msdl:floatLatitudeLongitude3_3***.
 - c) ***msdl:GDCType/ElevationAGL*** Element - For each ***msdl:GDCType*** complex type there shall be zero or one ***ElevationAGL*** element. The ***ElevationAGL*** element specifies the altitude, in meters of a position for the flight level for aircraft; depth for submerged objects; height of equipment or structures on the ground. The domain type is ***msdl:floatElevationAGL6_2***.
4. ***msdl:CoordinatePointType/GCC*** - For each ***msdl:CoordinatePointType*** complex type there shall be zero or one ***GCC*** element. The ***GCC*** element, an xs:all compositor, specifies the Geocentric Coordinate (GCC) and is made up of the child elements as shown in Figure 24. The domain type is ***msdl:GCCType***.

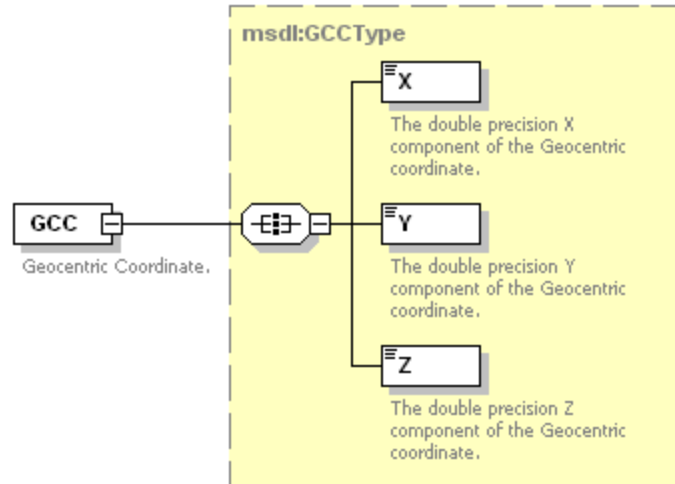


Figure 24: *msdl:CoordinatePointType/GCC* Element Structure

- a) *msdl:GCCType/X* Element - For each *msdl:GCCType* complex type there shall be one *X* element. The *X* element specifies the double precision *X* component (in meters) of the Geocentric coordinate. The domain type is *msdl:floatCartesianValue9_3*.
- b) *msdl:GCCType/Y* Element - For each *msdl:GCCType* complex type there shall be one *Y* element. The *Y* element specifies the double precision *Y* component (in meters) of the Geocentric coordinate. The domain type is *msdl:floatCartesianValue9_3*.
- c) *msdl:GCCType/Z* Element - For each *msdl:GCCType* complex type there shall be one *Z* element. The *Z* element specifies the double precision *Z* component (in meters) of the Geocentric coordinate. The domain type is *msdl:floatCartesianValue9_3*.

5.3.2.3. *msdl:RectangleAreaType/LowerLeft* Element

For every *msdl:RectangleAreaType* complex type there shall be one *LowerLeft* element. The *LowerLeft* element defines the lower left coordinate of the rectangle area. The domain type is *msdl:CoordinatesType* as defined within section 6.3.2.2 for *msdl:RectangleAreaType/UpperRight*.

5.3.3. *msdl:EnvironmentType/ScenarioWeather* Element

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

The *ScenarioWeather* is described by a combination of instances from seven types: *jc3iedm:Atmosphere*, *jc3iedm:CloudCoverItems*, *jc3iedm:Icing*, *jc3iedm:LightItems*, *jc3iedm:Precipitation*, *jc3iedm:VisibilityItems*, and *jc3iedm:WindItems*. The *ScenarioWeather* element, an *xs:all* compositor, is comprised of the elements shown in Figure 25 and described in the following subsections. The domain type is *msdl:ScenarioWeatherType*.

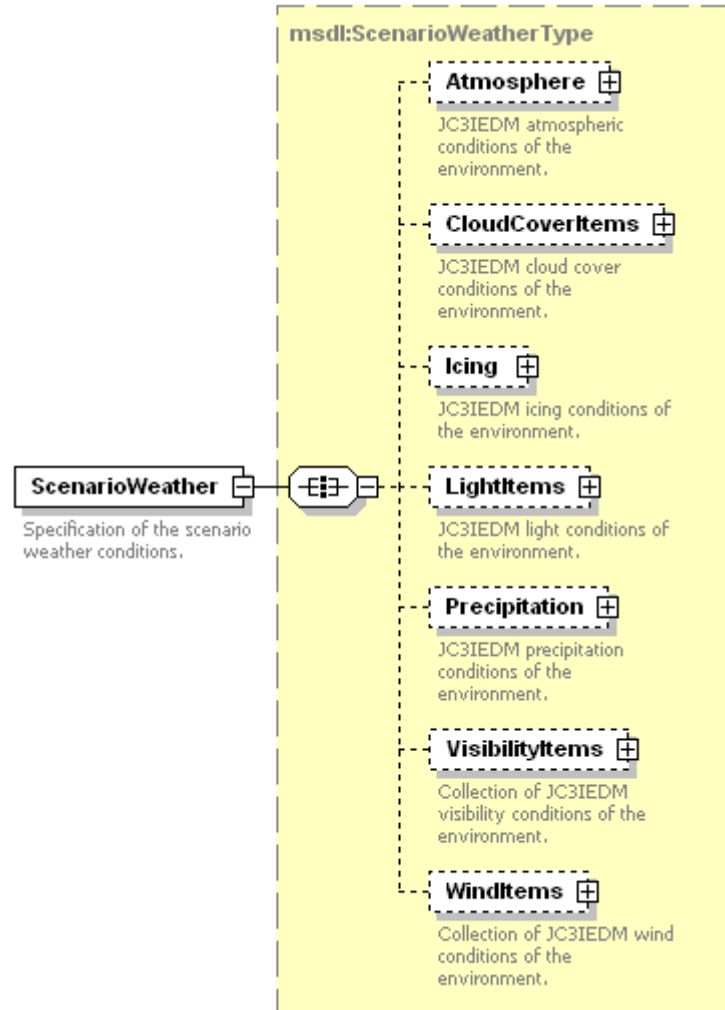


Figure 25: *msdl:EnvironmentType/ScenarioWeather* Element Structure

5.3.3.1. *msdl:ScenarioWeatherType/Atmosphere* Element

For every **msdl:ScenarioWeatherType** complex type there shall be zero or one **Atmosphere** element. The **Atmosphere** element specifies the JC3IEDM-based atmospheric conditions of the military scenario. The **Atmosphere** element, an xs:sequence compositor, contains all the elements shown in Figure 26 and described in the subsequent subsections. The domain type is *jc3iedm:Atmosphere*.

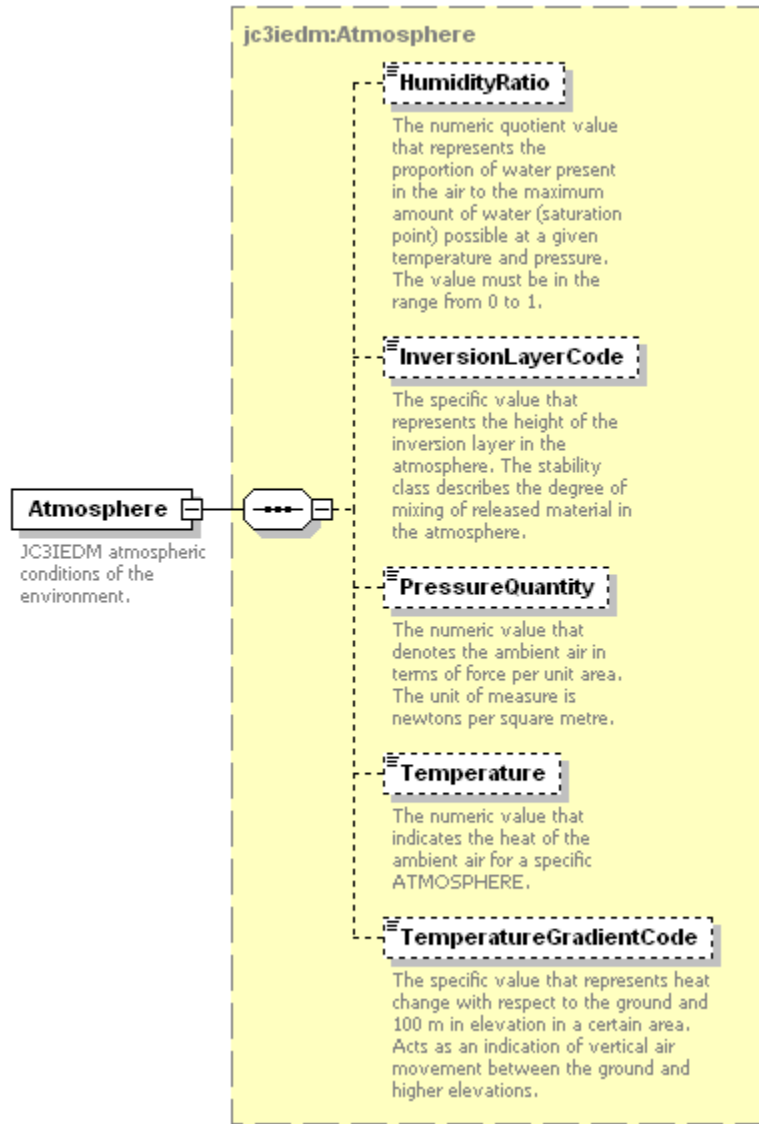


Figure 26: *msdl:ScenarioWeatherType/Atmosphere* Element Structure

5.3.3.1.1. **jc3iedm:Atmosphere/HumidityRatio** Element

For every jc3iedm:Atmosphere complex type there shall be zero or one HumidityRatio 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 shall be in the range from 0 to 1. The domain type is jc3iedm:RatioOptionalTypeRangeRatio6_5.

5.3.3.1.2. **jc3iedm:Atmosphere/InversionLayerCode** Element

For every jc3iedm: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 domain values are: A (Top inversion layer lower than 800 meters above ground); B (Top of inversion layer lower than 400 meters above ground); C (Top of inversion layer lower than 200 meters above ground). The domain type is jc3iedm:AtmosphereInversionLayerCode.

5.3.3.1.3. **jc3iedm:Atmosphere/PressureQuantity Element**

For every jc3iedm:Atmosphere complex type there shall be zero or one PressureQuantity element following the InversionLayerCode element. This element provides the numeric value that denotes the ambient air in terms of force per unit area. The unit of measure is newtons per square meter. Type domain type is jc3iedm:QuantityOptionalType8_4.

5.3.3.1.4. **jc3iedm:Atmosphere/Temperature Element**

For every jc3iedm:Atmosphere complex type there shall be zero or one Temperature element following the PressureQuantity element. This element provides the numeric value that indicates the heat of the ambient air. The domain is a real number exceeding -274, expressed in degrees Celsius. The domain type is jc3iedm:TemperatureTypeRangeTemperature5_1.

5.3.3.1.5. **jc3iedm:Atmosphere/TemperatureGradientCode Element**

For every jc3iedm:Atmosphere complex type there shall be zero or one TemperatureGradientCode element following the Temperature element. This element provides the specific value that represents heat change with respect to the surface and 100 m in elevation for the area specified within the **AreaOfInterest**. This element acts as an indication of vertical air movement between the surface and higher elevations. The domain values are: Neutral; Stable; Unstable; Not known. The domain type is jc3iedm:AtmosphereTemperatureGradientCode.

5.3.3.2. **msdl:ScenarioWeatherType/CloudCoverItems Element**

For every **msdl:ScenarioWeatherType** complex type there shall be zero or one **CloudCoverItems** element. The **CloudCoverItems** element specifies the JC3IEDM-based cloud cover conditions of the environment. The **CloudCoverItems** element, an xs:sequence compositor, is comprised of the elements shown in Figure 27 and described in the following subsection. The domain type is **msdl:CloudCoverItemsType**.

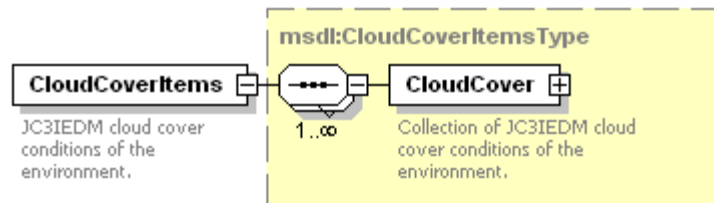


Figure 27: **msdl:ScenarioWeatherType/CloudCoverItems Element Structure**

5.3.3.2.1. **msdl:CloudCoverItemsType/CloudCover Element**

For every **msdl:CloudCoverItemsType** complex element there shall be one or more **CloudCover** elements. The **CloudCover** element specifies an instance or instances of the cloud cover conditions of the environment. Multiple **CloudCover** elements are allowed to support multiple layers of cloud cover. The **Cloudcover** element, an xs:sequence compositor, contains all the elements shown in Figure 28 and described in the subsequent subsections. The domain type is jc3iedm:CloudCover.

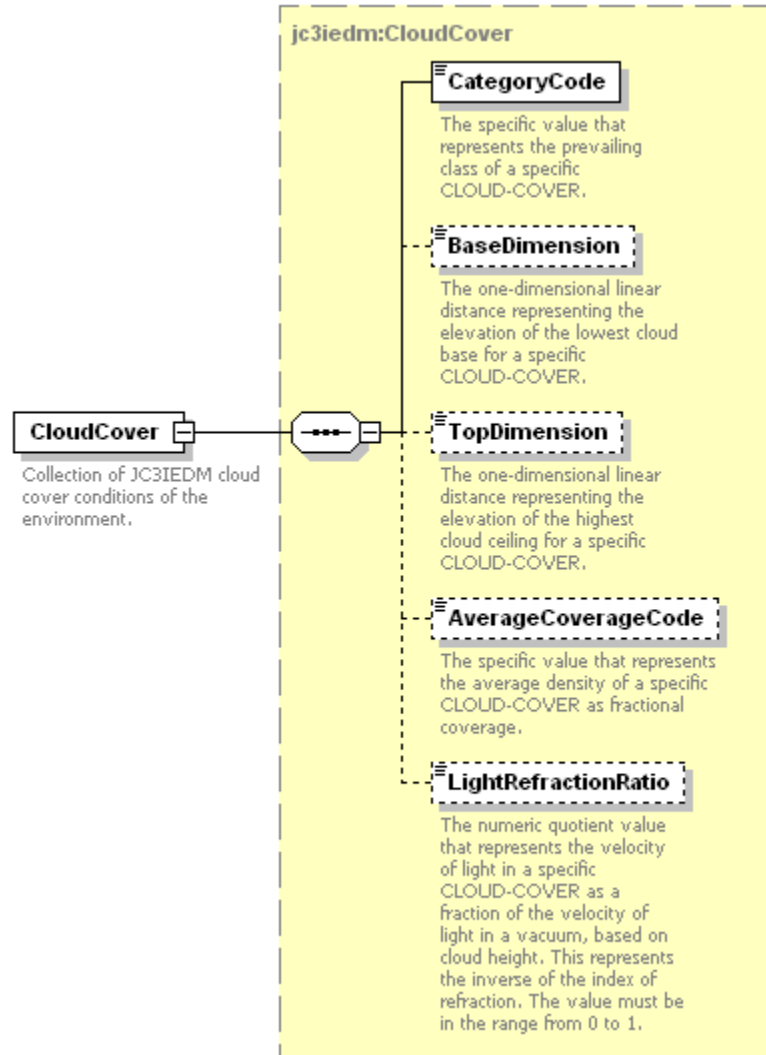


Figure 28: msdl:CloudCoverItemTypes/CloudCover Element Structure

1. jc3iedm:CloudCover/CategoryCode Element - For every jc3iedm:CloudCover complex type there shall be zero or one CategoryCode element. This element provides the specific value that represents the prevailing class of a specific **CloudCover**. The domain values are: Clouds; Radioactive cloud; Smoke. The domain type is jc3iedm:CloudCoverCategoryCode.
2. jc3iedm:CloudCover/BaseDimension Element - For every jc3iedm:CloudCover complex type there shall be zero or one BaseDimension element following the CategoryCode. This element provides the one-dimensional linear distance representing the elevation of the lowest cloud base for a specific **CloudCover**. The domain type is jc3iedm:DimensionOptionalType12_3.
3. jc3iedm:CloudCover/TopDimension Element - For every jc3iedm:CloudCover complex type there shall be zero or one TopDimension element following the BaseDimension. This element provides the one-dimensional linear distance representing the elevation of the highest cloud ceiling for a specific **CloudCover**. The domain type is jc3iedm:DimensionOptionalType12_3.
4. jc3iedm:CloudCover/AverageCoverageCode Element - For every jc3iedm:CloudCover complex type there shall be zero or one AverageCoverageCode element following the TopDimension. This element provides the specific value that represents the average density of a specific **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 jc3iedm:CloudCoverAverageCoverageCode.

5. jc3iedm:CloudCover/LightRefractionRatio Element - For every jc3iedm:CloudCover complex type there shall be zero or one LightRefractionRatio element following the AverageCoverageCode. This element provides the numeric quotient value that represents the velocity of light in a specific **CloudCover** as a fraction of the velocity of light in a vacuum, based on cloud height. This represents the inverse of the index of refraction. The value shall be in the range from 0 to 1. The domain type is jc3iedm:RatioOptionalTypeRangeRatio7_6.

5.3.3.3. msdl:ScenarioWeatherType/Icing Element

For every **msdl:ScenarioWeatherType** complex type there shall be zero or one Icing element. The **Icing** element, an xs:sequence compositor, contains all the elements shown in Figure 29 and described in the subsequent subsections. The **Icing** element specifies JC3IEDM-based accumulation of frozen water on the surface. The domain type is jc3iedm:Icing.

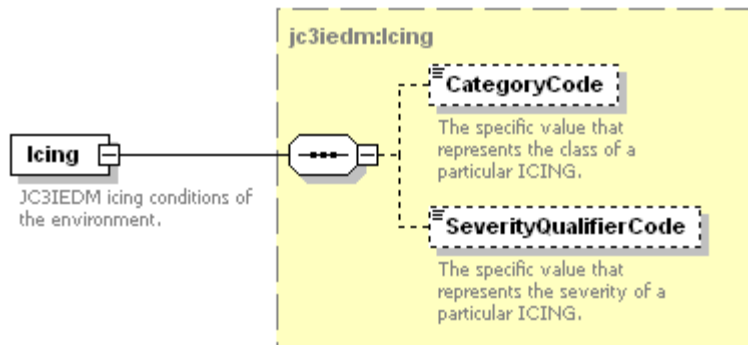


Figure 29: **msdl:ScenarioWeatherType/Icing** Element Structure

5.3.3.3.1. jc3iedm:Icing/CategoryCode Element

For every jc3iedm:Icing complex type there shall be zero or one CategoryCode element. This element specifies the class of **Icing**. The domain values are: Clear icing; Mixed icing; Rime icing. The domain type is jc3iedm:IcingCategoryCode.

5.3.3.3.2. jc3iedm:Icing/SeverityQualifierCode Element

For every jc3iedm:Icing complex type there shall be zero or one SeverityQualifierCode element following the CategoryCode. This element specifies the severity of **Icing**. The domain values are: Light; Moderate; Severe. The domain type is jc3iedm:IcingSeverityQualifierCode.

5.3.3.4. msdl:ScenarioWeatherType/LightItems Element

For every **msdl:ScenarioWeatherType** complex type there shall be zero or one **LightItems** element. The **LightItems** element specifies the JC3IEDM-based availability of natural illumination by type and time. The **LightItems** element, an xs:sequence compositor, is comprised of the elements shown in Figure 30 and described in the following subsection. The domain type is **msdl:LightItemsType**.

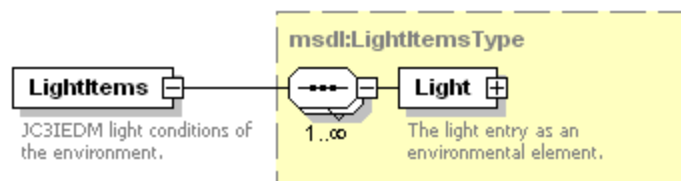


Figure 30: **msdl:ScenarioWeatherType/LightItems** Element Structure

5.3.3.4.1. msdl:LightItemsType/Light Element

The **msdl:LightItemsType** complex type specifies the light-related information within the military scenario. The **Light** element, an xs:sequence compositor, contains all the elements shown in Figure 31 and described in the subsequent subsections.

It is intended that the jc3iedm:Light information be consistent with the **ScenarioTime** and scenario **AreaOfInterest** information when these are present in a scenario.

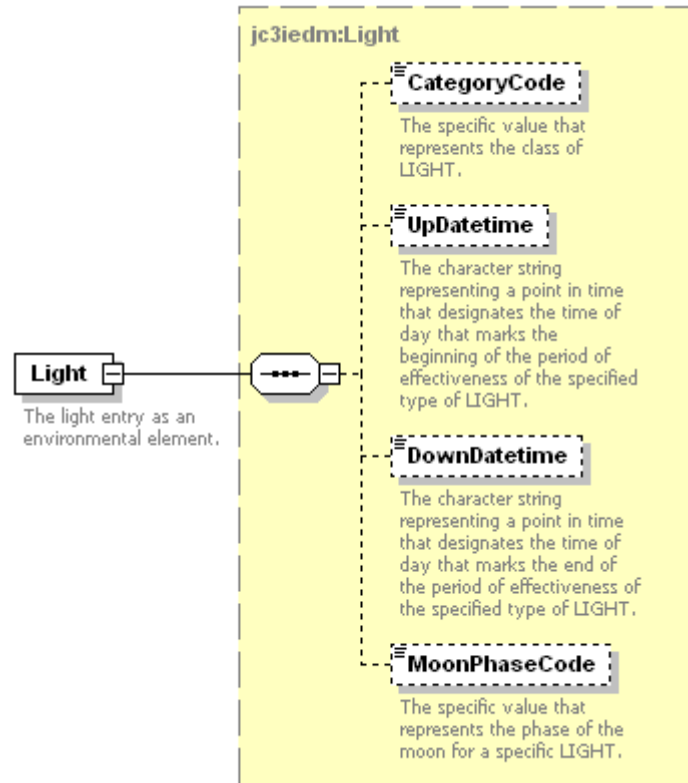


Figure 31: **msdl:LightItemsType/Light** Element Structure

1. jc3iedm:Light/CategoryCode Element - For every jc3iedm:Light complex type there shall be zero or one CategoryCode element. This element specifies the value that represents the class of **Light**. The domain values are: Civil twilight; Darkness, Daylight; Moonlight; Nautical twilight. The domain type is jc3iedm:LightCategoryCode.
2. jc3iedm:Light/UpDatetime Element - For every jc3iedm:Light complex type there shall be zero or one UpDatetime element following the CategoryCode. This element specifies the character string representing a point in time that designates the date and time of day that marks the beginning of the period of effectiveness of the specified type of **Light**. The domain type is jc3iedm:DatetimeOptionalTypeFix18.
3. jc3iedm:Light/DownDatetime Element - For every jc3iedm:Light complex type there shall be zero or one DownDatetime element following the UpDatetime. This element specifies the character string representing a point in time that designates the date and time of day that marks the end of the period of effectiveness of the specified type of **Light**. The domain type is jc3iedm:DatetimeOptionalTypeFix18.
4. jc3iedm:Light/MoonPhaseCode Element - For every jc3iedm:Light complex type there shall be zero or one MoonPhaseCode element following the DownDatetime. This element specifies the value that represents the phase of the moon for a specific type of **Light**. The domain values are: Full moon; New moon; Waning moon; Waxing moon. The domain type is jc3iedm:LightMoonPhaseCode.

5.3.3.5. msdl:ScenarioWeatherType/Precipitation Element

For every **msdl:ScenarioWeatherType** complex type there shall be zero or one **Precipitation** element. The **Precipitation** element specifies the JC3IEDM-based precipitation conditions of the environment. It is left to the user to ensure consistency between temperature and precipitation. The **Precipitation** element, an xs:sequence compositor, contains all the elements shown in Figure 32 and described in the subsequent subsections. The domain type is jc3iedm:Precipitation.

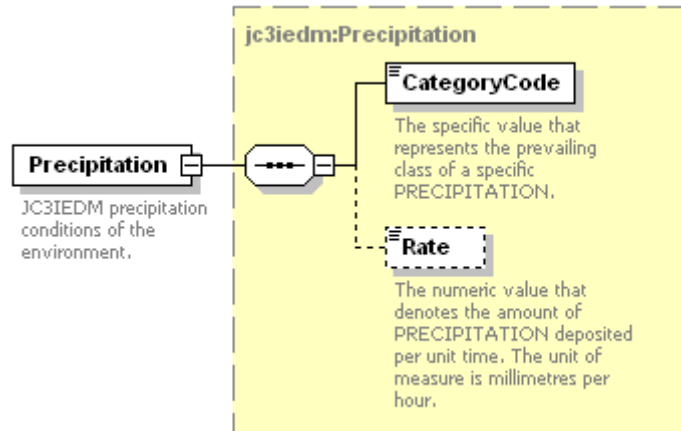


Figure 32: **msdl:ScenarioWeatherType/Precipitation** Element Structure

5.3.3.5.1. jc3iedm:Precipitation/CategoryCode Element

For every **jc3iedm:Precipitation** complex type there shall be zero or one **CategoryCode** element. This element specifies the value that represents the prevailing class of **Precipitation**. Example domain values are: Hail; No precipitation; Rain; Sleet; Snow. The domain type is **jc3iedm:PrecipitationCategoryCode**.

5.3.3.5.2. jc3iedm:Precipitation/Rate Element

For every **jc3iedm:Precipitation** complex type there shall be zero or one **Rate** element following the **CategoryCode**. This element specifies 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 **jc3iedm:RateOptionalType4_1**.

5.3.3.6. msdl:ScenarioWeatherType/VisibilityItems Element

For every **msdl:ScenarioWeatherType** complex type there shall be zero or one **VisibilityItems** element. The **VisibilityItems** element holds a collection of the JC3IEDM-based visibility conditions of the environment. The **VisibilityItems** element, an xs:sequence compositor, is comprised of the elements shown in Figure 33 and described in the following subsection. The domain type is **msdl:VisibilityItemsType**.

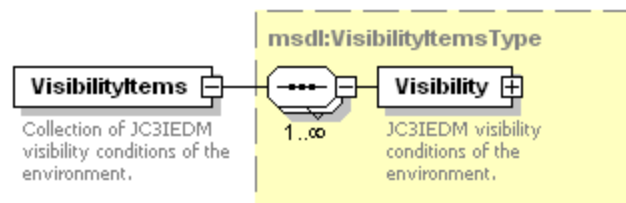


Figure 33: **msdl:ScenarioWeatherType/VisibilityItems** Element Structure

5.3.3.6.1. msdl:VisibilityItemsType/Visibility Element

For every **msdl:VisibilityItemsType** complex type there shall be one or more **Visibility** elements. The **Visibility** element specifies an instance or instances of the JC3IEDM-based visibility conditions existing within the environment. Visibility conditions may exist and vary by category code requiring multiple **Visibility**

instances. It is intended that the **Visibility** element is derived from and consistent with the other **Environment** elements such as **CloudCover** and **Precipitation** that are included within the scenario document. The **Visibility** element, an xs:sequence compositor, contains all the elements shown in Figure 34 and described in the subsequent subsections. The domain type is jc3iedm:Visibility.

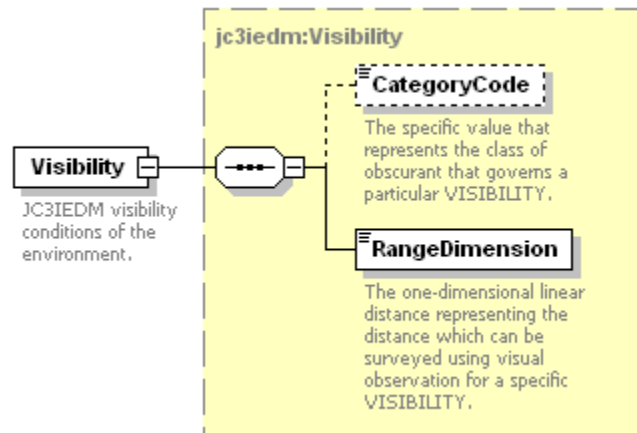


Figure 34: jc3iedm:Visibility Element Structure

1. jc3iedm:Visibility/CategoryCode Element - For every Visibility complex type there shall be zero or one CategoryCode element. This element specifies the specific value that represents the class of obscurant that governs a particular **Visibility**. Example domain values are: Blowing snow; Fog/mist; Sandstorm; Smoke. The domain type is jc3iedm:VisibilityCategoryCode.
2. jc3iedm:Visibility/RangeDimension Element - For every Visibility complex type there shall be one RangeDimension element following the CategoryCode. This element specifies the one-dimensional linear distance representing the distance that can be surveyed using visual observation for a specific **Visibility**. It is defined as the greatest distance in a given direction at which it is just possible to see and identify with the unaided eye (a) in the daytime, a prominent dark object against the sky at the horizon, and (b) at night, a known, preferably unfocused, moderately intense light source. After the visibility has been determined through the entire horizon circle, they are resolved into a single value of prevailing visibility. The domain type is jc3iedm:DimensionMandatoryType12_3.

5.3.3.7. msdl:ScenarioWeatherType/WindItems Element

For every **msdl:ScenarioWeatherType** complex type there shall be zero or one **WindItems** element. The **WindItems** element holds a collection of the JC3IEDM-based wind conditions of the environment. The **WindItems** element, an xs:sequence compositor, is comprised of the elements shown in Figure 35 and described in the following subsection. The domain type is **msdl:WindItemsType**.

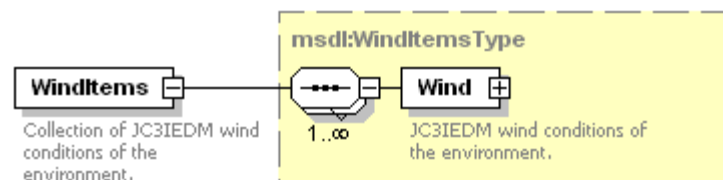


Figure 35: msdl:ScenarioWeatherType/WindItems Element Structure

5.3.3.7.1. msdl:WindItemsType/Wind Element

For every **msdl:WindItemsType** complex type there shall be one or more **Wind** elements. The **Wind** element specifies an instance or instances of the JC3IEDM-based wind conditions existing within the environment. Wind conditions may exist and vary by Categorycode and AltitudeLayerCode requiring multiple **Wind**

instances. The **Wind** element, an xs:sequence compositor, contains all the elements shown in Figure 36 and described in the subsequent subsections. The domain type is jc3iedm:Wind.

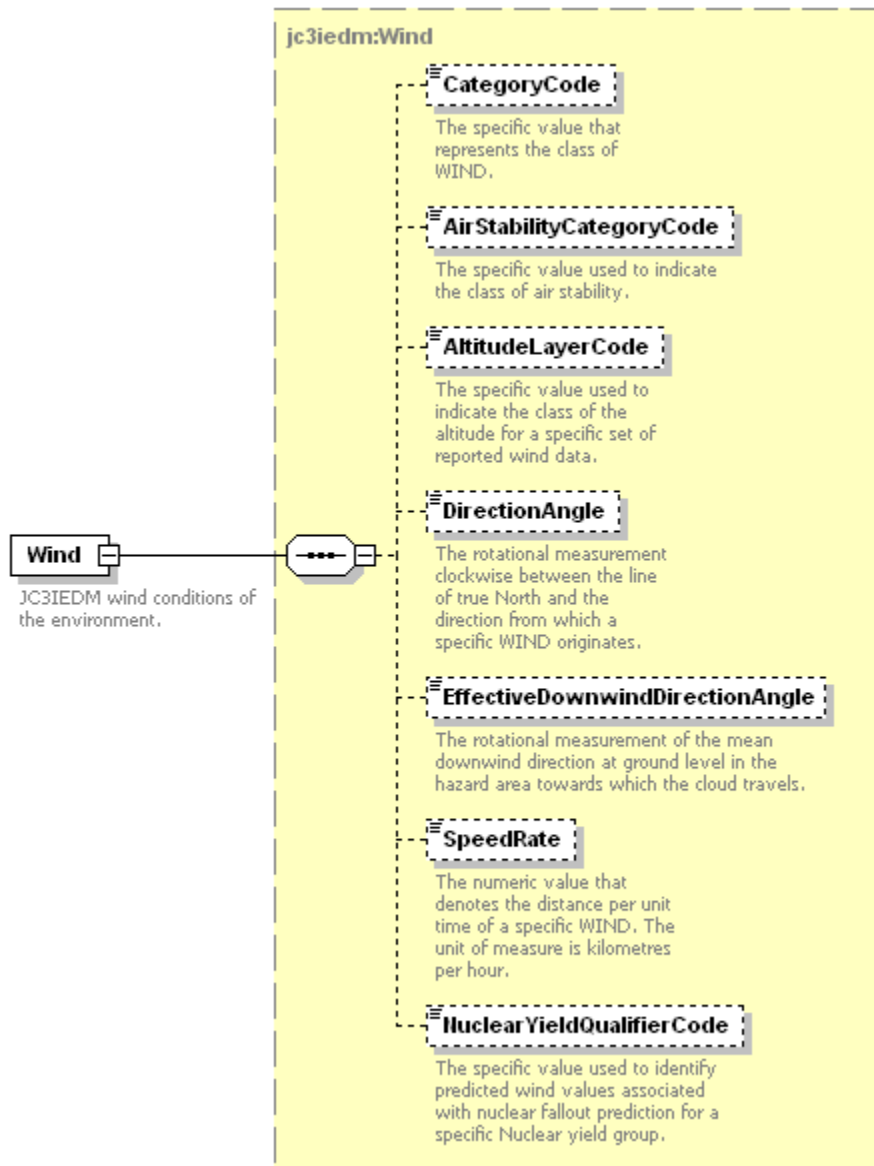


Figure 36: msdl:WindItemsType/Wind Type Structure

1. jc3iedm:Wind/CategoryCode Element - For every Wind complex type there shall be zero or one CategoryCode element. This element specifies the value that represents the class of **Wind**. Example domain values are: Constant; Gusting; Squalls; Variable; Not known. The domain type is jc3iedm:WindCategoryCode.
2. jc3iedm:Wind/AirStabilityCategoryCode Element - For every Wind complex type there shall be zero or one AirStabilityCategoryCode element following the CategoryCode. This element specifies the value used to indicate the class of air stability. Example domain values are: Simplified, unstable; Simplified, stable; Detailed, very unstable; Detailed, neutral. The domain type is jc3iedm:WindAirStabilityCategoryCode.
3. jc3iedm:Wind/AltitudeLayerCode Element - For every Wind complex type there shall be zero or one AltitudeLayerCode element following the AirStabilityCategoryCode. This element specifies the value used to indicate the class of the altitude for a specific set of reported **Wind** data. Example domain

values are: 2000 meters; 8000 meters; 14,000 meters; 30,000 meters. The domain type is jc3iedm:WindAltitudeLayerCode.

4. jc3iedm:Wind/DirectionAngle Element - For every Wind complex type there shall be zero or one DirectionAngle element following the AltitudeLayerCode. The rotational measurement clockwise between the line of true North and the direction from which a specific **Wind** originates. The domain type is jc3iedm:AngleOptionalTypeRangeAngle7_4.
5. jc3iedm:Wind/EffectiveDownwindDirectionAngle Element - For every Wind complex type there shall be zero or one EffectiveDownwindDirectionAngle element following the DirectionAngle. This element specifies the rotational measurement of the mean downwind direction at surface level in the hazard area towards which the cloud travels. The domain type is jc3iedm:AngleOptionalTypeRangeAngle7_4.
6. jc3iedm:Wind/SpeedRate Element - For every Wind complex type there shall be zero or one SpeedRate element following the EffectiveDownwindDirectionAngle. This element specifies the numeric value that denotes the distance per unit time of a specific **Wind**. The unit of measure is kilometers per hour. The domain type is jc3iedm:RateOptionalType8_4.
7. jc3iedm:Wind/NuclearYieldQualifierCode Element - For every Wind complex type there shall be zero or one NuclearYieldQualifierCode element following the SpeedRate. This element specifies the value used to identify predicted **Wind** values associated with nuclear fallout prediction for a specific Nuclear yield group. Example domain values are: ALPHA; BRAVO; CHARLIE; FOXTROT; GOLF. The domain type is jc3iedm:NuclearYieldGroupCode.

5.3.4. msdl:EnvironmentType/METOC Element

For every **msdl:EnvironmentType** complex type there shall be zero or one **METOC** element. The **METOC** element specifies the MIL-STD-2525B-based meteorological conditions of the environment. The specification included in this standard is based on the MIL-STD-2525B w/CHANGE 1 specification. APPENDIX C of MIL-STD-2525B w/CHANGE 1 provides most of the applicable descriptions. The **METOC** element, an xs:sequence compositor, is comprised of the elements shown in Figure 37 and described in the following subsections. The domain type is **msdl:METOCType**.

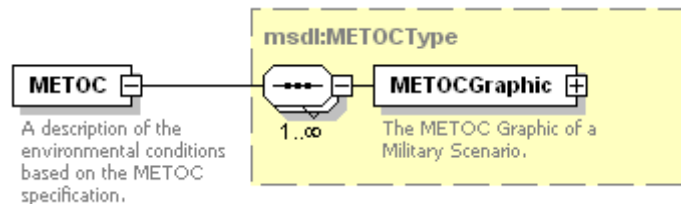


Figure 37: **msdl:EnvironmentType/METOC** Element Structure

5.3.4.1. msdl:METOCType/METOCGraphic Element

For every **msdl:METOCType** complex type there shall be one **METOCGraphic** element. The **METOC** element specifies the MIL-STD-2525B-based meteorological conditions of the environment. The specification included in this standard is based on the MIL-STD-2525B w/CHANGE 1 specification. The **METOCGraphic** element, an xs:all compositor, is comprised of the elements shown in Figure 38 and described in the following subsections. The domain type is **msdl:METOCGraphicType**.

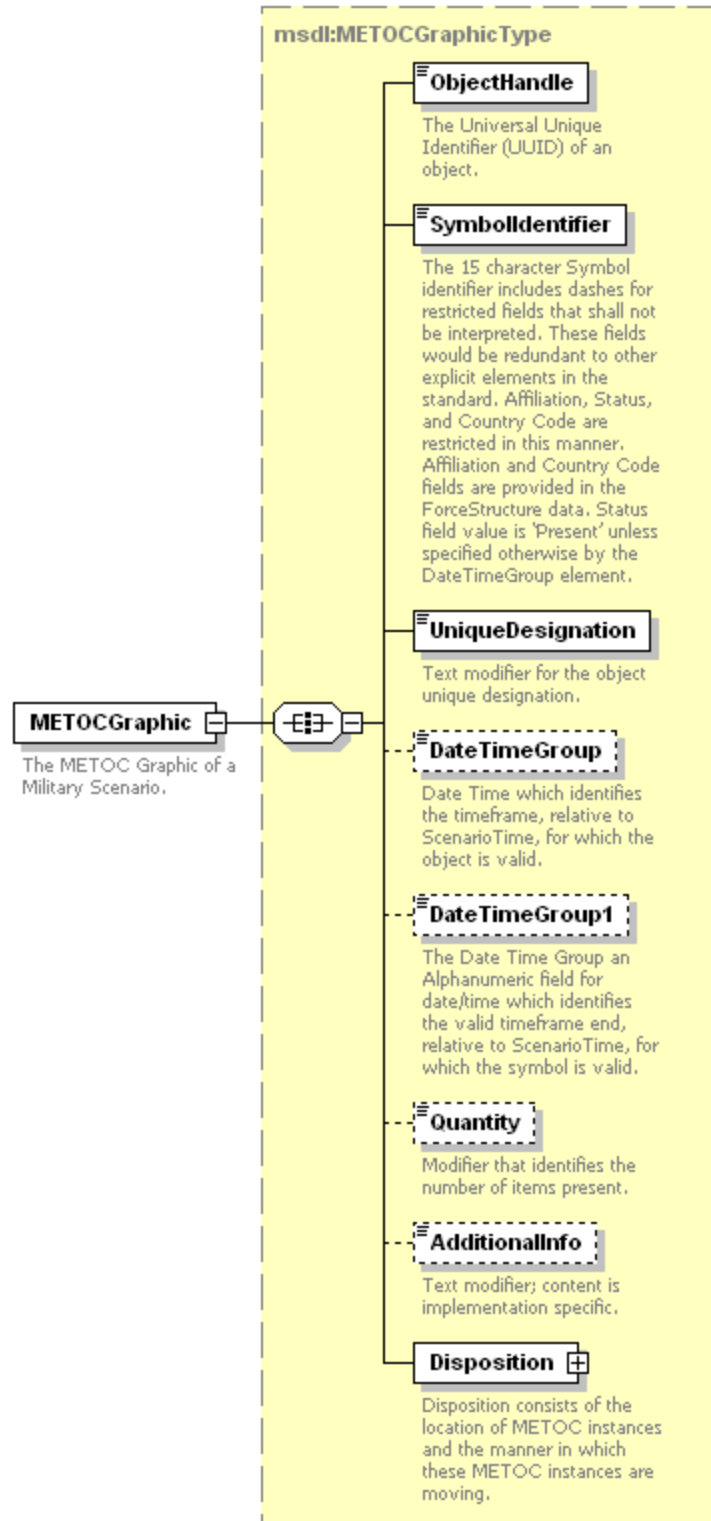


Figure 38: *msdl:METOCType/METOCGraphic* Element Structure

5.3.4.1.1. **msdl:METOCGraphicType/ObjectHandle Element**

For every **msdl:METOCGraphicType** complex type there shall be one **ObjectHandle** element. This element specifies the Universal Unique Identifier of a specific element. The domain type is **msdl:patternUUID32**.

5.3.4.1.2. **msdl:METOCGraphicType/SymbolIdentifier Element**

For every **msdl:METOCGraphicType** element there shall be one **SymbolIdentifier** element. This element specifies the type identifier of a specific **METOC** element. The domain is a METOC Symbol Identification Code (SIDC) from the symbology set specified by the **SymbologyDataStandard** of the **Options**. The 15 character **SymbolIdentifier** includes dashes for restricted fields that shall not be interpreted. 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 fields are provided in the ForceSide structure data. Status field value is 'Present' unless specified otherwise by the **DateTimeGroup** element. The Coding Scheme, position 1, shall be 'W' for METOC symbol identification. The domain type is **msdl:patternMETOCSymbolID15**.

5.3.4.1.3. **msdl:METOCGraphicType/UniqueDesignation Element**

For every **msdl:METOCGraphicType** element there shall be one **UniqueDesignation** element. This element specifies the character string providing a unique designation of a specific **METOC** element. The content is implementation specific. The domain type is **msdl:text21**.

5.3.4.1.4. **msdl:METOCGraphicType/DateTimeGroup Element**

For every **msdl:METOCGraphicType** element there shall be zero or one **DateTimeGroup** element. This element specifies the character string representing the time frame start, relative to the **ScenarioTime**, for which the **METOC** element is valid. The **DateTimeGroup** element allows multiple stages of a phenomenon to be specified. The **UniqueDesignation** element is used to link together these different stages. The **ObjectHandle** of the stages will be different but the **UniqueDesignation** will be the same. Because **DateTimeGroup** and **DateTimeGroup1** represent the time frame of existence for the specific **METOCGraphic** element if either one is specified the other shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.

5.3.4.1.5. **msdl:METOCGraphicType/DateTimeGroup1 Element**

For every **msdl:METOCGraphicType** element there shall be zero or one **DateTimeGroup1** element. This element specifies the character string representing the time frame end, relative to the **ScenarioTime**, for which the **METOC** element is valid. The **DateTimeGroup1** element allows multiple stages of a phenomenon to be specified. The **UniqueDesignation** element is used to link together these different stages. The **ObjectHandle** of the stages will be different but the **UniqueDesignation** will be the same. Because **DateTimeGroup** and **DateTimeGroup1** represent the time frame of existence for the specific **METOCGraphic** element if either one is specified the other shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.

5.3.4.1.6. **msdl:METOCGraphicType/Quantity Element**

For each **msdl:METOCGraphic** there shall be zero or one **Quantity** element. This element specifies the numerical value that denotes the number of **msdl:METOCGraphicType/SymbolIdentifier** element items present for the **METOCGraphic** element. The value shall be greater than 0. The domain type is **msdl:integerQuantity9**.

5.3.4.1.7. **msdl:METOCGraphicType/AdditionalInfo Element**

For each **msdl:METOCGraphic** there shall be zero or one **AdditionalInfo** element. This element specifies the character string providing additional information about a specific **METOC** element. The content is implementation specific. The domain type is **msdl:text20**.

5.3.4.1.8. **msdl:METOCGraphicType/Disposition Element**

For every **msdl:METOCGraphicType** element there shall be one **Disposition** element. This element specifies the structure describing anchor points, speed, and direction of movement of the **METOCGraphic**. The **Disposition** element, an xs:all compositor, is comprised of the elements shown in Figure 39 and described in the following subsections. The domain type is **msdl:METOCDispositionType**.

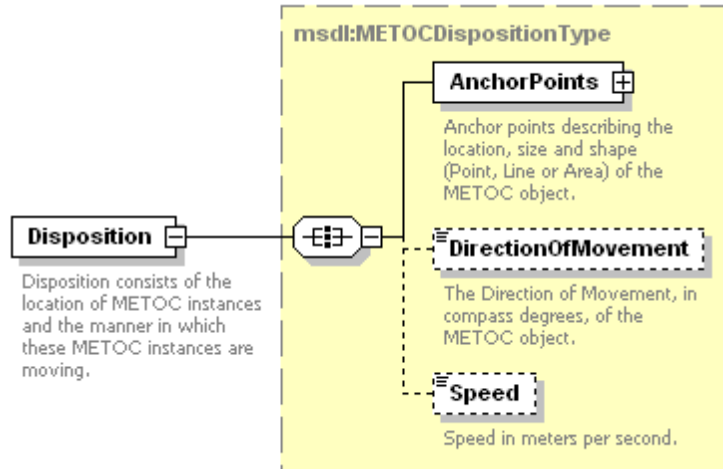


Figure 39: **msdl:METOCGraphicType/Disposition** Element Structure

1. **msdl:METOCDispositionType/AnchorPoints** Element - For every **msdl:METOCGraphicType** complex type there shall be one **AnchorPoints** element. This element specifies the structure describing the location, size and shape (Point, Line or Area) of a specific **METOC** element. The shape for each specific METOC graphic is specified within Appendix C: METOC Symbolology of MIL-STD-2525B w/Change 1. Area shapes will be interpreted to define a boundary in the sequence provided by the associated AnchorPoint elements. The **AnchorPoints** element is an xs:sequence compositor comprised of the elements shown in Figure 40 and described in the following subsections. The domain type is **msdl:AnchorPointsType**.

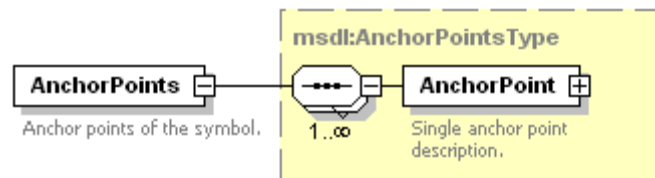


Figure 40: **msdl:METOCGraphicType/AnchorPoints** Element Structure

- a) **msdl:AnchorPointsType/AnchorPoint** Element - For every **msdl:AnchorPointsType** complex type there shall be one or more **Anchorpoint** elements. The **AnchorPoint** element specifies a single anchor point. It is an xs:all compositor comprised of the elements shown in Figure 41 and described in the following subsections. The domain type is **msdl:AnchorPointType**.

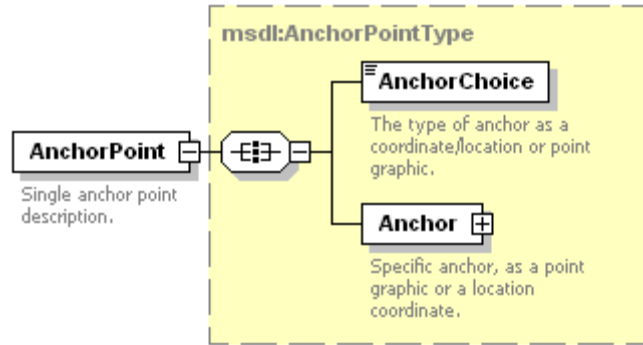


Figure 41: *msdl:AnchorPointType/AnchorPoint* Element Structure

- i) *msdl:AnchorPointType/AnchorChoice* Element - For every *msdl:AnchorPointType* complex type there shall be one *AnchorChoice* element. The *AnchorChoice* element specifies the type of anchor as a coordinate/location or a point graphic. The domain type is *msdl:enumAnchorPointType*.
- ii) *msdl:AnchorPointType/Anchor* Element - For every *msdl:AnchorPointType* complex type there shall be one *Anchor* elements. The *Anchor* element specifies a location for the anchor. It is an xs:choice compositor comprised of the elements shown in Figure 42 and described in the following subsections. The domain type is *msdl:AnchorType*.

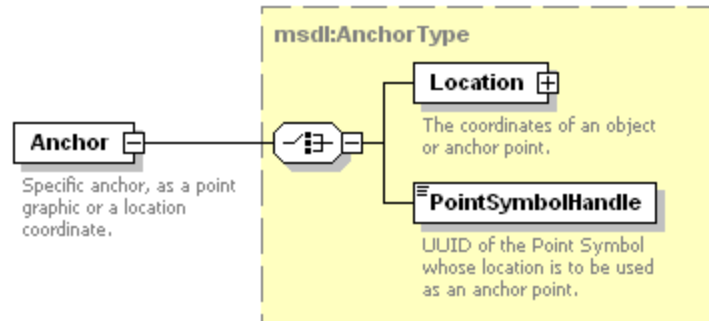


Figure 42: *msdl:AnchorPointType/Anchor* Element Structure

- (1) *msdl:AnchorType/Location* Element - For every *msdl:AnchorType* complex type there shall be one *Location* element. The *Location* element specifies the coordinates of the unit. The domain type is *msdl:CoordinatesType* as defined within section 6.3.2.2 for *msdl:RectangleAreaType/UpperRight*.
 - (2) *msdl:AnchorType/PointSymbolHandle* Element - For every *msdl:AnchorType* complex type there shall be one *PointSymbolHandle* element. The *PointSymbolHandle* element specifies a UUID of the point symbol whose location is to be used as an anchor point. The domain type is *msdl:patternUUIDRef32*.
2. *msdl:METOCDispositionType/DirectionOfMovement* Element - For every *msdl:METOCGraphicType* complex type there shall be zero or one *DirectionOfMovement* element. This element specifies the numerical value that denotes the horizontal direction of movement of a specific *METOC* Element. The unit is compass degrees measured relative to magnetic north 0 to 360 degrees clockwise. For reference trigonometric degrees = (90 – compass degrees). The domain type is *msdl:floatCompassDegrees3_3*.
 3. *msdl:METOCDispositionType/Speed* Element - For every *msdl:METOCGraphicType* complex type there shall be zero or one *Speed* element. This element specifies the numerical value that denotes the rate of movement of a specific *METOC* element in the direction of movement specified by the *DirectionOfMovement* element. The units are meters per second. The domain type is *msdl:floatSpeed6_2*.

5.4. msdl: MilitaryScenarioType/ForceSides Element

For every **msdl: MilitaryScenarioType** complex type there shall be one **ForceSides** element. The **ForceSides** element is used to specify the Forces and Sides and their associations within a military scenario. The **ForceSides** element, an xs:sequence compositor contains all the elements shown in Figure 43 and described in the subsequent subsections. The domain type is **msdl: ForceSidesType**.

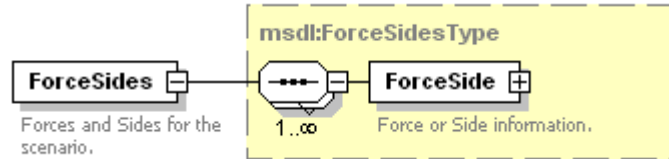


Figure 43: **msdl: MilitaryScenarioType/ForceSides** Element Structure

5.4.1. msdl: ForceSidesType/ForceSide Element

For every **msdl: ForceSidesType** element there shall be one or more **ForceSide** elements. The **ForceSide** element specifies the force or side information. It is an xs:all compositor and comprised of the elements shown in Figure 44 and described in the following subsections. The domain type is **msdl: ForceSideType**.

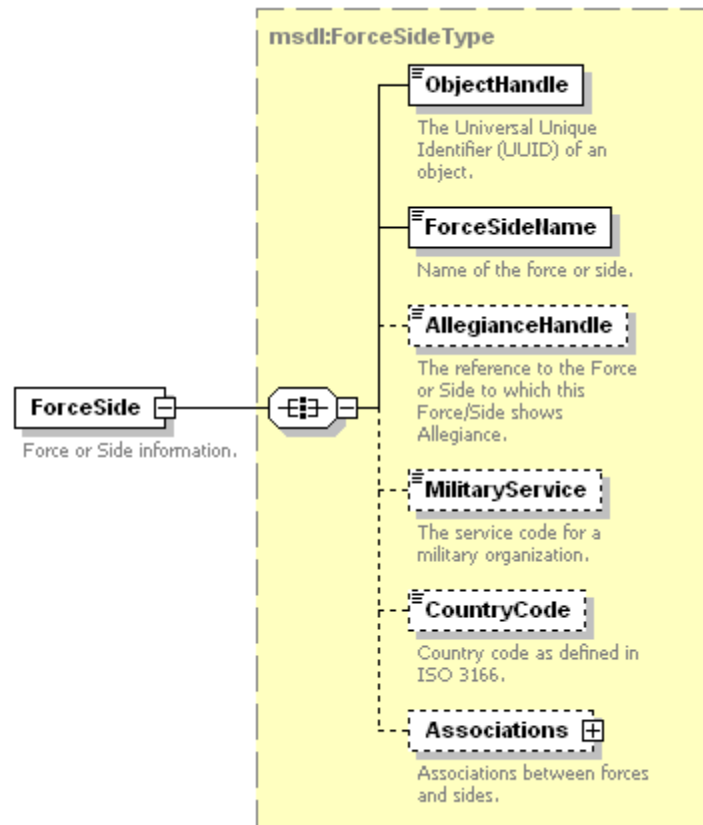


Figure 44: **msdl: ForceSidesType/ForceSide** Element Structure

5.4.1.1. msdl: ForceSideType/ObjectHandle Element

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

5.4.1.2. **msdl:ForceSideType/ForceSideName Element**

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

5.4.1.3. **msdl:ForceSideType/AllegianceHandle Element**

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

5.4.1.4. **msdl:ForceSideType/MilitaryService Element**

For every **msdl:ForceSideType** element there shall be zero or one **MilitaryService** element. The **MilitaryService** element specifies a Service code for a military organization. The domain type is **jc3iedm:MilitaryOrganisationTypeServiceCode**.

5.4.1.5. **msdl:ForceSideType/CountryCode Element**

For every **msdl:ForceSideType** element there shall be zero or one **CountryCode** element. The **CountryCode** element specifies a Country code for to which the organization belongs. The domain type is **jc3iedm:AffiliationGeopoliticalCode**.

5.4.1.6. **msdl:ForceSideType/Associations Element**

For every **msdl:ForceSideType** element there shall be zero or one **Associations** element. Sides shall have associations to all other Sides. Forces shall have associations to all other Forces that do not have allegiance to the same side as the current Force. All Force to Force and Side to Side relationships shall be explicitly defined within the **Associations** structure. Because each Force or Side has its own list of associations the relationship between the forces or sides can be asymmetric. The **Associations** element, an xs:sequence compositor, specifies the associations between forces and sides and is shown in Figure 45. The domain type is **msdl:AssociationsType**.

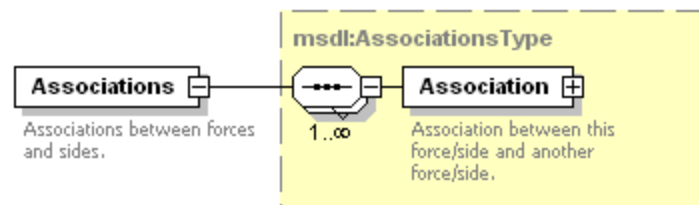


Figure 45: **msdl:ForceSideType/Associations Element Structure**

5.4.1.6.1. **msdl:AssociationsType/Association Element**

For every **msdl:AssociationsType** element there shall be one or more **Association** elements. The **Association** element specifies the relationship between the current force or side and the other specified force or side. It is an xs:all compositor comprised of the elements shown in Figure 46 and described in the following subsections. The domain type is **msdl:AssociationType**.

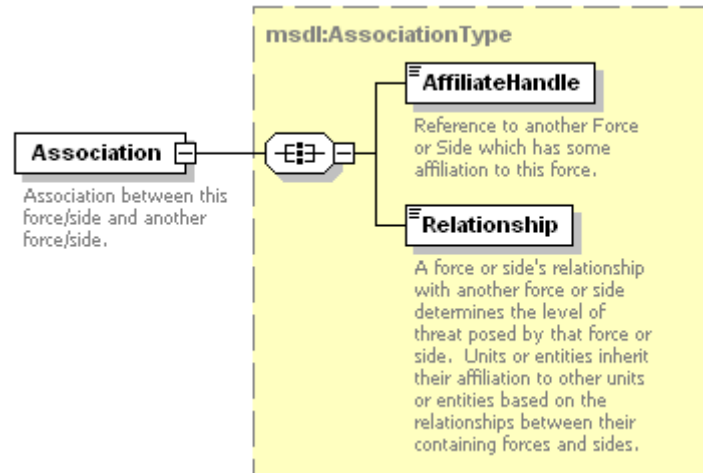


Figure 46: *msdl:AssociationType/Association* Element Structure

1. ***msdl:AssociationType/AffiliateHandle*** Element - For every ***msdl:AssociationType*** complex type there shall be one ***AffiliateHandle*** element. The ***AffiliateHandle*** element specifies the reference to another ***ForceSide*** element which has a relationship to the current ***ForceSide*** element. The domain type is a ***msdl:patternUUIDRef32***.
2. ***msdl:AssociationType/Relationship*** Element - For every ***msdl:AssociationType*** complex type there shall be one ***Relationship*** element. The ***Relationship*** element specifies a Force or Side's relationship with another Force or Side. It is to be used for determining the level of threat posed by that Force or Side. It is expected that units or entities inherit their affiliation to the other units or entities based on their relationships between their containing Force and Side. The domain type is ***jc3iedm:ObjectItemHostilityStatusCode***.

5.5. ***msdl:MilitaryScenarioType/Organizations*** Element

For every ***msdl:MilitaryScenarioType*** complex type there shall be zero or one ***Organizations*** element. The ***Organizations*** element specifies the mission/scenario specific organizations and equipment within the military scenario document to include all military service, governmental, and nongovernmental organizations. Organizations in MSDL are comprised of ***Units*** and ***Equipment***. ***Equipment*** generally equates to entities in the simulation. Whether ***Equipment*** is represented in the ***Organization*** depends on the planning model specified in the ***OrganizationDetail*** within the scenario's ***Options*** element. The mapping of battle dimension instances other than ground into the unit and organization elements is application defined.

The information in the ***Organizations*** element describes the initialization data of each actual unit and equipment element in the scenario. This description does not specify how each unit and equipment instance is reported during intelligence gathering by the other unit and equipment instances. However, it is expected that each simulation application will be able to derive the applicable information during execution. The ***Organizations*** element is comprised of an ***xs:all*** compositor comprised the elements shown in Figure 47 and described in the subsequent subsections. The domain type is ***msdl:OrganizationsType***.

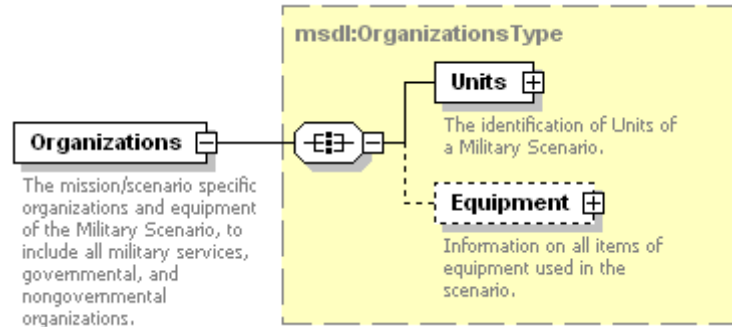


Figure 47: *msdl:MilitaryScenarioType/Organizations* Element Structure

5.5.1. *msdl:OrganizationsType/Units* Element

For every *msdl:OrganizationsType* element there shall be one *Units* element. The *Units* element, an xs:sequence compositor, specifies the units within the military scenario document and is shown in Figure 48. The domain type is *msdl:UnitsType*.

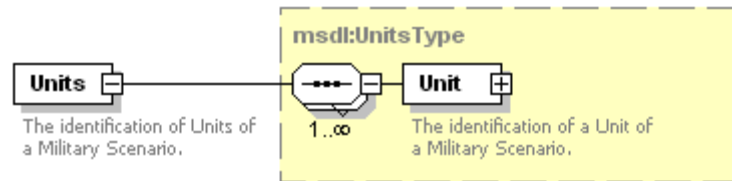


Figure 48: *msdl:OrganizationsType/Units* Element Structure

5.5.1.1. *msdl:UnitsType/Unit* Element

For every *msdl:UnitsType* element there shall be one or more *Unit* elements. The *Unit* element specifies a unit within the military scenario document. It is an xs:all compositor comprised of the elements shown in Figure 49 and described in the following subsections. The domain type is *msdl:UnitType*.

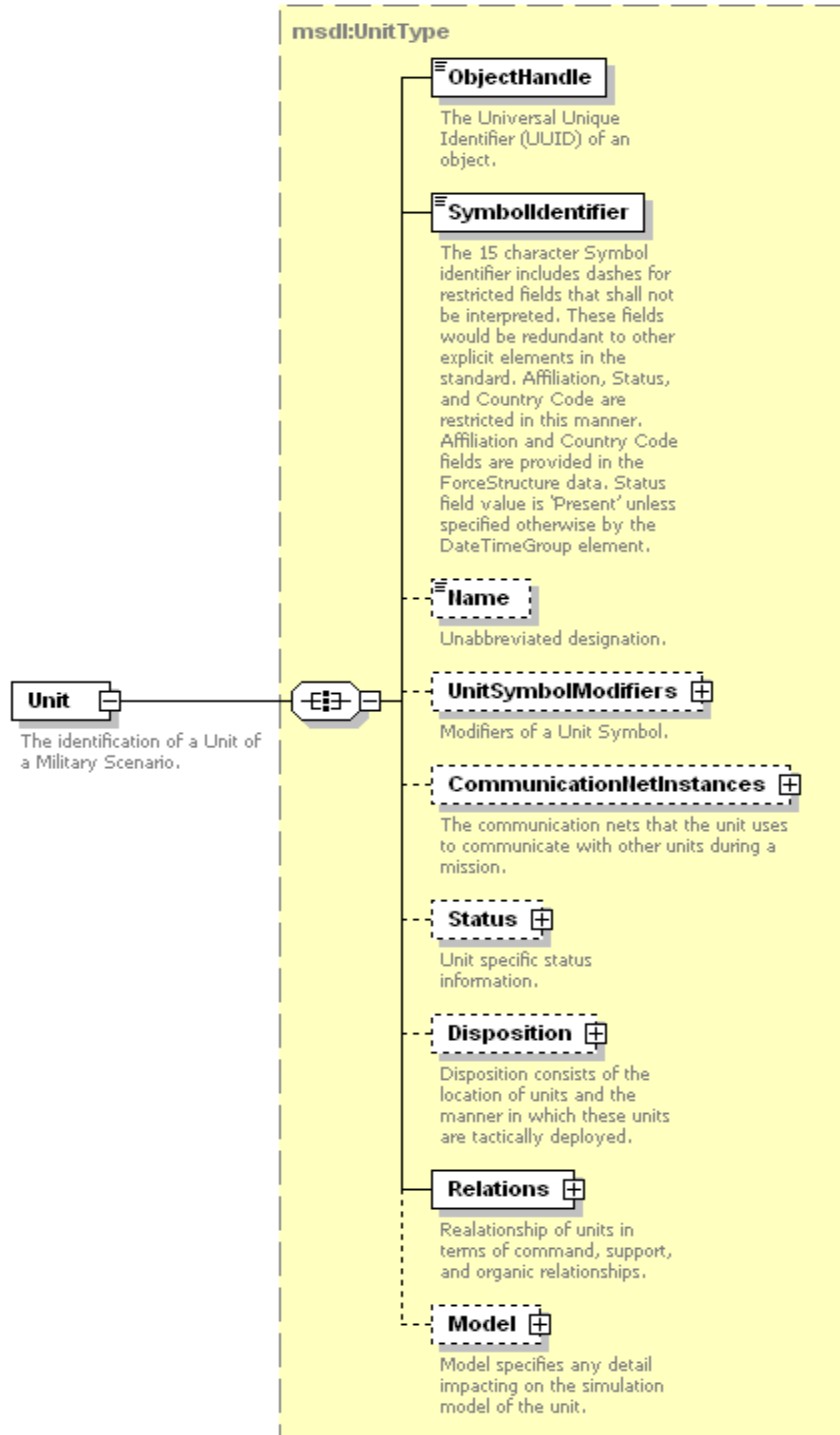


Figure 49: *msdl:UnitType/Unit* Element Structure

5.5.1.1.1. *msdl:UnitType/ObjectHandle* Element

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

5.5.1.1.2. **msdl:UnitType/SymbolIdentifier Element**

For every **msdl:UnitType** complex type there shall be one **SymbolIdentifier** element. The **SymbolIdentifier** element specifies the 15 character symbol identifier as specified by the Symbol Identification Coding scheme from the symbology set specified by the **SymbologyDataStandard** of the **Options**. The 15 character **SymbolIdentifier** includes dashes for restricted fields that shall not be interpreted. 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 fields are provided in the ForceSide structure data. Status field value is 'Present' unless specified otherwise by the **DateTimeGroup** element. The Coding Scheme shall be 'S' for unit symbol identification. The domain type is a **msdl:patternForceSymbolID15**.

5.5.1.1.3. **msdl:UnitType/Name Element**

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

5.5.1.1.4. **msdl:UnitType/UnitSymbolModifiers Element**

For every **msdl:UnitType** complex type there shall be zero or one **UnitSymbolModifiers** element. The **UnitSymbolModifiers** element specifies the modifiers of unit symbol. It is an xs:all compositor comprised of the elements shown in Figure 50 and described in the following subsections. The domain type is **msdl:UnitSymbolModifiersType**.

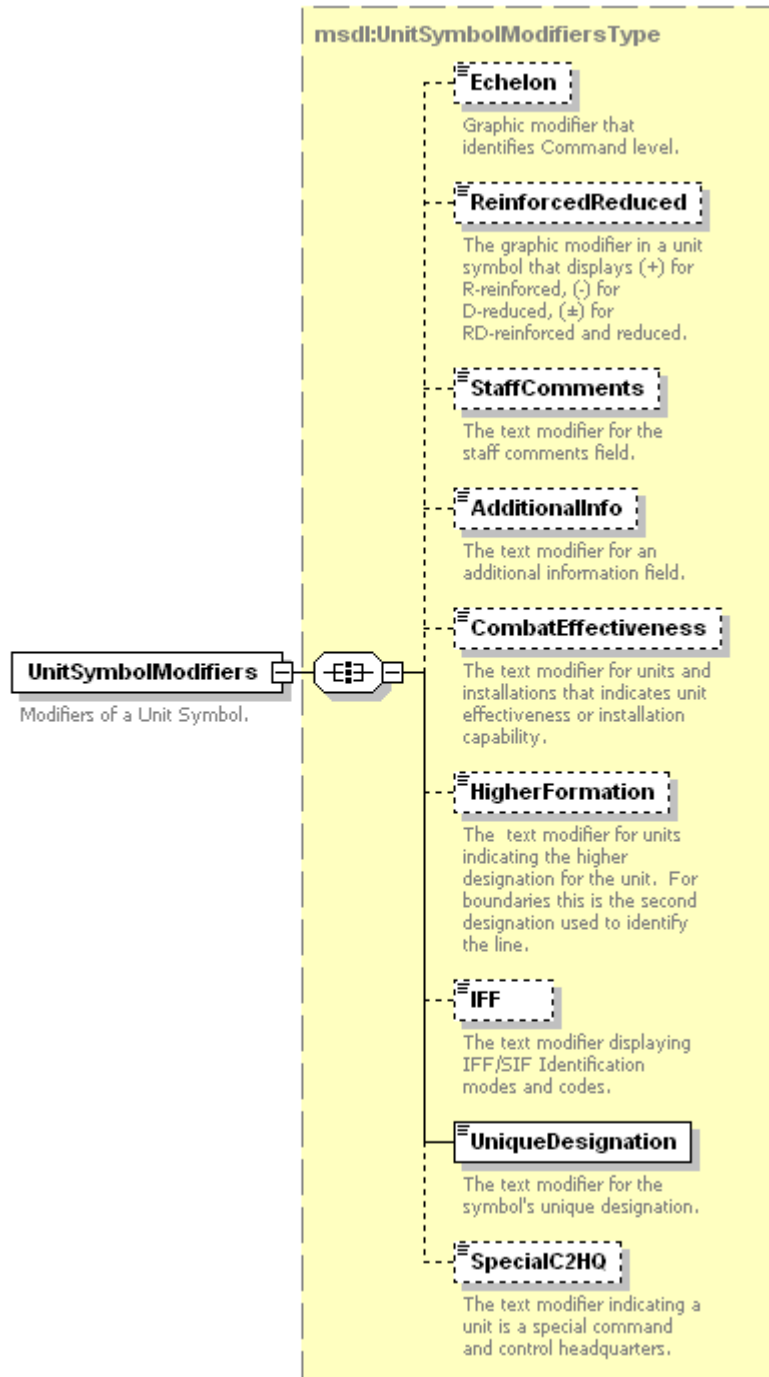


Figure 50: *msdl:Unit/Type/UnitSymbolModifiers* Element Structure

1. ***msdl:UnitSymbolModifiersType/Echelon*** Element - For every ***msdl:UnitSymbolModifiersType*** complex type there shall be zero or one ***Echelon*** elements. The ***Echelon*** element specifies the graphic modifier that identifies the command level. The domain type is ***msdl:enumEchelon***.
2. ***msdl:UnitSymbolModifiersType/ReinforcedReduced*** Element - For every ***msdl:UnitSymbolModifiersType*** complex type there shall be zero or one ReinforcedReduced element. This element specifies, through an enumeration, whether a unit has been reinforced with assets from another organization, reduced by giving assets to another organization, or has received

assets from another organization and has given some assets to another organization. The domain type is **msdl:enumReinforcedReducedType**.

3. **msdl:UnitSymbolModifiersType/StaffComments** Element - For every **msdl:UnitSymbolModifiersType** complex type there shall be zero or one **StaffComments** element. The **StaffComments** element specifies the text modifier for staff comments field. The domain type is **msdl:text20**.
4. **msdl:UnitSymbolModifiersType/AdditionalInfo** Element - For every **msdl:UnitSymbolModifiersType** complex type there shall be zero or one **AdditionalInfo** element. The **AdditionalInfo** element specifies the text modifier for an additional information field. The domain type is **msdl:text20**.
5. **msdl:UnitSymbolModifiersType/CombatEffectiveness** Element - For every **msdl:UnitSymbolModifiersType** complex type there shall be zero or one **CombatEffectiveness** elements. The **CombatEffectiveness** element specifies the modifier that indicates the ability of a unit to perform its mission. Factors such as ammunition, personnel, status of fuel, and weapon systems may be included in the assessment. The domain type is **msdl:enumCombatEffectivenessType**.
6. **msdl:UnitSymbolModifiersType/HigherFormation** Element - For every **msdl:UnitSymbolModifiersType** complex type there shall be zero or one **HigherFormation** element. The **HigherFormation** element specifies the text modifier that indicates the designation of the unit's superior when the designation is different that the one specified by the **Relations** element. The domain type is **msdl:text21**.
7. **msdl:UnitSymbolModifiersType/IFF** Element - For every **msdl:UnitSymbolModifiersType** complex type there shall be zero or one **IFF** element. The **IFF** element specifies the text modifier displaying IFF/SIF identification modes and codes. The domain type is **msdl:textIFF5**.
8. **msdl:UnitSymbolModifiersType/UniqueDesignation** Element - For every **msdl:UnitSymbolModifiersType** complex type there shall be one **UniqueDesignation** element. The **UniqueDesignation** element specifies the text modifier for the symbol's unique designation. The domain type is **msdl:text21**.
9. **msdl:UnitSymbolModifiersType/SpecialC2HQ** Element - For every **msdl:UnitSymbolModifiersType** complex type there shall be zero or one **SpecialC2HQ** element. The **SpecialC2HQ** element specifies the text modifier for units indicating that a unit is a special command and control headquarters. The domain type is **msdl:textSpecialC2HQ9**.

5.5.1.1.5. **msdl:UnitType/CommunicationNetInstances** Element

For every **msdl:UnitType** complex type there shall be zero or one **CommunicationNetInstances** element. The **CommunicationNetInstances** element specifies the communication nets that the unit defines for communication with other units during a mission. It is an xs:sequence compositor comprised of the elements shown in Figure 51 and described in the following subsections. The domain type is **msdl:CommunicationNetInstancesType**.

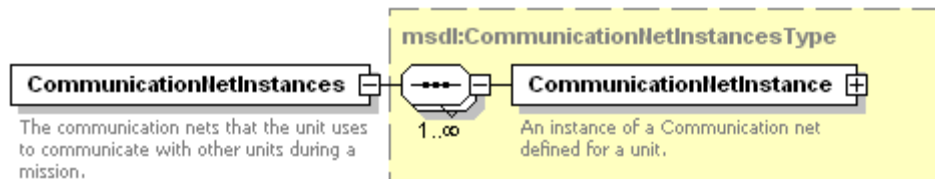


Figure 51: *msdl:UnitType/CommunicationsNetInstances* Element Structure

1. **msdl:CommunicationNetInstancesType/CommunicationNetInstance** Element - For every **msdl:CommunicationNetInstancesType** element there shall be one or more **CommunicationNetInstance** elements. The **CommunicationNetInstance** element specifies an instance of a communication net defined for a unit. It is an xs:all compositor comprised of the elements shown in Figure 52 and described in the following subsections. The domain type is **msdl:CommunicationNetInstanceType**.

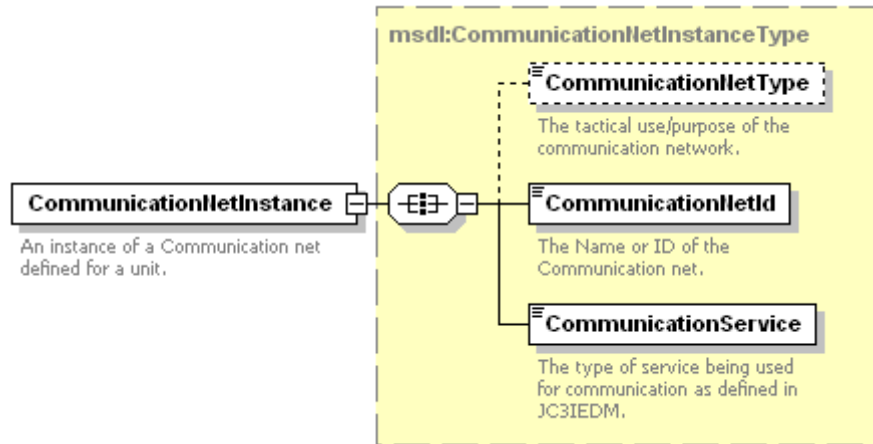


Figure 52: *msdl:CommunicationNetInstanceType/CommunicationNetInstance* Element Structure

- a) *msdl:CommunicationNetInstanceType/CommunicationNetType* Element - For every *msdl:CommunicationNetInstanceType* complex type there shall be zero or one **CommunicationNetType** element. The **CommunicationNetType** element specifies the tactical use or purpose of the communication network. The domain type is *msdl:enumCommunicationNetType*.
- b) *msdl:CommunicationNetInstanceType/CommunicationNetId* Element - For every *msdl:CommunicationNetInstanceType* complex type there shall be one **CommunicationNetId** element. The **CommunicationNetId** element specifies the name or ID of the communication network. The domain type is *msdl:textIdentifier64*.
- c) *msdl:CommunicationNetInstanceType/CommunicationService* Element - For every *msdl:CommunicationNetInstanceType* complex type there shall be one **CommunicationService** element. The **CommunicationService** element specifies the type of service being used for communication. The domain type is a *msdl:enumCommunicationServiceType*.

5.5.1.1.6. *msdl:UnitType/Status* Element

For every *msdl:UnitType* complex type there shall be zero or one **Status** element. The **Status** element specifies unit specific status information. It is an xs:all compositor comprised of the elements shown in Figure 53 and described in the following subsections. The domain type is *msdl:StatusType*.

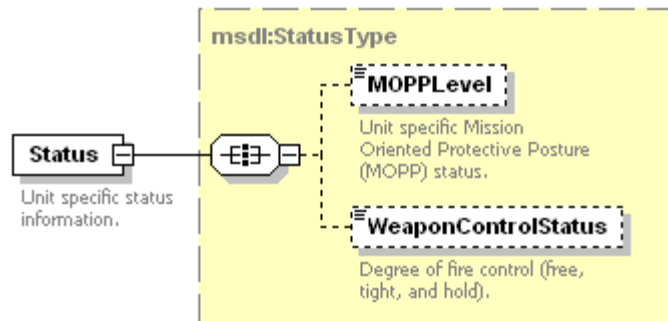


Figure 53: *msdl:UnitType/Status* Element Structure

1. *msdl:StatusType/MOPPLLevel* Element - For every *msdl:StatusType* complex type there shall be zero or one **MOPPLLevel** elements. The **MOPPLLevel** element specifies the status of the Mission-Oriented Protective Posture (MOPP). The domain type is *msdl:enumMOPPLLevelType*.
2. *msdl:StatusType/WeaponControlStatus* Element - For every *msdl:StatusType* complex type there shall be zero or one **WeaponControlStatus** element. The **WeaponControlStatus** element specifies

the degree of fire control, values include free, tight, and hold. The domain type is **msdl:enumWeaponControlStatusType**.

5.5.1.1.7. msdl:UnitType/Disposition Element

For every **msdl:UnitType** complex type there shall be zero or one **Disposition** element. The **Disposition** element specifies the location of units and the manner in which these units are tactically deployed. It is an xs:all compositor comprised of the elements shown in Figure 54 and described in the following subsections. The domain type is **msdl:UnitDispositionType**.

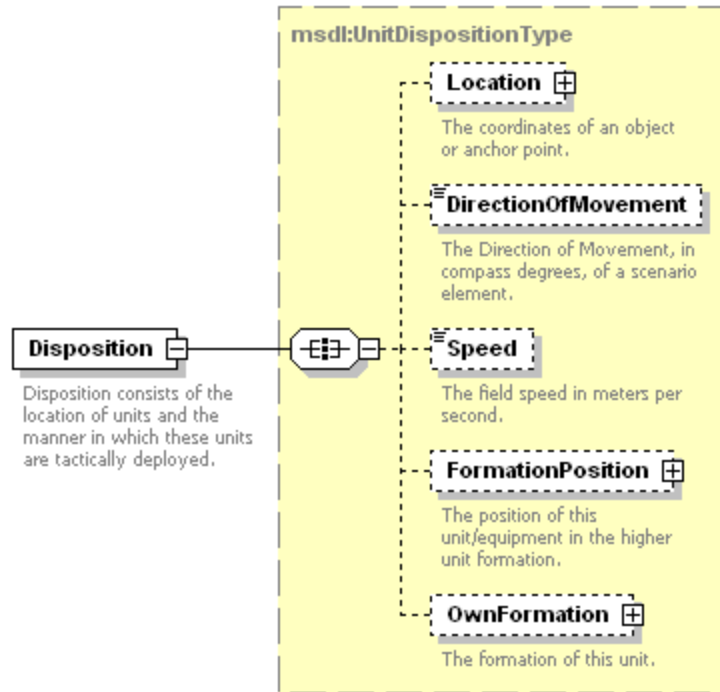


Figure 54: **msdl:UnitType/Disposition** Element Structure

1. **msdl:UnitDispositionType/Location** Element - For every **msdl:UnitDispositionType** complex type there shall be zero or one **Location** element. The **Location** element specifies the coordinates of the unit. This shall either be the position of the lead element or the center of mass of the unit as specified in the **msdl:OwnFormationType/FormationLocationType**. It shall be center of mass when the **msdl:OwnFormationType/FormationLocationType** element is not specified. The domain type is **msdl:CoordinatesType** as defined within section 6.3.2.2 for **msdl:RectangleAreaType/UpperRight**.
2. **msdl:UnitDispositionType/DirectionOfMovement** Element - For every **msdl:UnitDispositionType** complex type there shall be zero or one **DirectionOfMovement** element. The **DirectionOfMovement** element specifies the horizontal direction of movement in compass degrees, measured relative to magnetic north 0 to 360 degrees clockwise, of the formation as a whole. For reference trigonometric degrees = (90 – compass degrees). The domain type is **msdl:floatCompassDegrees3_3**.
3. **msdl:UnitDispositionType/Speed** Element - For every **msdl:UnitDispositionType** complex type there shall be zero or one **Speed** element. The **Speed** element specifies the rate of movement of the unit in the direction specified by the **DirectionOfMovement** element. The domain type is **msdl:floatSpeed6_2**.
4. **msdl:UnitDispositionType/FormationPosition** Element - For every **msdl:UnitDispositionType** complex type there shall be zero or one **FormationPosition** element. The **FormationPosition** element specifies the position of the specific unit with relation to the other units within the formation. It is an xs:all compositor comprised of the elements shown in Figure 55 and described in the following subsections. The domain type is **msdl:FormationPositionType**.

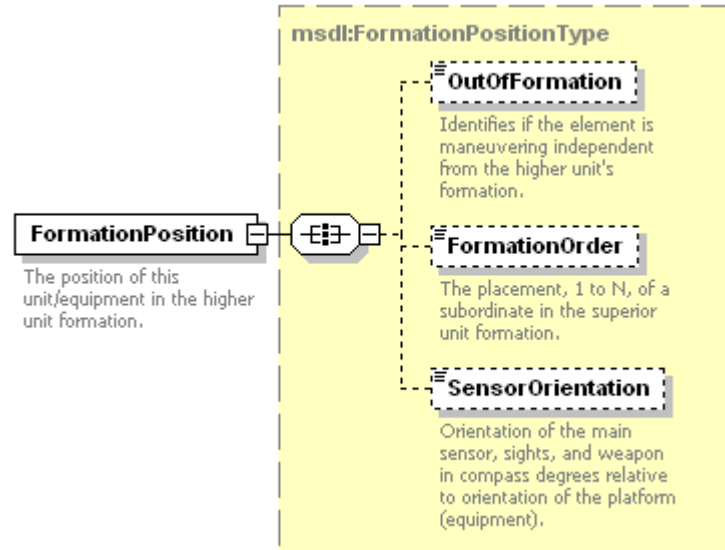


Figure 55: *msdl:FormationPositionType/FormationPosition* Element Structure

- i) ***msdl:FormationPositionType/OutOfFormation*** Element - For every ***msdl:FormationPosition*** complex type there shall be zero or one ***OutOfFormation*** element. The ***OutOfFormation*** element specifies if the element is maneuvering independent of the higher unit's formation. The domain type is ***msdl:boolean***.
 - ii) ***msdl:FormationPositionType/FormationOrder*** Element - For every ***msdl:FormationPosition*** complex type there shall be zero or one ***FormationOrder*** element. The ***FormationOrder*** element specifies the placement, 1 to N, of a subordinate in the superior unit's formation. The domain type is ***msdl:integerSequence6***.
 - iii) ***msdl:FormationPositionType/SensorOrientation*** Element - For every ***msdl:FormationPosition*** complex type there shall be zero or one ***SensorOrientation*** element. The ***SensorOrientation*** element specifies the main sensor, sight, and weapon of the unit's equipment. If a ***SensorOrientation*** is defined for both the unit and equipment, the equipment's ***SensorOrientation*** shall be used. SensorOrientation is given in compass degrees and is relative to the orientation of the platform. The domain type is ***msdl:floatCompassDegrees3_3***.
5. ***msdl:UnitDispositionType/OwnFormation*** - For every ***msdl:UnitDispositionType*** complex type there shall be zero or one ***OwnFormation*** element. The ***OwnFormation*** element specifies the formation of the unit. It is an xs:all compositor comprised of the elements shown in Figure 56 and described in the following subsections. The domain type is ***msdl:OwnFormationType***.

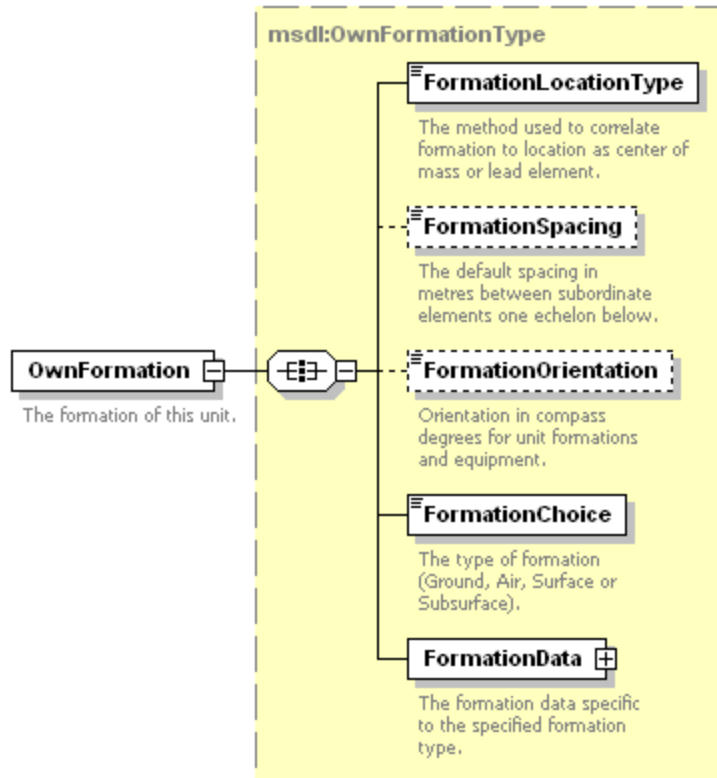


Figure 56: *msdl:OwnFormationType/OwnFormation* Element Structure

- i) ***msdl:OwnFormationType/FormationLocationType*** Element - For every ***msdl:OwnFormationType*** complex type there shall be one ***FormationLocationType*** element. The ***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:OwnFormationType/FormationSpacing*** Element - For every ***msdl:OwnFormationType*** complex type there shall be zero or one ***FormationSpacing*** element. The ***FormationSpacing*** element specifies the default spacing in meters between subordinate elements. The domain type is ***msdl:floatSpacing4_3***.
- iii) ***msdl:OwnFormationType/FormationOrientation*** Element - For every ***msdl:OwnFormationType*** complex type there shall be zero or one ***FormationOrientation*** element. The ***FormationOrientation*** element specifies the orientation in compass degrees, measured relative to magnetic north 0 to 360 degrees clockwise, of the formation as a whole. For reference trigonometric degrees = (90 – compass degrees). The domain type is a restricted ***msdl:floatCompassDegrees3_3***.
- iv) ***msdl:OwnFormationType/FormationChoice*** Element - For every ***msdl:OwnFormationType*** complex type there shall be zero or one ***FormationChoice*** element. The ***FormationChoice*** element specifies the relative location from which subordinate elements are placed in the formation. The domain type is ***msdl:enumFormationType***.
- v) ***msdl:OwnFormationType/FormationData*** Element - For every ***msdl:OwnFormationType*** complex type there shall be one ***FormationData*** element. The ***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 57 and described in the following subsections. The domain type is ***msdl:FormationDataType***.

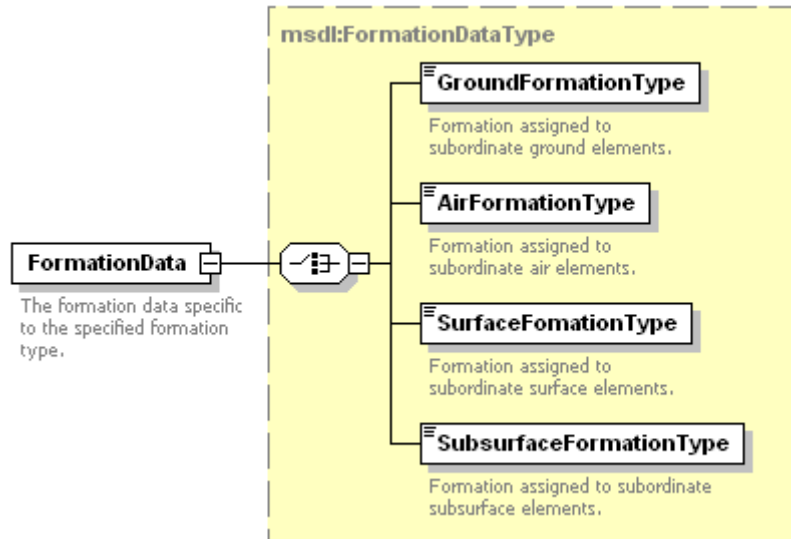
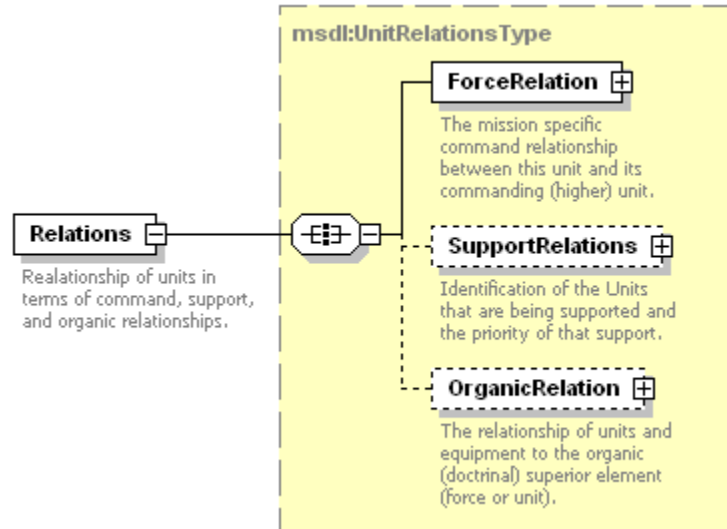


Figure 57: *msdl:OwnFormationType/FormationData* Element Structure

- (1) *msdl:FormationDataType/GroundFormationType* Element - For every *msdl:FormationDataType* complex type there shall be zero or one **GroundFormationType** element. The **GroundFormationType** element specifies the ground formation type used to place subordinate elements. The domain type is *msdl:enumGroundFormationType*.
- (2) *msdl:FormationDataType/AirFormationType* Element - For every *msdl:FormationDataType* complex type there shall be zero or one **AirFormationType** element. The **AirFormationType** element specifies the air formation type used to place subordinate elements. The domain type is *msdl:enumAirFormationType*.
- (3) *msdl:FormationDataType/SurfaceFormationType* Element - For every *msdl:FormationDataType* complex type there shall be zero or one **SurfaceFormationType** element. The **SurfaceFormationType** element specifies the surface formation type used to place subordinate elements. The domain type is *msdl:enumSurfaceFormationType*.
- (4) *msdl:FormationDataType/SubsurfaceFormationType* Element - For every *msdl:FormationDataType* complex type there shall be zero or one **SubsurfaceFormationType** element. The **SubsurfaceFormationType** element specifies the subsurface formation type used to place subordinate elements. The domain type is *msdl:enumSubsurfaceFormationType*.

5.5.1.1.8. *msdl:UnitType/Relations* Element

For every *msdl:UnitType* complex type 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 58 and described in the following subsections. The domain type is *msdl:UnitRelationsType*.



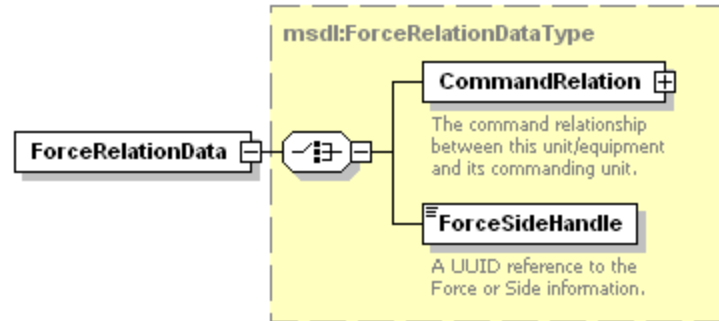


Figure 60: *msdl:ForceRelationType/ForceRelationData* Element Structure

- i) ***msdl:ForceRelationDataType/CommandRelation*** Element - For every ***msdl:ForceRelationDataType*** complex type there shall be one ***CommandRelation*** element. The ***CommandRelation*** element specifies the structure for holding a reference to the superior unit and the type of command relationship between this unit and its superior. It is an xs:all compositor comprised of the elements shown in Figure 61 and described in the following subsections. The domain type is ***msdl:CommandRelationType***.

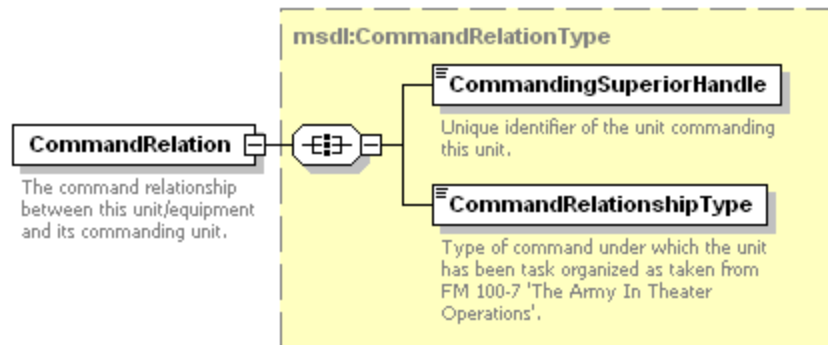


Figure 61: *msdl:ForceRelationDataType/CommandRelation* Element Structure

- (1) ***msdl:CommandRelationType/CommandingSuperiorHandle*** Element- For every ***msdl:CommandRelationType*** complex type there shall be one ***CommandingSuperiorHandle*** element. The ***CommandingSuperiorHandle*** element specifies a unique identifier of the commanding ***Unit***. The domain type is ***msdl:patternUUIDRef32***.
 - (2) ***msdl:CommandRelationType/CommandRelationshipType*** Element- For every ***msdl:CommandRelationType*** complex type there shall be one ***CommandRelationshipType*** element. The ***CommandRelationshipType*** element specifies the type of command under which the unit has been task organized as described in FM 100-7. The domain type is ***msdl:enumCommandRelationshipType***.
 - ii) ***msdl:ForceRelationDataType/ForceSideHandle*** Element - For every ***msdl:ForceRelationDataType*** complex type there shall be zero or one ***ForceSideHandle*** element. The ***ForceSideHandle*** element specifies a UUID reference to the ***ForceSide*** for the ***Unit***. The domain type is ***msdl:patternUUIDRef32***.
2. ***msdl:UnitRelationsType/SupportRelations*** Element - For every ***msdl:UnitRelationsType*** complex type there shall be zero or one ***SupportRelations*** element. The ***SupportRelations*** element specifies the identification of the units that are being supported and the priority of the support. It is an xs:sequence compositor comprised of the elements shown in Figure 62 and described in the following subsections. The domain type is ***msdl:SupportRelationsType***.

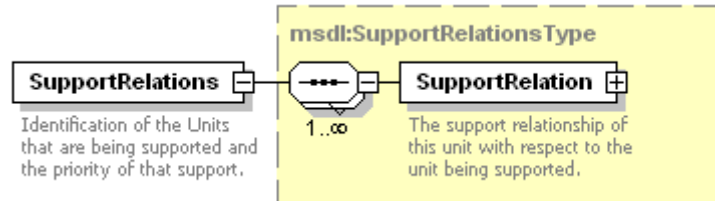


Figure 62: *msdl:UnitRelationsType/SupportRelations* Element Structure

- a) *msdl:/SupportRelationsType/SupportRelation* Element - For every *msdl:SupportRelationsTypes* complex type there shall be one or more **SupportRelation** elements. The **SupportRelation** element specifies the support relationship of this unit with respect to the unit being supported. It is an xs:all compositor comprised of the elements shown in Figure 63 and described in the following subsections. The domain type is *msdl:SupportRelationType*.

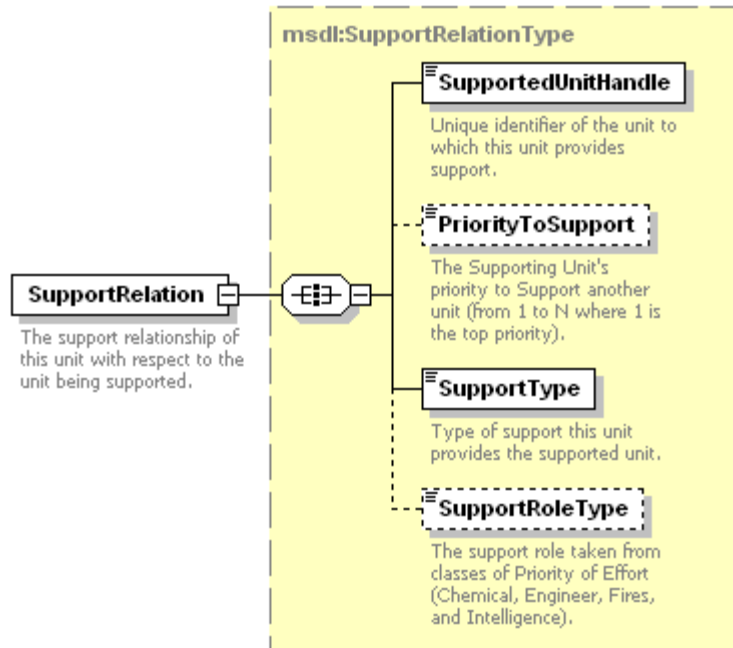


Figure 63: *msdl:SupportRelationTypes/SupportRelation* Element Structure

- i) *msdl:SupportRelationType/SupportedUnitHandle* Element - For every *msdl:SupportRelationType* complex type there shall be one **SupportedUnitHandle** element. The **SupportedUnitHandle** element specifies the unique identifier of the unit to which this unit provides support. The domain type is *msdl:patternUUIDREF32*.
- ii) *msdl:SupportRelationType/PriorityToSupport* Element - For every *msdl:SupportRelationType* complex type there shall be zero or one **PriorityToSupport** element. The **PriorityToSupport** element specifies the supporting unit's priority to support another unit from 1 to N where 1 is the top priority. The domain type is a *msdl:integerPriorityToSupport1*.
- iii) *msdl:SupportRelationType/SupportType* Element - For every *msdl:SupportRelationType* complex type there shall be one **SupportType** element. The **SupportType** element specifies the type of support this unit provides the supported unit. The domain type is a *msdl:enumSupportRelationType*.
- iv) *msdl:SupportRelationType/SupportRoleType* Element - For every *msdl:SupportRelationType* complex type there shall be zero or one **SupportRoleType** element. The **SupportRoleType** element specifies the support role taken from categories

defining priority of effort including: Chemical, Engineer, Fires, Intelligence, etc. The domain type is a **msdl:enumSupportRoleType**.

3. **msdl:UnitRelationsType/OrganicRelation** For every **msdl:UnitRelationsType** complex type there shall be zero or one **OrganicRelation** element. The **OrganicRelation** element specifies an association of the doctrine and other behavior detail that is followed independent of the mission specific organization. It is an xs:all compositor comprised the elements shown in Figure 64 and described in the following subsections. The domain type is **msdl:OrganicRelationType**.

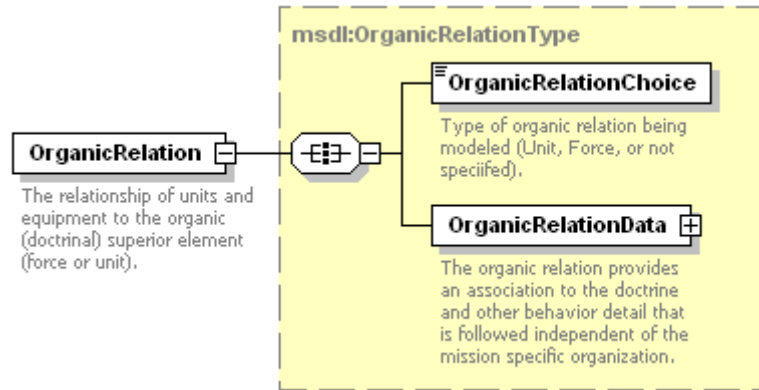


Figure 64: **msdl:UnitRelationType/OrganicRelation** Element Structure

- a) **msdl:OrganicRelationType/OrganicRelationChoice** Element - For every **msdl:OrganicRelationType** complex type there shall be one **OrganicRelationChoice** element. The **OrganicRelationChoice** element specifies the type of organic relationship to the unit's force or side. The domain type is **msdl:enumForceOwnerType**.
- b) **msdl:OrganicRelationType/OrganicRelationData** Element - For every **msdl:OrganicRelationType** complex type there shall one **OrganicRelationData** element. The **OrganicRelationData** element specifies the structure to hold a reference to the unit that is the unit's organic superior and to the unit's organic force or side. It is an xs:choice compositor comprised of one and only one of the elements shown in Figure 65 and described in the following subsections. The domain type is **msdl:OrganicRelationDataType**.

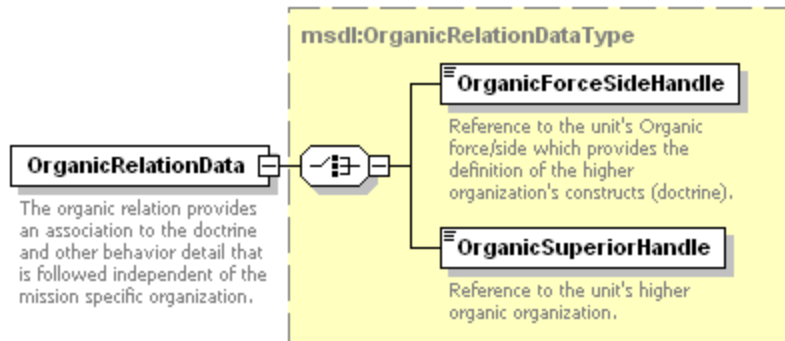


Figure 65: **msdl:OrganicRelationType/OrganicRelationData** Element Structure

- i) **msdl:OrganicRelationDataType/OrganicForceSideHandle** Element - For every **msdl:OrganicRelationDataType** complex type there shall be zero or one **OrganicForceSideHandle** element. The **OrganicForceSideHandle** element specifies a reference to the unit's organic **ForceSide** which provides the definition of the higher organization's doctrine. The domain type is **msdl:patternUUIDRef32**.
- ii) **msdl:OrganicRelationDataType/OrganicSuperiorHandle** Element - For every **msdl:OrganicRelationDataType** complex type there shall be zero or one **OrganicSuperiorHandle** element. The **OrganicSuperiorHandle** element specifies a

reference to the unit that is the unit's higher organic organization. The domain type is *msdl:patternUUIDRef32*.

5.5.1.1.9. *msdl:UnitType/Model* Element

For every *msdl:UnitType* complex type there shall be one **Model** element. The **Model** element specifies the resolution and aggregation information impacting import of the military scenario. It is an xs:all compositor comprised of the elements shown in Figure 66 and described in the following subsections. The domain type is *msdl:UnitModelType*.

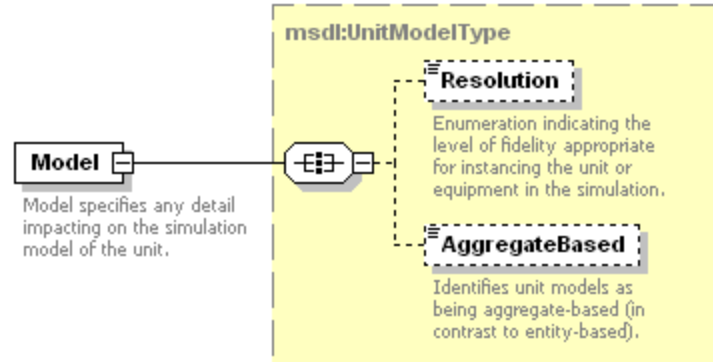


Figure 66: *msdl:UnitType/Model* Element Structure

1. *msdl:UnitModelType/Resolution* Element - For every *msdl:UnitModelType* complex type there shall be zero or one **Resolution** element. The **Resolution** element specifies an enumeration indicating the level of fidelity appropriate for instantiating the unit or equipment in the simulation. The domain type is *msdl:enumModelResolutionType*.
2. *msdl:UnitModelType/AggregateBased* Element - For every *msdl:UnitModelType* complex type there shall be zero or one **AggregateBased** element. The **AggregateBased** element specifies a flag indicating that a unit's underlying task organization is explicitly represented using the **Unit** and **Equipment** constructs as appropriate. The domain type is *msdl:boolean*.

5.5.2. *msdl:OrganizationsType/Equipment* Element

For every *msdl:OrganizationsType* complex type there shall be zero or one **Equipment** element. The **Equipment** element, an xs:sequence compositor, specifies all of the equipment elements used within the military scenario and is shown in Figure 67. The domain type is *msdl:EquipmentType*.

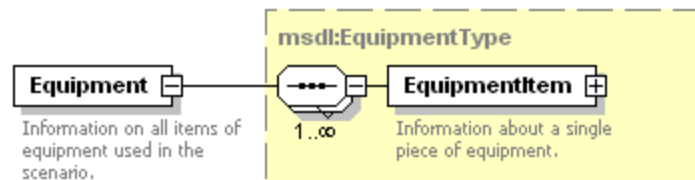


Figure 67: *msdl:OrganizationsType/Equipment* Element Structure

5.5.2.1. *msdl:EquipmentType/EquipmentItem* Element

For every *msdl:EquipmentType* complex type there shall be one or more **EquipmentItem** elements. The **EquipmentItem** element specifies a individual entity such as a vehicle, aircraft, or person within the military scenario document. It is an xs:all compositor comprised of the elements shown in Figure 68 and described in the following subsections. The domain type is *msdl:EquipmentItemType*.

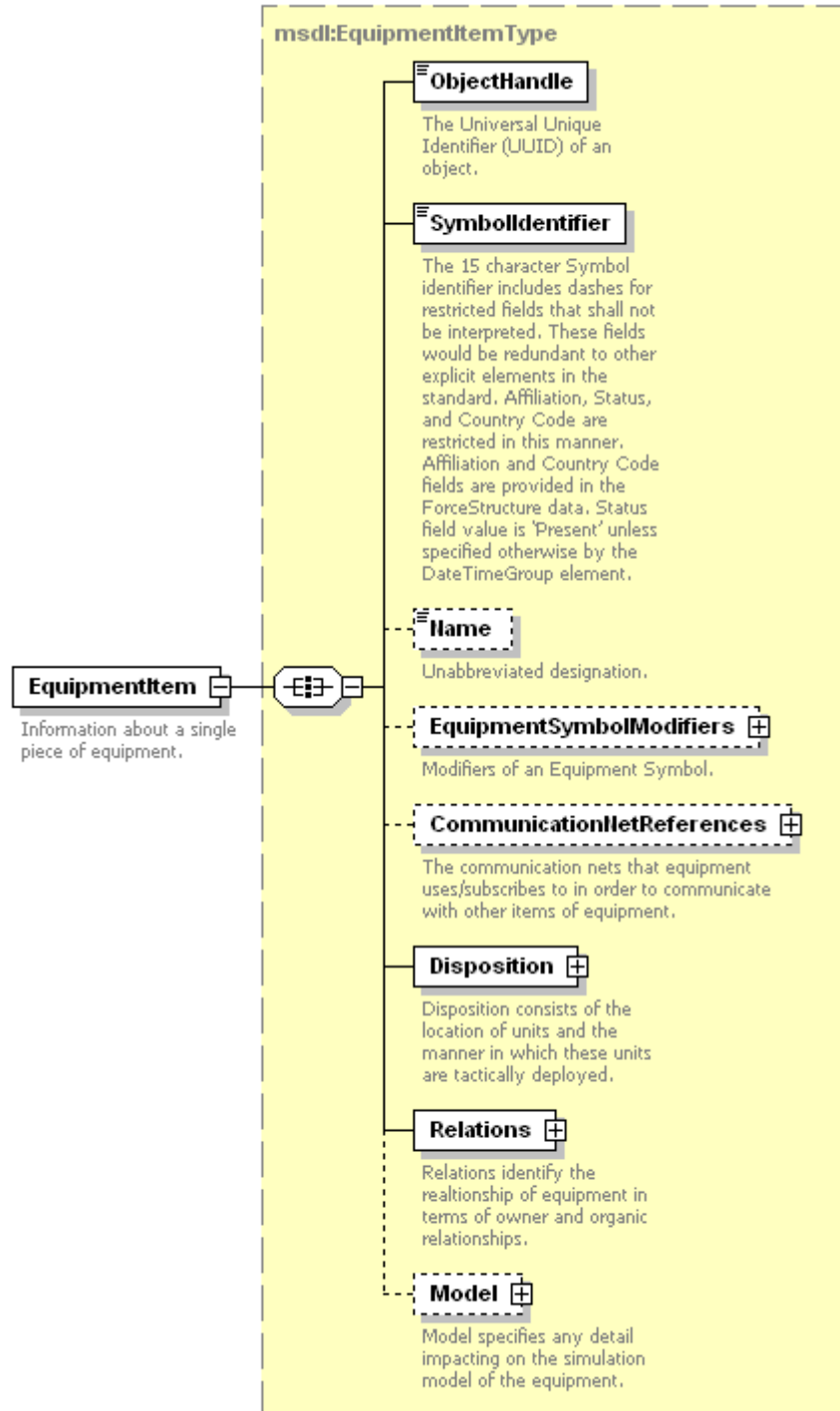


Figure 68: *msdl:EquipmentType/EquipmentItem* Element Structure

5.5.2.1.1. *msdl:EquipmentItemType/ObjectHandle* Element

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

5.5.2.1.2. **msdl:EquipmentItemType/SymbolIdentifier Element**

For every **msdl:EquipmentItemType** complex type there shall be one **SymbolIdentifier** element. The **SymbolIdentifier** element specifies the 15 character symbol identifier as specified by the Symbol Identification Coding scheme within Mil Std 2525B. The 15 character **SymbolIdentifier** includes dashes for restricted fields that shall not be interpreted. 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 fields are provided in the ForceSide structure data. Status field value is 'Present' unless specified otherwise by the **DateTimeGroup** element. The Coding Scheme shall be 'S' for equipment symbol identification. The domain type is a **msdl:patternForceSymbolID15**.

5.5.2.1.3. **msdl:EquipmentItemType/Name Element**

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

5.5.2.1.4. **msdl:EquipmentItemType/EquipmentSymbolModifiers Element**

For every **msdl:EquipmentItemType** complex type there shall be zero or one **EquipmentSymbolModifiers** element. The **EquipmentSymbolModifiers** element specifies the modifiers of an equipment symbol. It is an xs:all compositor comprised of the elements shown in Figure 69 and described in the following subsections. The domain type is **msdl:EquipmentSymbolModifiersType**.

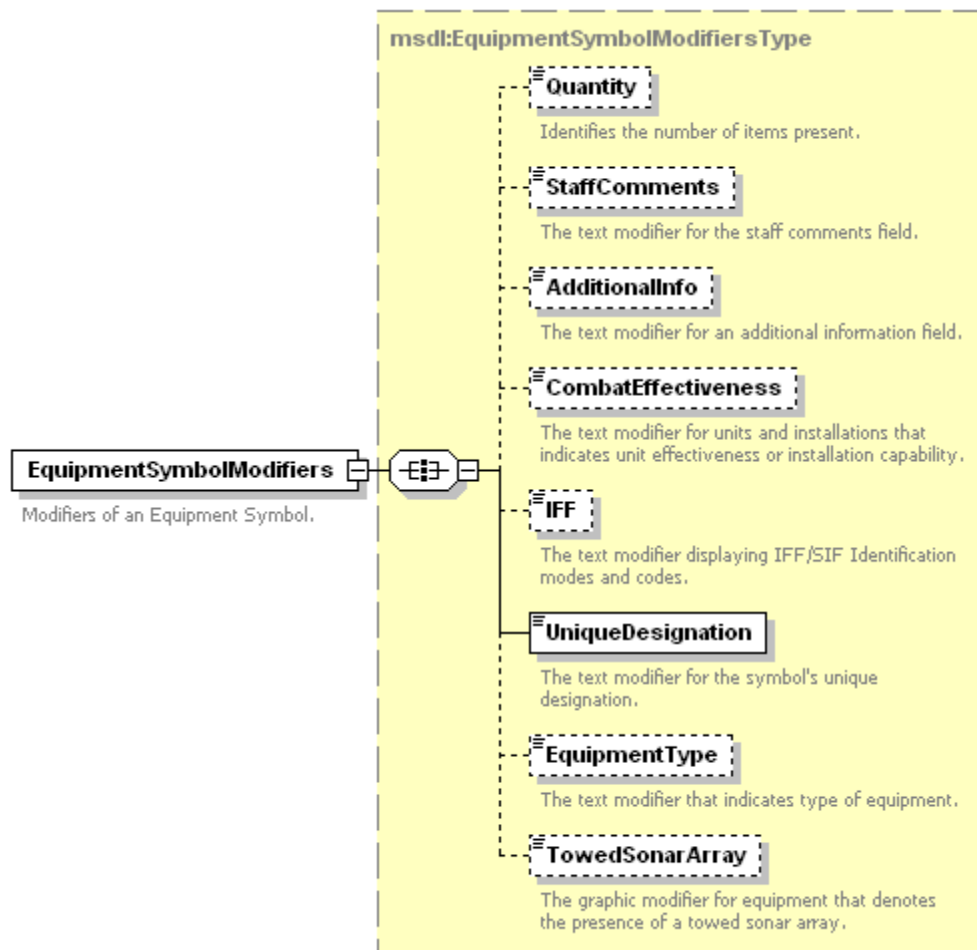


Figure 69: **msdl:EquipmentItemType/EquipmentSymbolModifiers** Element Structure

1. **msdl:EquipmentSymbolModifiersType/Quantity** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be zero or one **Quantity** elements. The **Quantity** element specifies the modifier that identifies the number of items present. The domain type is **msdl:integerQuantity9**.
2. **msdl:EquipmentSymbolModifiersType/StaffComments** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be zero or one **StaffComments** element. The **StaffComments** element specifies the text modifier for staff comments field. The domain type is **msdl:text20**.
3. **msdl:EquipmentSymbolModifiersType/AdditionalInfo** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be zero or one **AdditionalInfo** element. The **AdditionalInfo** element specifies the text modifier for an additional information field. The domain type is **msdl:text20**.
4. **msdl:EquipmentSymbolModifiersType/CombatEffectiveness** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be zero or one **CombatEffectiveness** element. The **CombatEffectiveness** element specifies the modifier that indicates the ability of the equipment to perform its mission. Factors such as ammunition, personnel, status of fuel, and weapon systems may be included in the assessment. The domain type is **msdl:enumCombatEffectivenessType**.
5. **msdl:EquipmentSymbolModifiersType/IFF** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be zero or one **IFF** element. The **IFF** element specifies the text modifier displaying IFF/SIF identification modes and codes. The domain type is **msdl:textIFF5**.
6. **msdl:EquipmentSymbolModifiersType/UniqueDesignation** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be one **UniqueDesignation** element. The **UniqueDesignation** element specifies the text modifier for the symbol's unique designation. The domain type is **msdl:text21**.
7. **msdl:EquipmentSymbolModifiersType/EquipmentType** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be zero or one **EquipmentType** element. The **EquipmentType** element specifies the modifier that identifies equipment type. The domain type is **msdl:textEquipmentType24**.
8. **msdl:EquipmentSymbolModifiersType/TowedSonarArray** Element - For every **msdl:EquipmentSymbolModifiersType** complex type there shall be zero or one **TowedSonarArray** element. The **TowedSonarArray** element specifies a boolean modifier that denotes the presence of a towed sonar array. The domain type is **msdl:boolean**.

5.5.2.1.5. **msdl:EquipmentItemType/CommunicationNetReferences** Element

For every **msdl:EquipmentItemType** complex type there shall be zero or one **CommunicationNetReferences** element. The **CommunicationNetReferences** element specifies the communication nets that the equipment uses or subscribes to in order to communicate with other equipment items. It is an xs:sequence compositor comprised of the elements shown in Figure 70 and described in the following subsections. The domain type is **msdl:CommunicationNetReferenceType**.

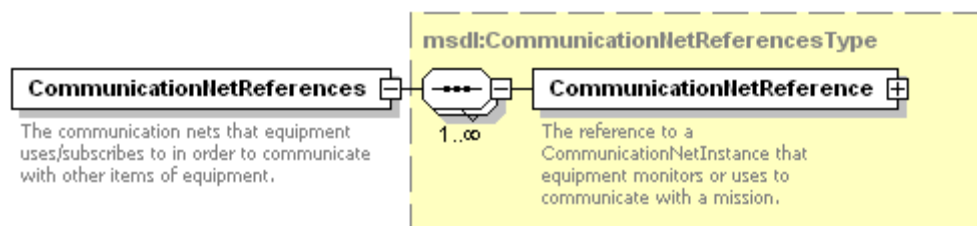


Figure 70: *msdl:EquipmentItemType/CommunicationNetReferences* Element Structure

1. **msdl:CommunicationNetReferencesType/CommunicationNetReference** Element - For every **msdl:CommunicationNetReferencesType** complex type there shall be one or more

msdl:CommunicationNetReference elements. The CommunicationNetReference element specifies a reference to a CommunicationNetInstance that the equipment monitors or uses to communicate mission information. It is an xs:sequence compositor comprised of the elements shown in Figure 71 and described in the following subsections. The domain type is msdl:CommunicationNetReferenceType.

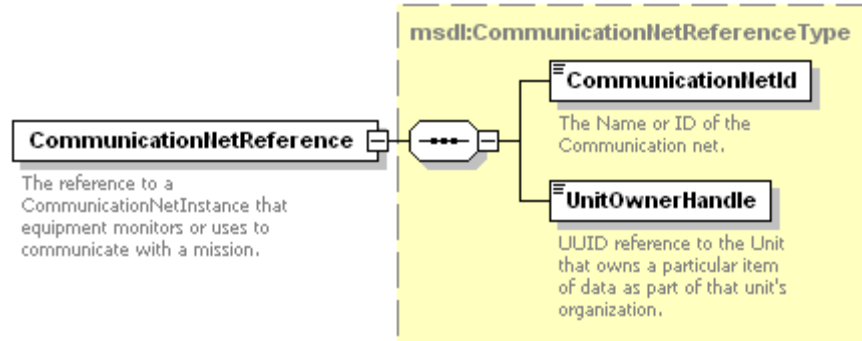


Figure 71: *msdl:CommunicationNetReferenceType/CommunicationNetReference* Element Structure

- msdl:CommunicationNetReferenceType/CommunicationNetId** Element - For every *msdl:CommunicationNetReferenceType* complex type there shall be one **CommunicationNetId** element. The **CommunicationNetId** element specifies the name or ID of the communication network. The domain type is *msdl:textIdentifier64*.
- UnitOwnerHandle** Element - For every *msdl:CommunicationNetReferenceType* complex type there shall be one **UnitOwnerHandle** element. The **UnitOwnerHandle** element specifies a UUID reference to the unit that owns a communication network. The domain type is *msdl:patternUUIDRef32*.

5.5.2.1.6. msdl:EquipmentItemType/Disposition Element

For every *msdl:EquipmentItemType* complex type there shall be one **Disposition** element. The **Disposition** element specifies the location of equipment items and the manner in which these equipment items are tactically deployed. It is an xs:all compositor comprised of the elements shown in Figure 72 and described in the following subsections. The domain type is *msdl:EquipmentDispositionType*.

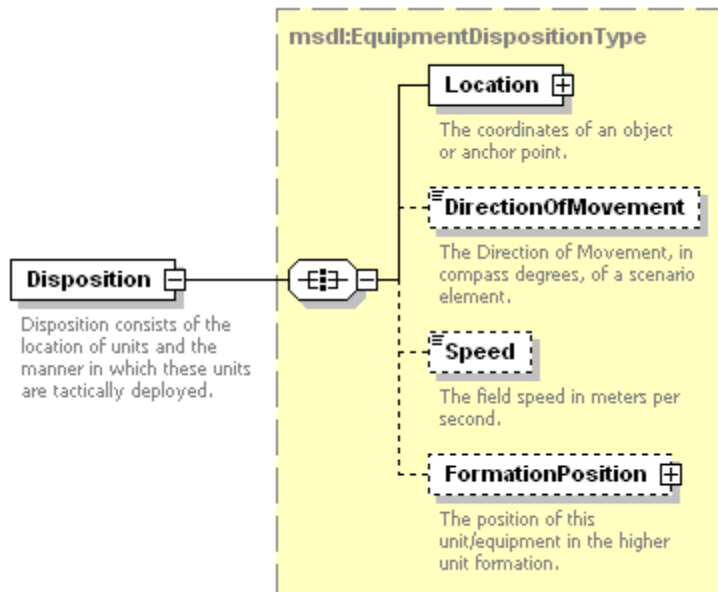


Figure 72: *msdl:EquipmentItemType/Disposition* Element Structure

1. **msdl:EquipmentDispositionType/Location** Element - For every **msdl:EquipmentDispositionType** complex type there shall be one **Location** element. The **Location** element specifies the coordinates of the equipment. The domain type is **msdl:CoordinatesType** as defined within section 6.3.2.2 for **msdl:RectangleAreaType/UpperRight**.
2. **msdl:EquipmentDispositionType/DirectionOfMovement** Element - For every **msdl:EquipmentDispositionType** complex type there shall be zero or one **DirectionOfMovement** element. The **DirectionOfMovement** element specifies the horizontal direction of movement in compass degrees, measured relative to magnetic north 0 to 360 degrees clockwise, of a military scenario element. For reference trigonometric degrees = (90 – compass degrees). The domain type is **msdl:floatCompassDegrees3_3**.
3. **msdl:EquipmentDispositionType/Speed** Element - For every **msdl:EquipmentDispositionType** complex type there shall be zero or one **Speed** element. The **Speed** element specifies the equipment's rate of movement in the direction as specified in the **DirectionOfMovement** element. The domain type is **msdl:floatSpeed6_2**.
4. **msdl:EquipmentDispositionType/FormationPosition** Element - For every **msdl:EquipmentDispositionType** complex type there shall be zero or one **FormationPosition** element. The **FormationPosition** element specifies the position of the specific **EquipmentItem** with relation to the other pieces of equipment within the formation. The Domain type is **msdl:FormationPositionType** as defined within section 6.5.1.1.7 for **msdl:UnitDispositionType/FormationPosition**.

5.5.2.1.7. msdl:EquipmentItem/Relations Element

For every **msdl:EquipmentItem** complex type there shall be one **Relations** element. The **Relations** element specifies the relationship of equipment items to units in terms of command, support, and organic relationships. It is an xs:all compositor comprised of the elements shown in Figure 73 and described in the following subsections. The domain type is **msdl:EquipmentRelationsType**.

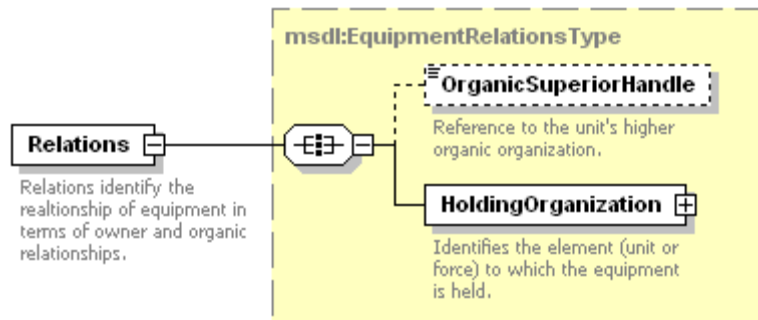


Figure 73: **msdl:EquipmentItem/Relations** Element Structure

1. **msdl:EquipmentRelationsType/OrganicSuperiorHandle** Element - For every **msdl:EquipmentRelationsType** complex type there shall be zero or one **OrganicSuperiorHandle** element. The **OrganicSuperiorHandle** element specifies a reference to the unit that is the equipment item's higher organic organization. The domain type is **msdl:patternUUIDRef32**.
2. **msdl:EquipmentRelationsType/HoldingOrganization** Element - For every **msdl:EquipmentRelationsType** complex type there shall be one **HoldingOrganization** element. The **HoldingOrganization** element specifies the unit that is the owner of the equipment item. The **HoldingOrganization** element, an xs:sequence compositor contains all the elements shown in Figure 74 and described in the subsequent subsections. The domain type is **msdl:OwnerType**.

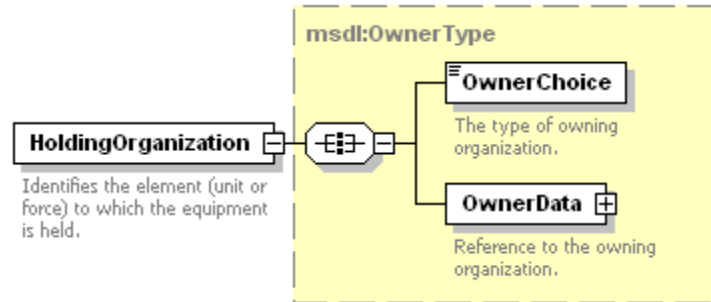


Figure 74: *msdl:EquipmentRelationsType/HoldingOrganization* Element Structure

- a) *msdl:OwnerType/OwnerChoice* Element - For every *msdl:OwnerType* complex type there shall be one **OwnerChoice** element. The **OwnerChoice** element specifies the type of owning organization. The domain type is *msdl:enumForceOwnerType*.
- b) *msdl:OwnerType/OwnerData* Element - For each *msdl:OwnerType* complex type there shall be one **OwnerData** element. The **OwnerData** element, an xs:choice compositor, specifies the reference to the owning organization and is made up of one and only one of the child elements as shown in Figure 75. The domain type is *msdl:OwnerDataType*.

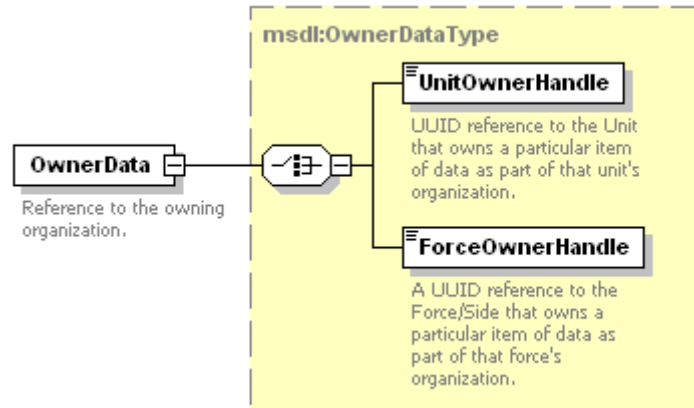


Figure 75: *msdl:OwnerType/OwnerData* Element Structure

- i) *msdl:OwnerDataType/UnitOwnerHandle* Element - For each *msdl:OwnerDataType* complex type there shall be zero or one **UnitOwnerHandle** element. The **UnitOwnerHandle** element specifies the UUID reference to the unit that owns a particular item of data as part of the unit's organization. The domain type is *msdl:patternUUIDRef32*.
- ii) *msdl:OwnerDataType/ForceOwnerHandle* Element - For each *msdl:OwnerDataType* complex type there shall be zero or one **ForceOwnerHandle** element. The **ForceOwnerHandle** element specifies the UUID reference to the Force/Side that owns a particular item of data as part of that forces organization. The domain type is *msdl:patternUUIDRef32*.

5.5.2.1.8. *msdl:EquipmentItemType/Model* Element

For every *msdl:EquipmentItemType* complex type there shall be zero or one **Model** element. The **Model** element specifies the information related to the appropriate representation of the equipment item in the military scenario. It is an xs:all compositor comprised of the elements shown in Figure 76 and described in the following subsections. The domain type is *msdl:EquipmentModelType*.

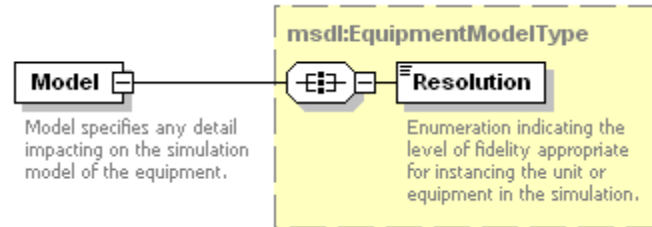


Figure 76: *msdl:EquipmentModelType/Model* Element Structure

1. ***msdl:EquipmentModelType/Resolution*** Element - For every ***msdl:EquipmentModelType*** complex type there shall be one ***Resolution*** element. The ***Resolution*** element specifies an enumeration indicating the level of fidelity appropriate for instantiating the unit or equipment in the simulation. The domain type is ***msdl:enumModelResolutionType***.

5.6. *msdl:MilitaryScenarioType/Overlays* Element

For every ***msdl:MilitaryScenarioType*** complex type there shall be zero or one ***Overlays*** element. The ***Overlays*** element is used to specify the overlays within the context of the military scenario. Ownership of a specific overlay is determined through the intelligence elements/instances it groups. The ***Overlays*** element is an *xs:sequence* compositor containing all the elements shown in Figure 77 and described in the subsequent subsections. The domain type is ***msdl:OverlaysType***.

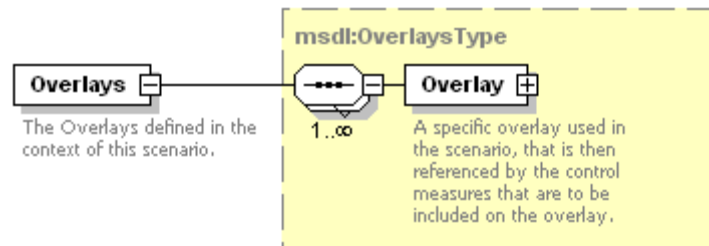


Figure 77: *msdl:MilitaryScenarioType/Overlays* Element Structure

5.6.1. *msdl:OverlaysType/Overlay* Element

For every ***msdl:OverlaysType*** complex type there shall be one or more ***Overlay*** element. Overlays are used to organize the intelligence information described by the control measures. It is expected that control measures owned by opposing forces, sides, or units will not appear in the same overlay. The ***Overlay*** element, an *xs:all* compositor, specifies an overlay used in the scenario that is then referenced by the control measures that are to be included on the overlay and is show in Figure 78. The domain type is ***msdl:OverlayType***.

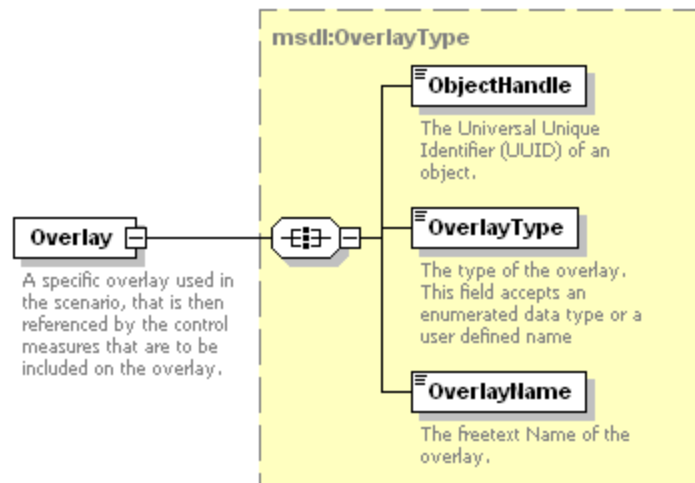


Figure 78: *msdl:OverlayType/Overlay* Element Structure5.6.1.1. *msdl:OverlayType/ObjectHandle* Element

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

5.6.1.2. *msdl:OverlayType/OverlayType* Element

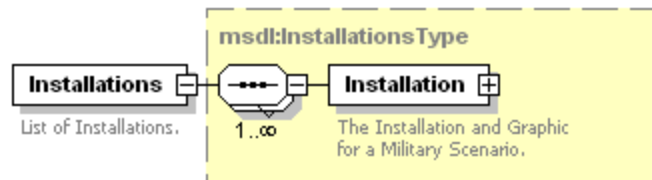
For every *msdl:OverlayType* complex type there shall be one *OverlayType* element. The *OverlayType* element specifies an enumerated type for the overlay. The domain type is a *msdl:enumOverlayType*.

5.6.1.3. *msdl:OverlayType/OverlayName* Element

For every *msdl:OverlayType* complex type there shall be one *OverlayName* element. The *OverlayName* element specifies the free text name of the overlay. The domain type is *msdl:textName255*.

5.7. *msdl:MilitaryScenarioType/Installations* Element

For every *msdl:MilitaryScenarioType* complex type there shall be zero or one *Installations* element. The *Installations* element is used to specify the mission/scenario specific installations within the military scenario document to include all military service, governmental, and nongovernmental organizations. The mapping of the battle dimension instances other than ground into the installation elements is application defined. The *Installations* element, an xs:sequence compositor, contains all the elements shown in Figure 79 and described in the subsequent subsections. The domain type is *msdl:InstallationsType*.

Figure 79: *msdl:MilitaryScenarioType/Installations* Element Structure5.7.1. *msdl:InstallationsType/Installation* Element

For every *msdl:InstallationsType* complex type there shall be one or more *Installation* elements. An *Installation* description is tactical information that is part of the Common Operational Picture (COP) of the force, side, or unit specified in the *Owner* element. Its level of threat as determined through intelligence gathering is specified in the *Affiliation* and *FrameShapeModifier* elements. The quality of the gathered intelligence used to create this tactical information is specified in the *EvaluationRating* element. The time when the information was gathered is specified in the *DateTimeGroup* element. This tactical information is organized within the COP through the overlays specified in the *AssociatedOverlays* element. Each COP (one or more per opposing side) may have its own *Installation* description for the same actual *Installation*. The *Installation* element, an xs:all compositor, specifies the installations within the military scenario document and is shown in Figure 80. The domain type is *msdl:InstallationType*.

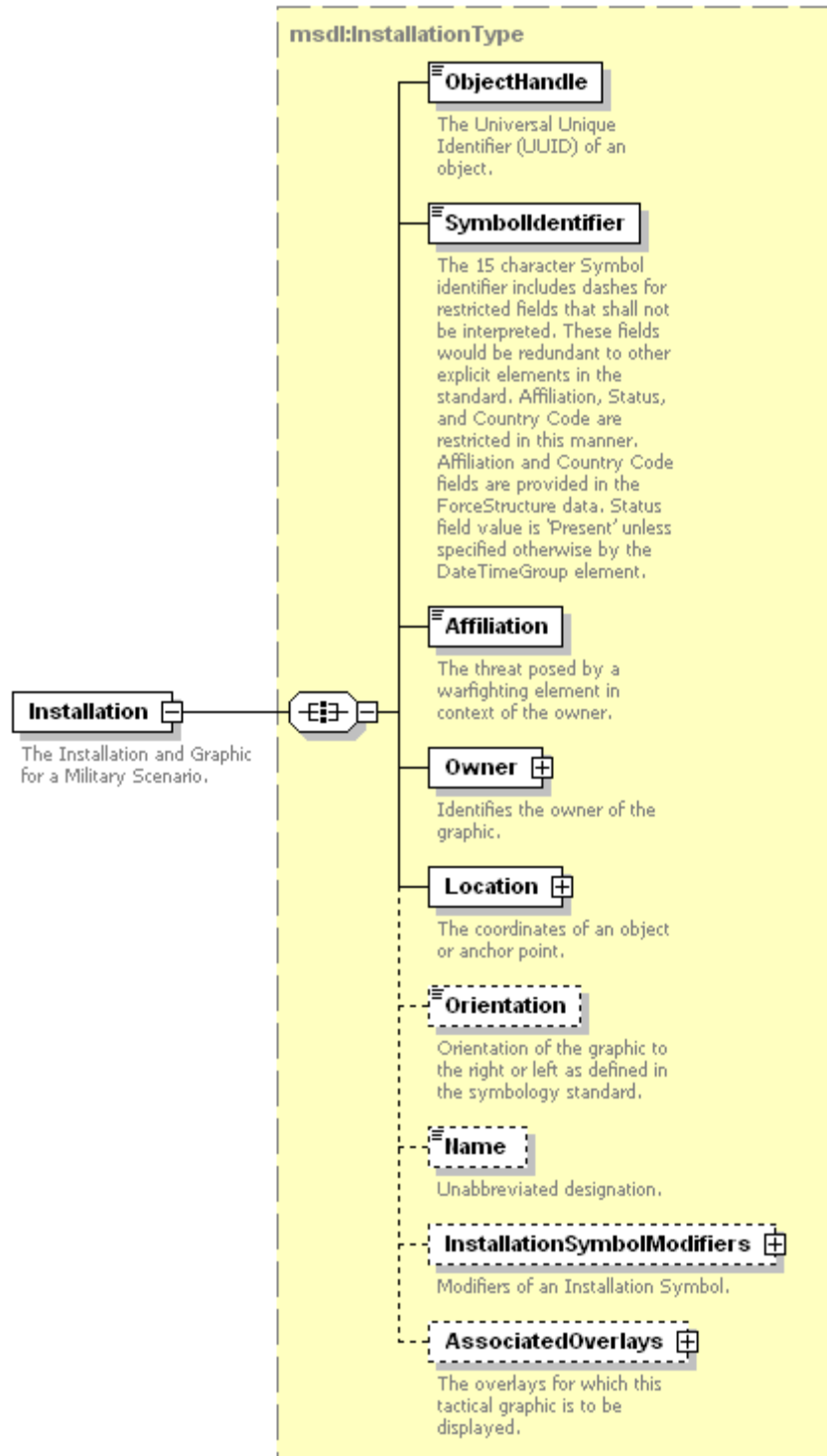


Figure 80: *msdl:InstallationType/Installation* Element Structure

5.7.1.1. *msdl:InstallationType/ObjectHandle* Element

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

5.7.1.2. **msdl:InstallationType/SymbolIdentifier Element**

For every **msdl:InstallationType** complex type there shall be one **SymbolIdentifier** element. The **SymbolIdentifier** element specifies the 15 character symbol identifier as specified by the Symbol Identification Coding scheme within Mil Std 2525B. The 15 character **SymbolIdentifier** includes dashes for restricted fields that shall not be interpreted. 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 fields are provided in the ForceSide structure data. Status field value is 'Present' unless specified otherwise by the **DateTimeGroup** element. The Coding Scheme, position 1, shall be 'S' for installation symbol identification. The domain type is a **msdl:patternInstallationSymbolID15**.

5.7.1.3. **msdl:InstallationType/Affiliation Element**

For every **msdl:InstallationType** complex type there shall be one **Affiliation** element. The **Affiliation** element specifies the threat posed by a warfighting element being represented in context to the owner. The domain type is **msdl:enumBaseAffiliation**.

5.7.1.4. **msdl:InstallationType/Owner Element**

For every **msdl:InstallationType** complex type there shall be one **Owner** element. The **Owner** element specifies the owner of the graphic. The domain type is **msdl:OwnerType** as defined within section 6.5.2.1.7 for **msdl:EquipmentRelationsType/HoldingOrganization**.

5.7.1.5. **msdl:InstallationType/Location Element**

For every **msdl:InstallationType** complex type there shall be one **Location** element. The **Location** element specifies the coordinates of the unit. The domain type is **msdl:CoordinatesType** as defined within section 6.3.2.2 for **msdl:RectangleAreaType/UpperRight**.

5.7.1.6. **msdl:InstallationType/Orientation Element**

For every **msdl:InstallationType** complex type there shall be one **Orientation** element. The **Orientation** element specifies the orientation of the graphic to the right or left as defined in the symbology standard. The domain type is **msdl:enumOrientationType**.

5.7.1.7. **msdl:InstallationType/Name Element**

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

5.7.1.8. **msdl:InstallationType/InstallationSymbolModifiers Element**

For every **msdl:InstallationType** complex type there shall be zero or one **InstallationSymbolModifiers** element. The **InstallationSymbolModifiers** element specifies the modifiers of an equipment symbol. It is an xs:all compositor comprised of the elements shown in Figure 81 and described in the following subsections. The domain type is **msdl:InstallationSymbolModifiersType**.

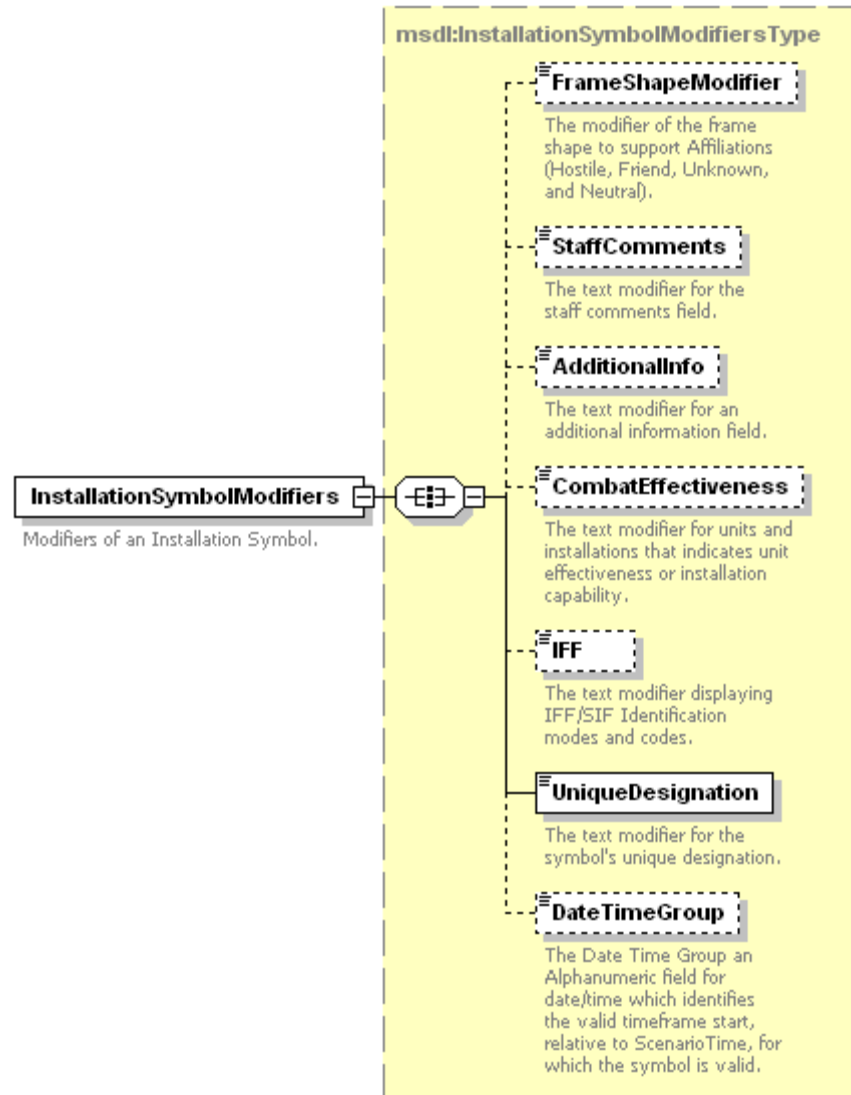


Figure 81: *msdl:InstallationType/InstallationSymbolModifiers* Element Structure

5.7.1.8.1. *msdl:InstallationSymbolModifiersType/FrameShapeModifier* Element

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

5.7.1.8.2. *msdl:InstallationSymbolModifiersType/StaffComments* Element

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

5.7.1.8.3. *msdl:InstallationSymbolModifiersType/AdditionalInfo* Element

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

5.7.1.8.4. msdl:InstallationSymbolModifiersType/CombatEffectiveness Element

For every **msdl:InstallationSymbolModifiersType** complex type there shall be zero or one **CombatEffectiveness** elements. The **CombatEffectiveness** element specifies the modifier that indicates the installation's level of capability. The domain type is **msdl:enumCombatEffectivenessType**.

5.7.1.8.5. msdl:InstallationSymbolModifiersType/IFF Element

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

5.7.1.8.6. msdl:InstallationSymbolModifiersType/UniqueDesignation Element

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

5.7.1.8.7. msdl:InstallationSymbolModifiersType/DateTimeGroup Element

For every **msdl:InstallationSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup** element. The **DateTimeGroup** element specifies the date time group relative to the **ScenarioTime** element from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative20**.

5.7.1.9. msdl:InstallationType/AssociatedOverlays Element

For every **msdl:InstallationType** complex type there shall be one **AssociatedOverlays** element. The **AssociatedOverlays** element specifies the overlays for which this tactical graphic is to be displayed. It is an xs:all compositor comprised of the elements shown in Figure 82 and described in the following subsections. The domain type is **msdl:AssociatedOverlaysType**.

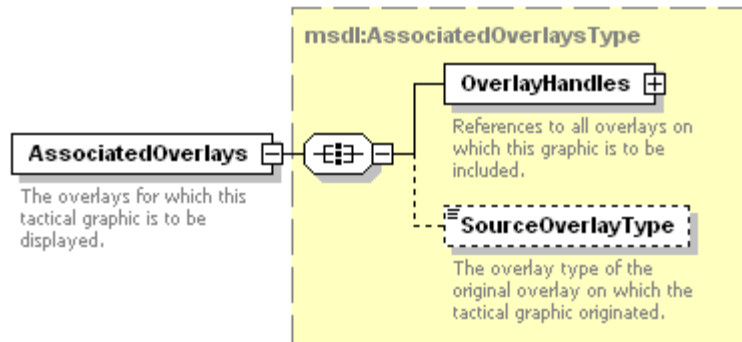


Figure 82: **msdl:InstallationType/AssociatedOverlays** Element Structure

5.7.1.9.1. msdl:AssociatedOverlaysType/OverlayHandles Element

For every **msdl:AssociatedOverlaysType** complex type there shall be one **OverlayHandles** elements. The **OverlayHandles** element specifies a reference to all overlays which this graphic is to be included on. It is an xs:sequence compositor comprised of the elements shown in Figure 83 and described in the following subsections. The domain type is **msdl:OverlayHandlesType**.

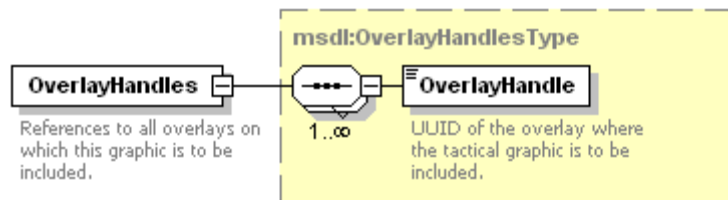


Figure 83: *msdl:AssociatedOverlaysType/OverlayHandles* Element Structure

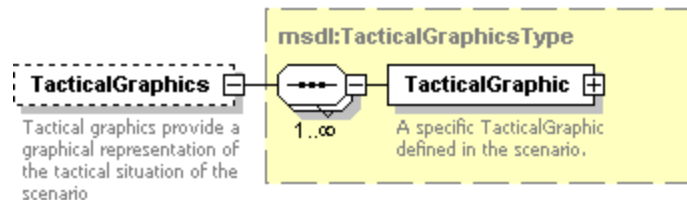
1. *msdl:OverlayHandlesType/OverlayHandle* Element - For every *msdl:OverlayHandlesType* complex type there shall be one or more *OverlayHandle* element. The *OverlayHandle* element specifies the UUID of the overlay where the tactical graphic is to be included. The domain type is *msdl:patternUUIDRef32*.

5.7.1.9.2. *msdl:AssociatedOverlaysType/SourceOverlayType* Element

For every *msdl:AssociatedOverlaysType* complex type there shall be zero or one *SourceOverlayType* elements. The *SourceOverlayType* element specifies the overlay type of the original overlay on which the tactical graphic originated. The domain type is *msdl:enumOverlayType*.

5.8. *msdl:MilitaryScenarioType/TacticalGraphics* Element

For every *msdl:MilitaryScenarioType* complex type there shall be zero or one *TacticalGraphics* element. The *TacticalGraphics* element is used to specify the control measures for the military scenario. The *TacticalGraphics* element, an xs:sequence compositor, contains all the elements shown in Figure 84 and described in the subsequent subsections. The domain type is *msdl:TacticalGraphicsType*.

Figure 84: *msdl:MilitaryScenarioType/TacticalGraphics* Element Structure

5.8.1. *msdl:TacticalGraphicsType/TacticalGraphic* Element

For every *msdl:TacticalGraphicsType* complex type there shall be one or more *TacticalGraphic* elements. The *TacticalGraphic* element is used to specify the mission/scenario specific control measures within the military scenario. A tactical graphic description is tactical information that is part of the COP of the force, side or unit specified in the *Owner* element. Its level of threat as determined through intelligence gathering is specified in the *Affiliation* and *FrameShapeModifier* elements. The quality of the gathered intelligence used to create this tactical information is specified in the *EvaluationRating* element. The time when the information was gathered is specified in the *DateTimeGroup* element. This tactical information is organized within the COP through the overlays specified in the *AssociatedOverlays* element. The *TacticalGraphic* element, an xs:all compositor, is comprised of an xs:sequence structure containing all the elements shown in Figure 85 and described in the subsequent subsections. The domain type is *msdl:TacticalGraphicType*.

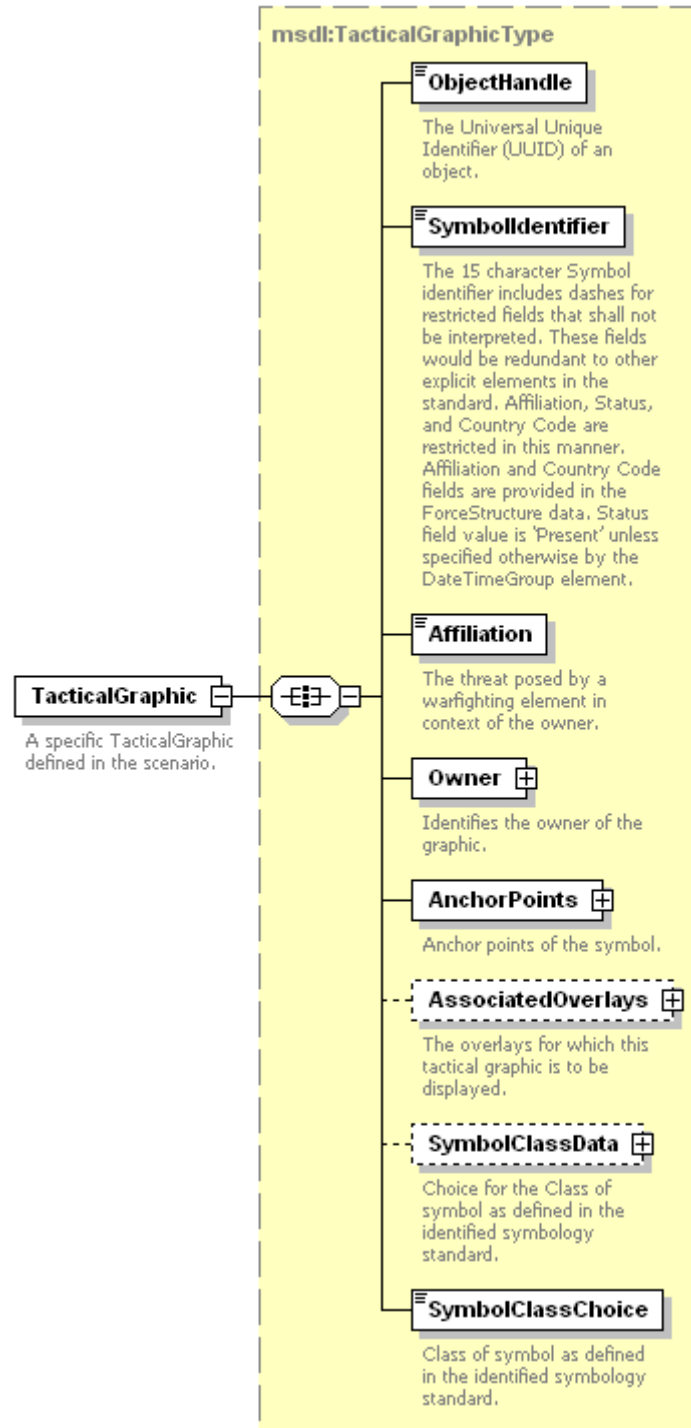


Figure 85: *msdl:TacticalGraphicsType/TacticalGraphic* Element Structure

5.8.1.1. *msdl:TacticalGraphicType/ObjectHandle* Element

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

5.8.1.2. **msdl:TacticalGraphicType/SymbolIdentifier Element**

For every **msdl:TacticalGraphicType** complex type there shall be one **SymbolIdentifier** element. The **SymbolIdentifier** element specifies the 15 character symbol identifier as specified by the Symbol Identification Coding scheme within Mil Std 2525B. The 15 character **SymbolIdentifier** includes dashes for restricted fields that shall not be interpreted. 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 fields are provided in the ForceSide structure data. Status field value is 'Present' unless specified otherwise by the **DateTimeGroup** element. The Coding Scheme, position 1, shall be 'G' for tactical graphic symbol identification. The domain type is a **msdl:patternTacticalGraphicSymbolID15**.

5.8.1.3. **msdl:TacticalGraphicType/Affiliation Element**

For every **msdl:TacticalGraphicType** complex type there shall be one **Affiliation** element. The **Affiliation** element specifies the threat posed by a warfighting element being represented in context to the owner. The domain type is **msdl:enumBaseAffiliation**.

5.8.1.4. **msdl:TacticalGraphicType/Owner Element**

For every **msdl:TacticalGraphicType** complex type there shall be one **Owner** element. The **Owner** element specifies the owner of the graphic. The domain type is **msdl:OwnerType** as defined within section 6.5.2.1.7 for **msdl:EquipmentRelationsType/HoldingOrganization**.

5.8.1.5. **msdl:TacticalGraphicType/AnchorPoints Element**

For every **msdl:TacticalGraphicType** complex type there shall be one **AnchorPoints** element. The **AnchorPoints** element specifies the anchor points for the tactical graphic. The shape for each specific tactical graphic is specified within Appendix B: C2 Symbology: Military Operations of MIL-STD-2525B w/Change 1. Area shapes will be interpreted to define a boundary in the sequence provided by the associated AnchorPoint elements. The domain type is **msdl:AnchorPointsType** as defined within section 6.3.4.1.8 for **msdl:METOCDispositionType/AnchorPoints**.

5.8.1.6. **msdl:TacticalGraphicType/AssociatedOverlays Element**

For every **msdl:TacticalGraphicType** complex type there shall be zero or one **AssociatedOverlays** element. The **AssociatedOverlays** element specifies the overlays for which this tactical graphic is to be displayed. The domain type is **msdl:AssociatedOverlaysType** as defined within section 6.7.1.9 for **msdl:InstallationType/AssociatedOverlays**.

5.8.1.7. **msdl:TacticalGraphicType/SymbolClassData Element**

For every **msdl:TacticalGraphicType** complex type there shall be zero or one **SymbolClassData** element. The **SymbolClassData** element characterizes the class of symbol as defined in the selected symbology standard. The selection is derived from the value of position 1 and position 5 to 10 in the **SymbolIdentifier** element. It is an xs:choice compositor comprised one and only one of the elements shown in Figure 86 and described in the following subsections. The domain type is **msdl:SymbolClassDataType**.

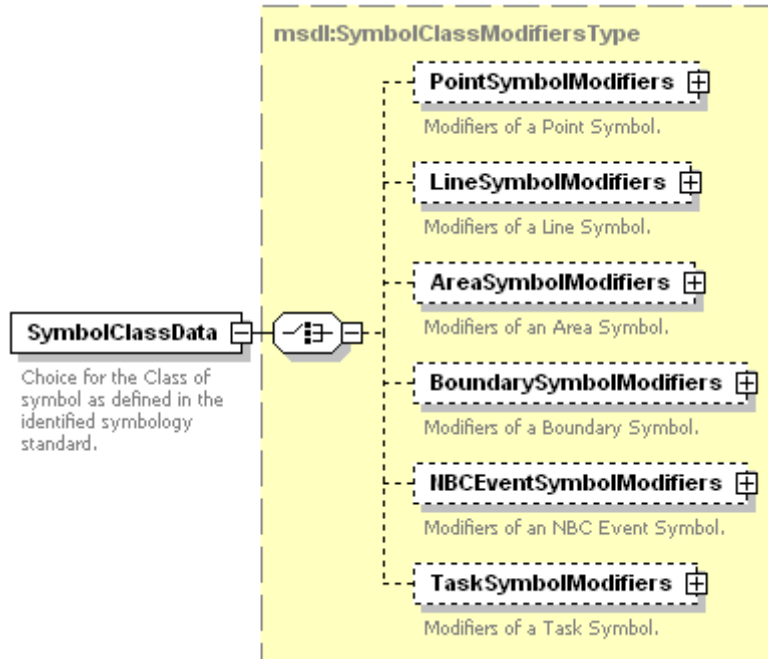


Figure 86: *msdl:TacticalGraphicType/SymbolClassData* Element Structure

5.8.1.7.1. *msdl:SymbolClassDataType/PointSymbolModifiers* Element

For every *msdl:SymbolClassDataType* complex type there shall be zero or one *PointSymbolModifiers* element. The *PointSymbolModifiers* element specifies the modifiers for a point symbol. It is an xs:all compositor comprised of the elements shown in Figure 87 and described in the following subsections. The domain type is *msdl:PointSymbolModifiersType*.

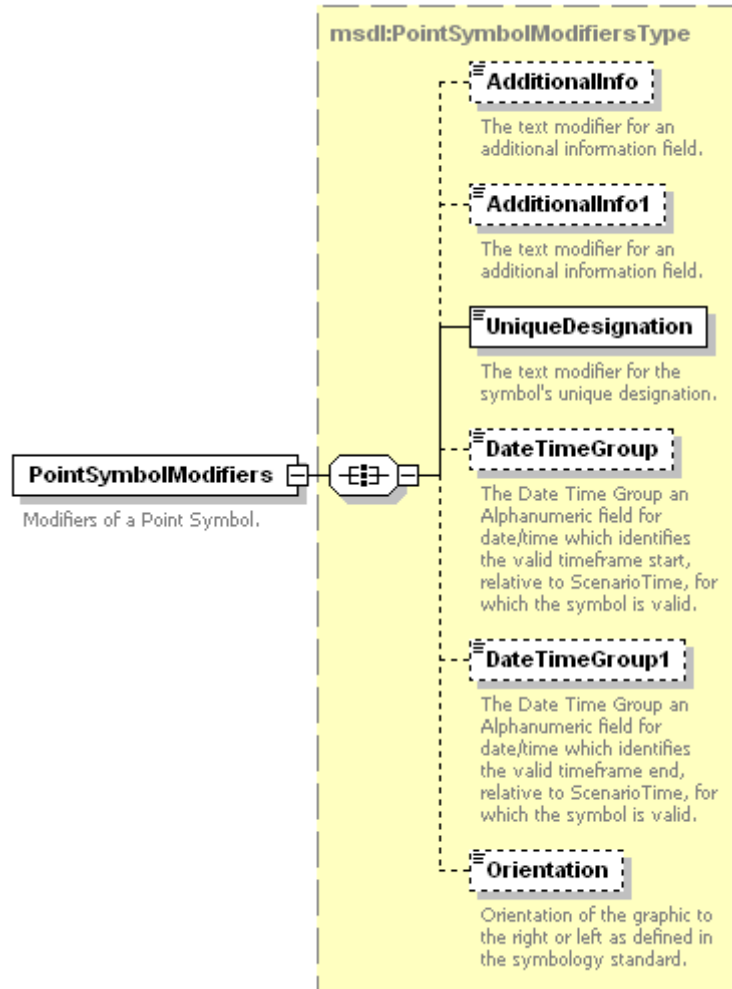


Figure 87: *msdl:SymbolClassDataType/PointSymbolModifiers* Element Structure

1. ***msdl:PointSymbolModifiersType/AdditionalInfo*** Element - For every ***msdl:PointSymbolModifiersType*** complex type there shall be zero or one ***AdditionalInfo*** element. The ***AdditionalInfo*** element specifies the text modifier for an additional information field. The domain type is ***msdl:text20***.
2. ***msdl:PointSymbolModifiersType/AdditionalInfo1*** Element - For every ***msdl:PointSymbolModifiersType*** complex type there shall be zero or one ***AdditionalInfo*** element. The ***AdditionalInfo1*** element specifies the text modifier for an additional information field. The domain type is ***msdl:text20***.
3. ***msdl:PointSymbolModifiersType/UniqueDesignation*** Element - For every ***msdl:PointSymbolModifiersType*** complex type there shall be one ***UniqueDesignation*** element. The ***UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21***.
4. ***msdl:PointSymbolModifiersType/DateTimeGroup*** Element - For every ***msdl:PointSymbolModifiersType*** complex type there shall be zero or one ***DateTimeGroup*** element. This element provides the character string representing the time frame start, relative to the ***ScenarioTime***, for which the ***TacticalGraphic*** element is valid. The ***DateTimeGroup*** element allows multiple stages of a phenomenon to be specified. The ***UniqueDesignation*** element is used to link together these different stages. The ***ObjectHandle*** of the stages will be different but the ***UniqueDesignation*** will be the same. Because ***DateTimeGroup*** and ***DateTimeGroup1*** represent the time frame of existence for the specific ***TacticalGraphic*** element if either one is specified the other

shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.

5. **msdl:PointSymbolModifiersType/DateTimeGroup1** Element - For every **msdl:PointSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup1** element. This element provides the character string representing the time frame end, relative to the **ScenarioTime**, for which the **TacticalGraphic** element is valid. The **DateTimeGroup1** element allows multiple stages of a phenomenon to be specified. The **UniqueDesignation** element is used to link together these different stages. The **ObjectHandle** of the stages will be different but the **UniqueDesignation** will be the same. Because **DateTimeGroup** and **DateTimeGroup1** represent the time frame of existence for the specific **TacticalGraphic** element if either one is specified the other shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.
6. **msdl:PointSymbolModifiersType/Orientation** Element - For every **msdl:PointSymbolModifiersType** complex type there shall be zero or one **Orientation** element. The **Orientation** element specifies the orientation of the graphic to the right or left as defined in the symbology standard. The domain type is **msdl:enumOrientationType**.

5.8.1.7.2. **msdl:SymbolClassDataType/LineSymbolModifiers** Element

For every **msdl:SymbolClassDataType** complex type there shall be zero or one **LineSymbolModifiers** element. The **LineSymbolModifiers** element specifies the modifiers for a line symbol. It is an xs:all compositor comprised of the elements shown in Figure 88 and described in the following subsections. The domain type is **msdl:LineSymbolModifiersType**.

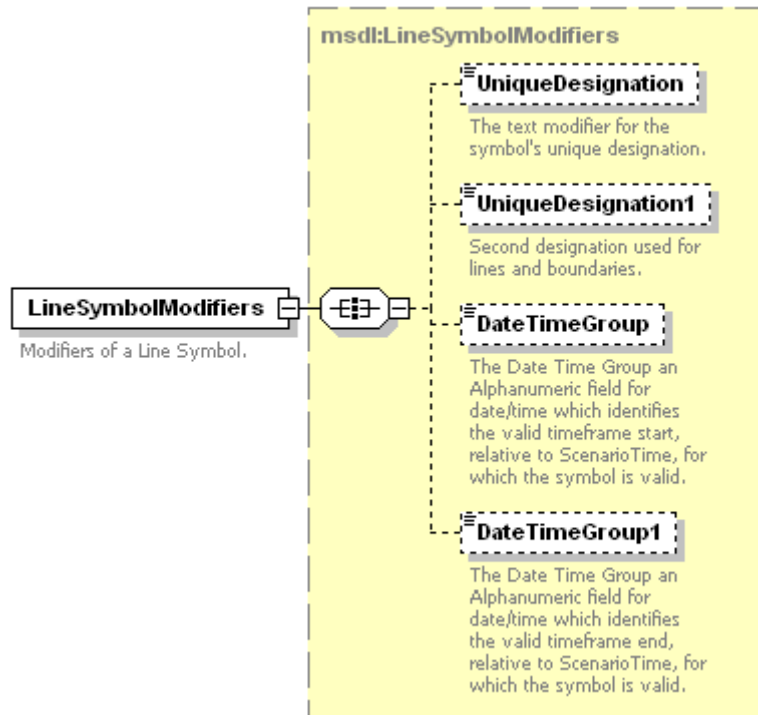


Figure 88: **msdl:SymbolClassDataType/LineSymbolModifiers** Element Structure

1. **msdl:LineSymbolModifiersType/UniqueDesignation** Element - For every **msdl:LineSymbolModifiersType** complex type there shall be zero or one **UniqueDesignation** element. The **UniqueDesignation** element specifies the text modifier for the symbols unique designation. The domain type is **msdl:text21**.
2. **msdl:LineSymbolModifiersType/UniqueDesignation1** Element - For every **msdl:LineSymbolModifiersType** complex type there shall be zero or one **UniqueDesignation1**

element. The **UniqueDesignation1** element specifies a second text modifier for the symbol's unique designation for lines and boundaries. The domain type is **msdl:text21**.

3. **msdl:LineSymbolModifiersType/DateTimeGroup** Element - For every **msdl:LineSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup** element. This element provides the character string representing the time frame start, relative to the **ScenarioTime**, for which the **TacticalGraphic** element is valid. The **DateTimeGroup** element allows multiple stages of a phenomenon to be specified. The **UniqueDesignation** element is used to link together these different stages. The **ObjectHandle** of the stages will be different but the **UniqueDesignation** will be the same. Because **DateTimeGroup** and **DateTimeGroup1** represent the time frame of existence for the specific **TacticalGraphic** element if either one is specified the other shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.
4. **msdl:LineSymbolModifiersType/DateTimeGroup1** Element - For every **msdl:LineSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup1** element. This element provides the character string representing the time frame end, relative to the **ScenarioTime**, for which the **TacticalGraphic** element is valid. The **DateTimeGroup1** element allows multiple stages of a phenomenon to be specified. The **UniqueDesignation** element is used to link together these different stages. The **ObjectHandle** of the stages will be different but the **UniqueDesignation** will be the same. Because **DateTimeGroup** and **DateTimeGroup1** represent the time frame of existence for the specific **TacticalGraphic** element if either one is specified the other shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.

5.8.1.7.3. **msdl:SymbolClassDataType/AreaSymbolModifiers** Element

For every **msdl:SymbolClassDataType** complex type there shall be zero or one **AreaSymbolModifiers** element. The **AreaSymbolModifiers** element specifies the modifiers for an area symbol. It is an xs:all compositor comprised of the elements shown in Figure 89 and described in the following subsections. The domain type is **msdl:AreaSymbolModifiersType**.

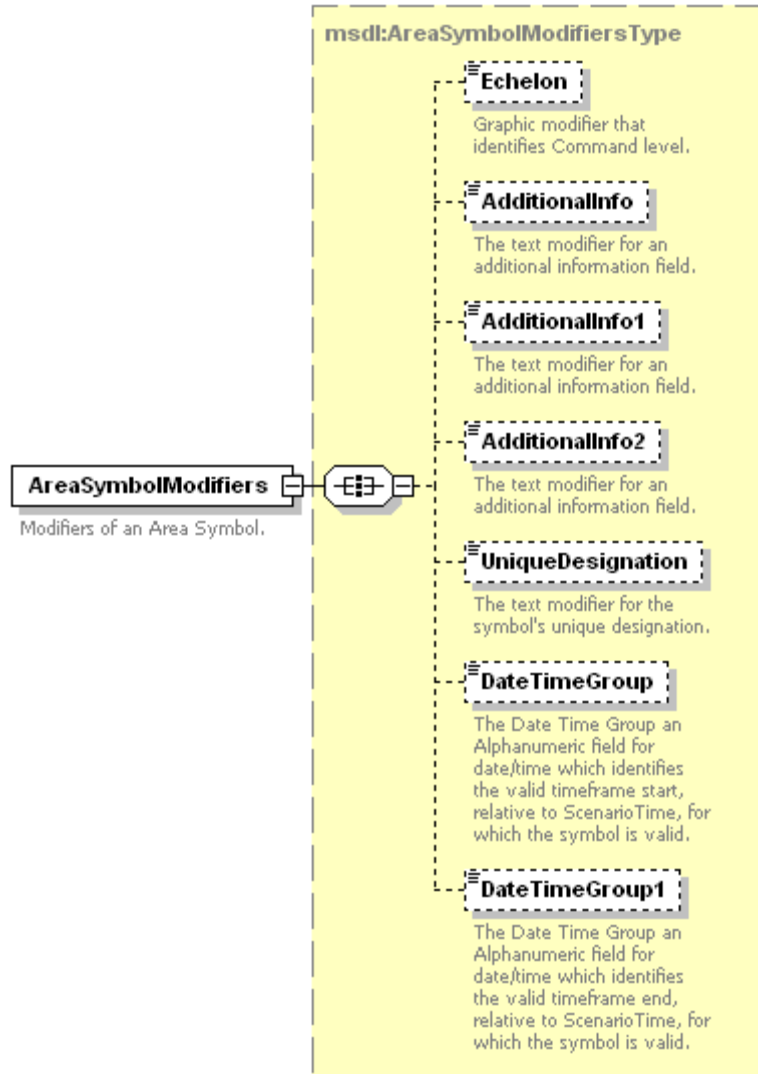


Figure 89: *msdl:SymbolClassDataType/AreaSymbolModifiers* Element Structure

1. **msdl:AreaSymbolModifiersType/Echelon** Element - For every **msdl:AreaSymbolModifiersType** complex type there shall be zero or one **Echelon** elements. The **Echelon** element specifies the graphic modifier that identifies command level. The domain type is **msdl:enumEchelon**.
2. **msdl:AreaSymbolModifiersType/AdditionalInfo** Element - For every **msdl:AreaSymbolModifiersType** complex type there shall be zero or one **AdditionalInfo** element. The **AdditionalInfo** element specifies the text modifier for an additional information field. The domain type is **msdl:text20**.
3. **msdl:AreaSymbolModifiersType/AdditionalInfo1** Element - For every **msdl:AreaSymbolModifiersType** complex type there shall be zero or one **AdditionalInfo1** element. The **AdditionalInfo1** element specifies the text modifier for an additional information field. The domain type is **msdl:text20**.
4. **msdl:AreaSymbolModifiersType/AdditionalInfo2** Element - For every **msdl:AreaSymbolModifiersType** complex type there shall be zero or one **AdditionalInfo2** element. The **AdditionalInfo2** element specifies the text modifier for an additional information field. The domain type is **msdl:text20**.
5. **msdl:AreaSymbolModifiersType/UniqueDesignation** Element - For every **msdl:AreaSymbolModifiersType** complex type there shall be zero or one **UniqueDesignation** element. The **UniqueDesignation** element specifies the text modifier for the symbol's unique designation. The domain type is **msdl:text20**.

element. The **UniqueDesignation** element specifies the text modifier for the symbols unique designation. The domain type is **msdl:text21**.

6. **msdl:AreaSymbolModifiersType/DateTimeGroup** Element - For every **msdl:AreaSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup** element. This element provides the character string representing the time frame start, relative to the **ScenarioTime**, for which the **TacticalGraphic** element is valid. The **DateTimeGroup** element allows multiple stages of a phenomenon to be specified. The **UniqueDesignation** element is used to link together these different stages. The **ObjectHandle** of the stages will be different but the **UniqueDesignation** will be the same. Because **DateTimeGroup** and **DateTimeGroup1** represent the time frame of existence for the specific **TacticalGraphic** element if either one is specified the other shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.
7. **msdl:AreaSymbolModifiersType/DateTimeGroup1** Element - For every **msdl:AreaSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup1** element. This element provides the character string representing the time frame end, relative to the **ScenarioTime**, for which the **TacticalGraphic** element is valid. The **DateTimeGroup1** element allows multiple stages of a phenomenon to be specified. The **UniqueDesignation** element is used to link together these different stages. The **ObjectHandle** of the stages will be different but the **UniqueDesignation** will be the same. Because **DateTimeGroup** and **DateTimeGroup1** represent the time frame of existence for the specific **TacticalGraphic** element if either one is specified the other shall also be included in the instance document. The domain type is **msdl:patternTimeDTGRelative20**.

5.8.1.7.4. **msdl:SymbolClassDataType/BoundarySymbolModifiers** Element

For every **msdl:SymbolClassDataType** complex type there shall be zero or one **BoundarySymbolModifiers** element. The **BoundarySymbolModifiers** element specifies the modifiers for a boundary symbol. It is an xs:all compositor comprised of the elements shown in Figure 90 and described in the following subsections. The domain type is **msdl:BoundaySymbolModifiersType**.

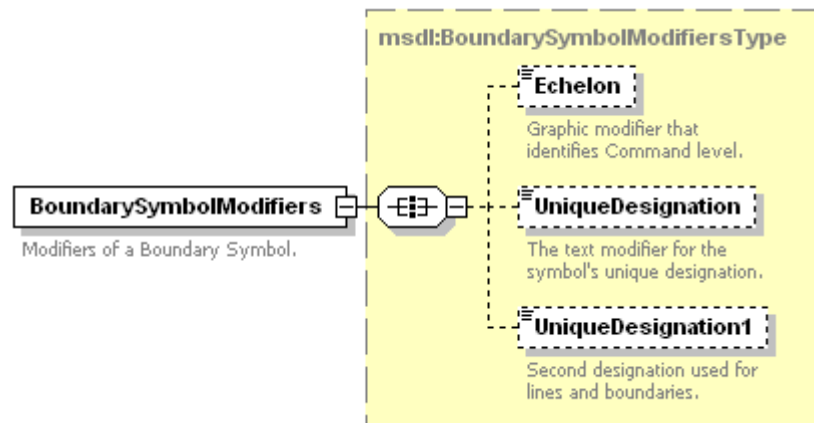


Figure 90: **msdl:SymbolClassDataType/BoundarySymbolModifiers** Element Structure

1. **msdl:BoundarySymbolModifiersType/Echelon** Element - For every **msdl:BoundarySymbolModifiersType** complex type there shall be zero or one **Echelon** elements. The **Echelon** element specifies the graphic modifier that identifies command level. The domain type is **msdl:enumEchelon**.
2. **msdl:BoundarySymbolModifiersType/UniqueDesignation** Element - For every **msdl:BoundarySymbolModifiersType** complex type there shall be zero or one **UniqueDesignation** element. The **UniqueDesignation** element specifies the text modifier for the symbols unique designation. The domain type is **msdl:text21**.

3. **msdl:BoundarySymbolModifiersType/UniqueDesignation1** Element - For every **msdl:BoundarySymbolModifiersType** complex type there shall be zero or one **UniqueDesignation1** element. The **UniqueDesignation1** element specifies the text modifier for the symbols unique designation. The domain type is **msdl:text21**.

5.8.1.7.5. **msdl:SymbolClassDataType/NBCEventSymbolModifiers** Element

For every **msdl:SymbolClassDataType** complex type there shall be zero or one **NBCEventSymbolModifiers** element. The **NBCEventSymbolModifiers** element specifies the modifiers for a NBC Event symbol. It is an **xs:all** compositor comprised of the elements shown in Figure 91 and described in the following subsections. The domain type is **msdl:NBCEventSymbolModifiersType**.

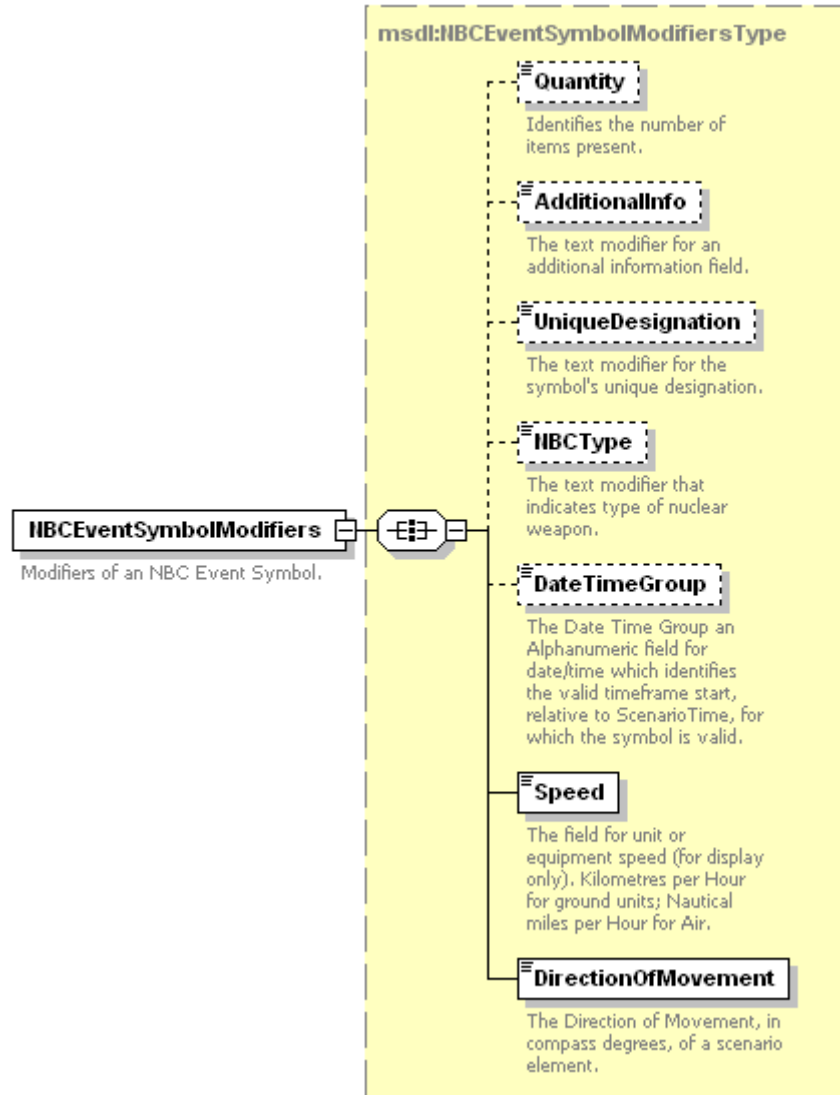


Figure 91: **msdl:SymbolClassModifierType/NBCEventSymbolModifiers** Element Structure

1. **msdl:NBCEventSymbolModifiersType/Quantity** Element - For every **msdl:NBCEventSymbolModifiersType** complex type there shall be zero or one **Quantity** elements. The **Quantity** element specifies the modifier that identifies the number of items present. The domain type is **msdl:integerQuantity9**.
2. **msdl:NBCEventSymbolModifiersType/AdditionalInfo** Element - For every **msdl:NBCEventSymbolModifiersType** complex type there shall be zero or one **AdditionalInfo**

element. The **AdditionalInfo** element specifies the text modifier for an additional information field. The domain type is **msdl:text20**.

3. **msdl:NBCEventSymbolModifiersType/UniqueDesignation** Element - For every **msdl:NBCEventSymbolModifiersType** complex type there shall be zero or one **UniqueDesignation** element. The **UniqueDesignation** element specifies the text modifier for the symbols unique designation. The domain type is **msdl:text21**.
4. **msdl:NBCEventSymbolModifiersType/NBCType** Element - For every **msdl:NBCEventSymbolModifiersType** complex type there shall be zero or one **NBCType** element. The **NBCType** element specifies the text for the type of nuclear, biological, or chemical weapon. The domain type is **msdl:text20**.
5. **msdl:NBCEventSymbolModifiersType/DateTimeGroup** Element - For every **msdl:NBCEventSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup** element. The **DateTimeGroup** element specifies the date time group start time relative to the **ScenarioTime** from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative20**.
6. **msdl:NBCEventSymbolModifiersType/Speed** Element - For every **msdl:NBCEventSymbolModifiersType** complex type there shall be zero or one **Speed** element. The **Speed** element specifies the rate of movement of the item represented by the graphic in the direction specified by the **DirectionOfMovement** element. The domain type is **msdl:floatSpeed6_2**.
7. **msdl:NBCEventSymbolModifiersType/DirectionOfMovement** Element - For every **msdl:NBCEventSymbolModifiersType** complex type there shall be one **DirectionOfMovement** element. The **DirectionOfMovement** element specifies the horizontal direction of movement or intended direction of horizontal movement in compass degrees measured relative to magnetic north 0 to 360 degrees clockwise. For reference trigonometric degrees = (90 – compass degrees). The domain type is **msdl:floatCompassDegrees3_3**.

5.8.1.7.6. msdl:SymbolClassDataType/TaskSymbolModifiers Element

For every **msdl:SymbolClassDataType** complex type there shall be zero or one **TaskSymbolModifiers** element. The **TaskSymbolModifiers** element specifies the modifiers for a task symbol. It is an xs:all compositor comprised of the elements shown in Figure 92 and described in the following subsections. The domain type is **msdl:TaskSymbolModifiersType**.

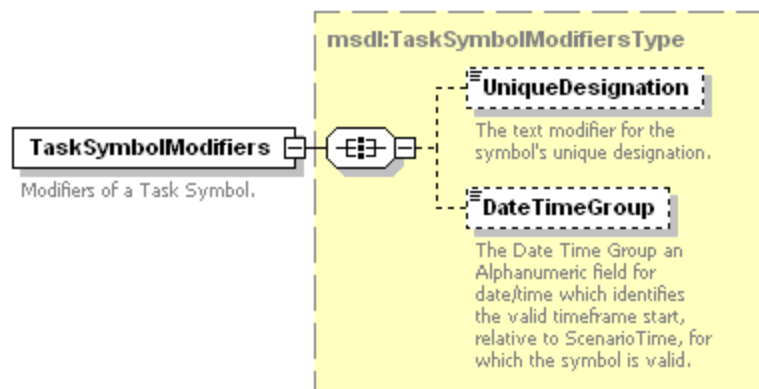


Figure 92: msdl:SymbolClassDataType/TaskSymbolModifiers Element Structure

1. **msdl:TaskSymbolModifiersType/UniqueDesignation** Element - For every **msdl:TaskSymbolModifiersType** complex type there shall be zero or one **UniqueDesignation** element. The **UniqueDesignation** element specifies the text modifier for the symbols unique designation. The domain type is **msdl:text21**.
2. **msdl:TaskSymbolModifiersType/DateTimeGroup** Element - For every **msdl:TaskSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup** element. The **DateTimeGroup** element specifies the date time group start time relative to the **ScenarioTime** from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative20**.

5.8.1.8. msdl:TacticalGraphicType/SymbolClassChoice Element

For every **msdl:TacticalGraphicType** complex type there shall be one **SymbolClassChoice** element. The **SymbolClassChoice** element specifies the class of symbol as defined in the identified symbology standard. The domain type is **msdl:enumSymbolClassType**.

5.9. msdl:MilitaryScenarioType/MOOTWGraphics Element

For every **msdl:MilitaryScenarioType** complex type there shall be one **MOOTWGraphics** element. The **MOOTWGraphics** element is used to specify the MOOTW graphics for the military scenario. The **MOOTWGraphics** element, an xs:sequence compositor, contains all the elements shown in Figure 93 and described in the subsequent subsections. The domain type is **msdl:MOOTWGraphicsType**.

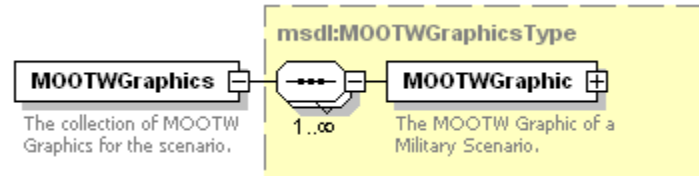
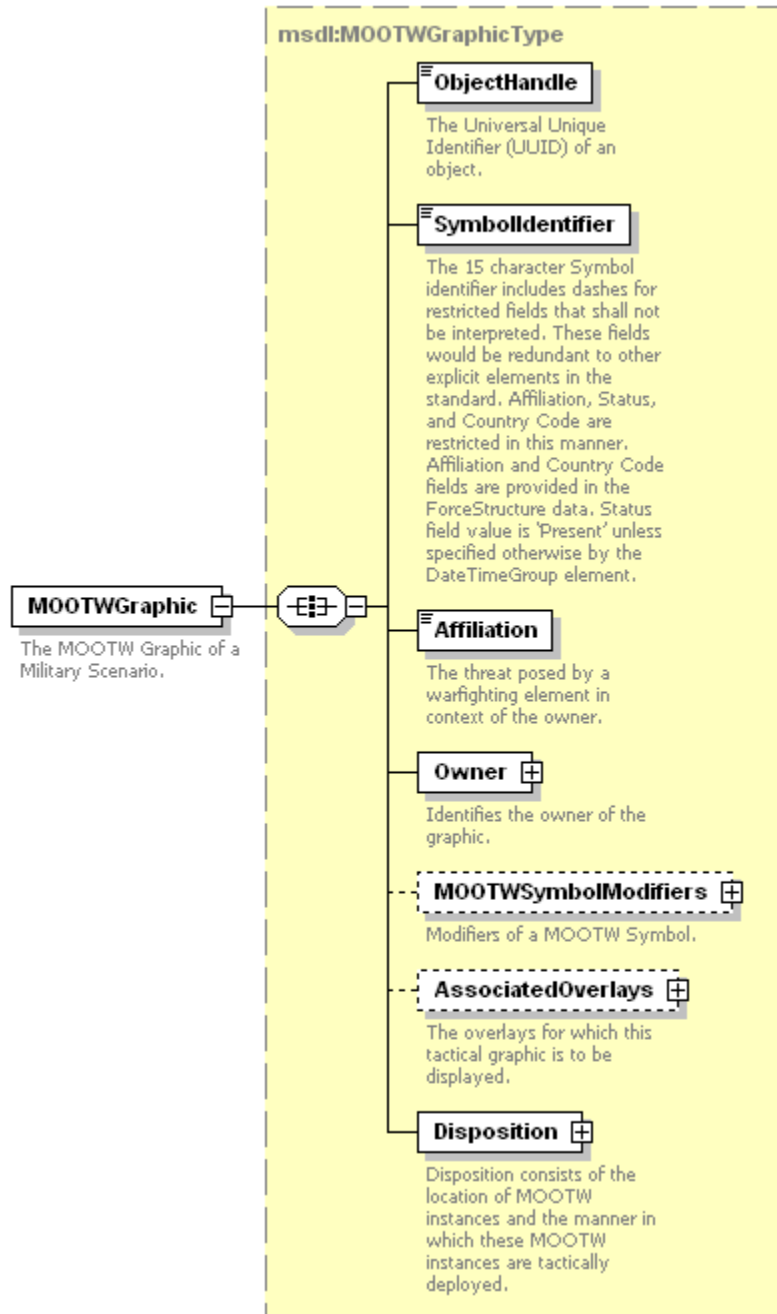


Figure 93: **msdl:MilitaryScenarioType/MOOTWGraphics** Element Structure

5.9.1. msdl:MOOTWGraphicsType/MOOTWGraphic Element

For every **msdl:MOOTWGraphicsType** complex type there shall be one or more **MOOTWGraphic** elements. The **MOOTWGraphic** element is used to specify the MOOTW graphics within the military scenario. A MOOTW graphic description is tactical information that is part of the COP of the force, side or unit specified in the owner element. Its level of threat as determined through intelligence gathering is specified in the **Affiliation** and **FrameShapeModifier** elements. The quality of the gathered intelligence used to create this tactical information is specified in the **EvaluationRating** element. The time when the information was gathered is specified in the **DateTimeGroup** element. This tactical information is organized within the COP through the overlays specified in the **AssociatedOverlays** element. Each COP (one or more per opposing sides) may have its own MOOTW instance description for the same actual MOOTW instance. The **MOOTWGraphic** element, an xs:sequence compositor, contains all the elements shown in Figure 94 and described in the subsequent subsections. The domain type is **msdl:MOOTWGraphicType**.

Figure 94: *msdl:MOOTWGraphicsType/MOOTWGraphic* Element Structure5.9.1.1. *msdl:MOOTWGraphicType/ObjectHandle* Element

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

5.9.1.2. *msdl:MOOTWGraphicType/SymbolIdentifier* Element

For every *msdl:MOOTWGraphicType* complex type there shall be one **SymbolIdentifier** element. The **SymbolIdentifier** element specifies the 15 character symbol identifier as specified by the Symbol Identification Coding scheme within Mil Std 2525B. The 15 character **SymbolIdentifier** includes dashes for restricted fields

that shall not be interpreted. 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 fields are provided in the ForceSide structure data. Status field value is 'Present' unless specified otherwise by the **DateTimeGroup** element. The Coding Scheme, position 1, shall be 'O' form MOOTW symbol identification. The domain type is a **msdl:patternMOOTWSymbolID15**.

5.9.1.3. **msdl:MOOTWGraphicType/Affiliation Element**

For every **msdl:MOOTWGraphicType** complex type there shall be one **Affiliation** element. The **Affiliation** element specifies the threat posed by a warfighting element being represented in context to the owner. The domain type is **msdl:enumBaseAffiliation**.

5.9.1.4. **msdl:MOOTWGraphicType/Owner Element**

For every **msdl:MOOTWGraphicType** complex type there shall be one **Owner** element. The **Owner** element specifies the owner of the graphic. The domain type is **msdl:OwnerType** as defined within section 6.5.2.1.7 for **msdl:EquipmentRelationsType/HoldingOrganization**.

5.9.1.5. **msdl:MOOTWGraphicType/MOOTWSymbolModifiers Element**

For every **msdl:MOOTWGraphicType** complex type there shall be zero or one **MOOTWSymbolModifiers** element. The **MOOTWSymbolModifiers** element specifies the modifiers of a MOOTW symbol. It is an xs:all compositor comprised of the elements shown in Figure 95 and described in the following subsections. The domain type is **msdl:MOOTWSymbolModifiersType**.

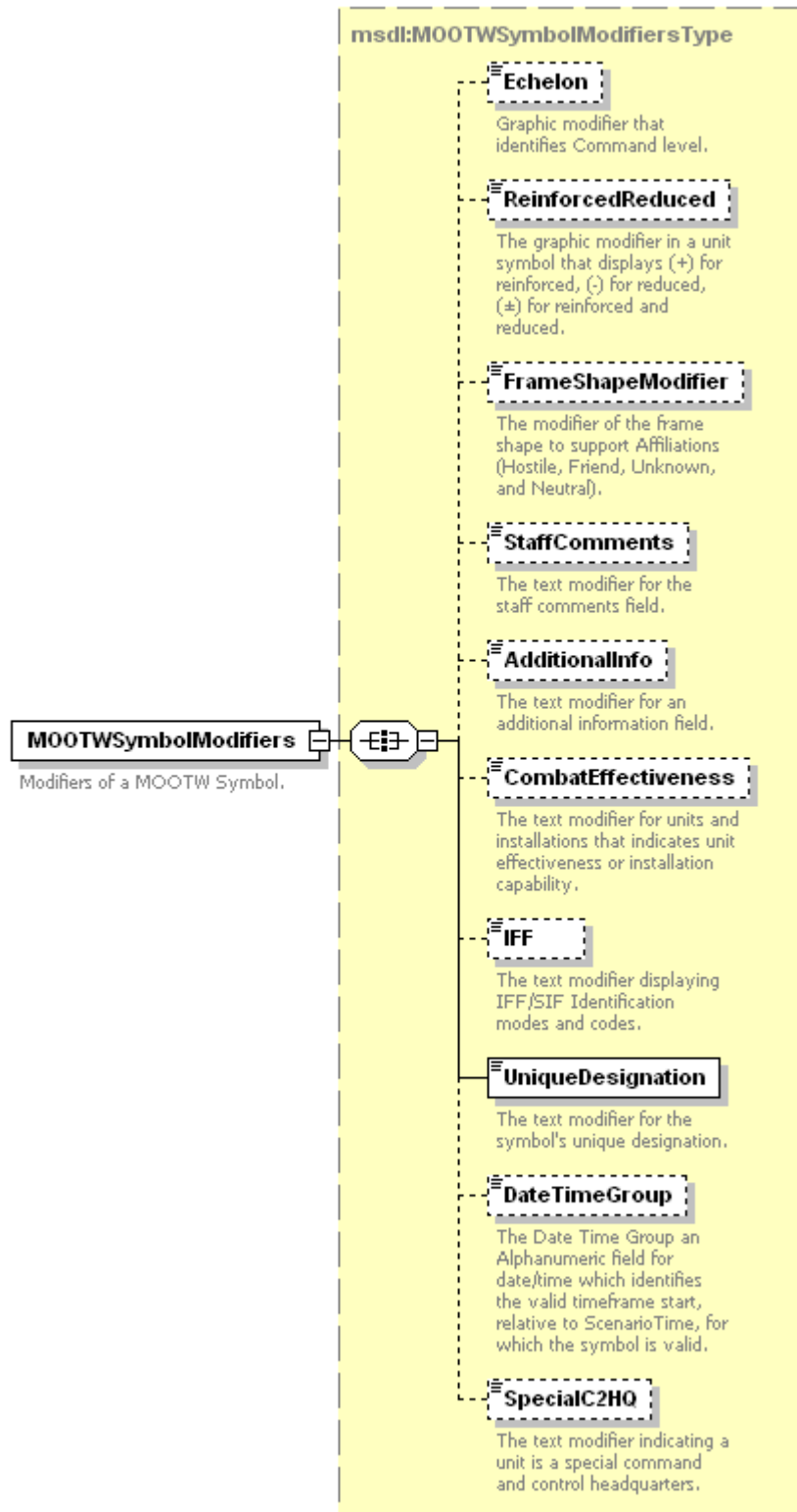


Figure 95: *msdl:MOOTWGraphicType/MOOTWSymbolModifiers* Element Structure

5.9.1.5.1. **msdl:MOOTWSymbolModifiersType/Echelon Element**

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

5.9.1.5.2. **msdl:MOOTWSymbolModifiersType/ReinforcedReduced Element**

For every **msdl:MOOTWSymbolModifiersType** complex type there shall be zero or one **ReinforcedReduced** element. This element specifies, through an enumeration, whether a unit has been reinforced with assets from another organization, reduced by giving assets to another organization, or has received assets from another organization and has given some assets to another organization. The domain type is **msdl:enumReinforcedReducedType**.

5.9.1.5.3. **msdl:MOOTWSymbolModifiersType/FrameShapeModifier Element**

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

5.9.1.5.4. **msdl:MOOTWSymbolModifiersType/StaffComments Element**

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

5.9.1.5.5. **msdl:MOOTWSymbolModifiersType/AdditionalInfo Element**

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

5.9.1.5.6. **msdl:MOOTWSymbolModifiersType/CombatEffectiveness Element**

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

5.9.1.5.7. **msdl:MOOTWSymbolModifiersType/IFF Element**

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

5.9.1.5.8. **msdl:MOOTWSymbolModifiersType/UniqueDesignation Element**

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

5.9.1.5.9. **msdl:MOOTWSymbolModifiersType/DateTimeGroup Element**

For every **msdl:MOOTWSymbolModifiersType** complex type there shall be zero or one **DateTimeGroup** element. The **DateTimeGroup** element specifies the date time group start time relative to the **ScenarioTime** from which a symbol is valid. The domain type is **msdl:patternTimeDTGRelative20**.

5.9.1.5.10. **msdl:MOOTWSymbolModifiersType/SpecialC2HQ Element**

For every **msdl:MOOTWSymbolModifiersType** complex type there shall be zero or one **SpecialC2HQ** element. The **SpecialC2HQ** element specifies the text modifier for units, that indicates a unit is a special command and control headquarters. The domain type is **msdl:textSpecialC2HQ9**.

5.9.1.6. **msdl:MOOTWGraphicType/AssociatedOverlays Element**

For every **msdl:MOOTWGraphicType** complex type there shall be zero or one **AssociatedOverlays** element. The **AssociatedOverlays** element specifies the overlays to which the tactical graphic is to be displayed. The domain type is **msdl:AssociatedOverlaysType** as defined within section 6.7.1.9 for **msdl:InstallationType/AssociatedOverlays**.

5.9.1.7. **msdl:MOOTWGraphicType/Disposition Element**

For every **msdl:MOOTWGraphicType** complex type there shall be one **Disposition** element. The **Disposition** element specifies the location of MOOTW instances and the manner in which these MOOTW instances are tactically deployed. It is an xs:all compositor comprised of the elements shown in Figure 96 and described in the following subsections. The domain type is **msdl:MOOTWDispositionType**.

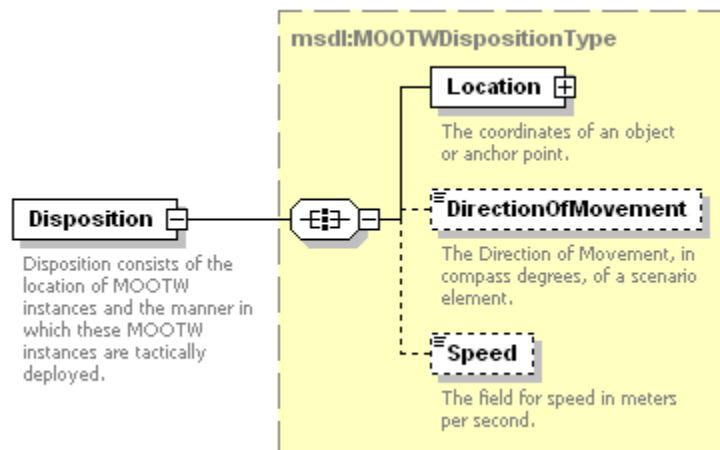


Figure 96: **msdl:MOOTWGraphicType/Disposition** Element Structure

5.9.1.7.1. **msdl:MOOTWDispositionType/Location**

For every **msdl:MOOTWDispositionType** complex type there shall be one **Location** element. This element provides the coordinates of the **MOOTWGraphic**. The domain type is **msdl:CoordinatesType** as defined within section 6.3.2.2 for **msdl:RectangleAreaType/UpperRight**.

5.9.1.7.2. **msdl:MOOTWDispositionType/DirectionOfMovement**

For every **msdl:MOOTWDispositionType** complex type there shall be zero or one **DirectionOfMovement** element. The **DirectionOfMovement** element specifies the horizontal direction of movement in compass degrees, measured relative to magnetic north 0 to 360 degrees clockwise, of the item identified by the MOOTW graphic. For reference trigonometric degrees = (90 – compass degrees). The domain type is **msdl:floatCompassDegrees3_3**.

5.9.1.7.3. **msdl:MOOTWDispositionType/Speed**

For every **msdl:MOOTWDispositionType** complex type there shall be zero or one **Speed** element. The **Speed** element specifies the rate of movement of the item identified by the MOOTW graphic in the direction specified by the **msdl:DirectionOfMovement** element. The domain type is **msdl:floatSpeed6_2**.

6. Data Types

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

6.1. Simple Type *msdl:enumAirFormationType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	element <i>msdl:FormationDataType/AirFormationType</i>
facets	enumeration NOT_SPECIFIED
annotation	documentation The formation of air (aviation) elements. Additional enumerations will be added as MSDL evolves.

6.2. Simple Type *msdl:enumAnchorPointType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	element <i>msdl:AnchorPointType/AnchorChoice</i>
facets	enumeration COORDINATE enumeration POINT_TACTICAL_GRAPHIC
annotation	documentation Enumerated choice of an absolute Coordinate or point graphic as a location reference

6.3. Simple Type *msdl:enumBaseAffiliation*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	elements <i>msdl:InstallationType/Affiliation</i> <i>msdl:TacticalGraphicType/Affiliation</i>
Facets	enumeration HOSTILE enumeration FRIEND enumeration NEUTRAL enumeration UNKNOWN
Annotation	documentation Enumerated values for the base affiliation..

6.4. Simple Type *msdl:enumCombatEffectivenessType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	elements <i>msdl:EquipmentSymbolModifiersType/CombatEffectiveness</i> <i>msdl:InstallationSymbolModifiersType/CombatEffectiveness</i> <i>msdl:MOOTWSymbolModifiersType/CombatEffectiveness</i> <i>msdl:UnitSymbolModifiersType/CombatEffectiveness</i>
facets	enumeration GREEN enumeration AMBER enumeration RED enumeration BLACK enumeration WHITE
annotation	documentation The text modifier for units and installations that indicates unit effectiveness or installation capability. The color to percent strength association is as follows: GREEN: 85 percent strength (combat capable); AMBER: 70 to 84 percent strength (combat capable with minor deficiencies); RED: 50 to 69 percent strength (combat ineffective, unit has major losses or deficiencies); BLACK: Less than 50 percent strength (requires reconstitution before next mission); WHITE: Not applicable or no information available.

6.5. Simple Type *msdl:enumCommandRelationshipType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
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type	restriction of xs:string	
used by	element	<i>msdl:CommandRelationType/CommandRelationshipType</i>
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'

6.6. Simple Type *msdl:enumCommunicationNetType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	element	<i>msdl:CommunicationNetInstanceType/CommunicationNetType</i>
facets	enumeration	OTHER
	enumeration	COMMAND_NET
	enumeration	OPERATIONS_INTELLIGENCE_NET
	enumeration	ADMIN_LOGISTICS_NET
	enumeration	FIRE_SUPPORT_NET
	documentation	The typical list of Communications Net Types for Army Units.

6.7. Simple Type *msdl:enumCommunicationServiceType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	element	<i>msdl:CommunicationNetInstanceType/CommunicationService</i>
facets	enumeration	DATTRF
	enumeration	FAX
	enumeration	IIF
	enumeration	IMAGE
	enumeration	MCI
	enumeration	MHS
	enumeration	TDL
	enumeration	VIDSVC
	enumeration	VOCSVC
	enumeration	NOS
annotation	documentation	The typical list of Communications Net Types for Army Units. The enumerations are defined as follows: DATTRF: Data transfer FAX: Facsimile IIF: Identify Friend or Foe IMAGE: Image MCI: Multilateral Interoperability Programme (MIP) Common Interface Service MHS: Message Handling Service TDL: Tactical Data Link VIDSVC: Video Service VOCSVC:Voice Service NOS: Not Otherwise Specified

6.8. Simple Type *msdl:enumCoordinateSystemType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	elements	<i>msdl:CoordinatesType/CoordinateChoice</i> <i>msdl:CoordinateDataStandardType/CoordinateSystemType</i>
facets	enumeration	MGRS
	enumeration	GDC
	enumeration	UTM
	enumeration	GCC
annotation	documentation	Enumerated choice for the type of coordinate as MGRS, GDC, UTM, and GCC.

6.9. Simple Type *msdl:enumEchelon*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
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type	restriction of xs:string	
used by	elements	<i>msdl:OrganizationDetailType/AggregateEchelon</i> <i>msdl:AreaSymbolModifiersType/Echelon</i> <i>msdl:BoundarySymbolModifiersType/Echelon</i> <i>msdl:MOOTWSymbolModifiersType/Echelon</i> <i>msdl:UnitSymbolModifiersType/Echelon</i>
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.

6.10. Simple Type **msdl:enumForceOwnerType**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	elements	<i>msdl:ForceRelationType/ForceRelationChoice</i> <i>msdl:OrganicRelationType/OrganicRelationChoice</i> <i>msdl:OwnerType/OwnerChoice</i>
facets	enumeration	UNIT
	enumeration	FORCE_SIDE
annotation	documentation	Enumerated choice for the type of owning organization as a force or unit.

6.11. Simple Type **msdl:enumFormationLocationType**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	element	<i>msdl:OwnFormationType/FormationLocationType</i>
facets	enumeration	LEAD_ELEMENT
	enumeration	CENTER_OF_MASS
annotation	documentation	Enumerated choice for the method used to correlate formation to location as center of mass or lead element. The enumerations are defined as follows: LEAD_ELEMENT: The unit location represents the location of the formation's lead element, identified by a formation order of 1. CENTER_OF_MASS: The unit location represents the location of the geographical center.

6.12. Simple Type **msdl:enumFormationType**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	element	<i>msdl:OwnFormationType/FormationChoice</i>
facets	enumeration	GROUND
	enumeration	AIR
	enumeration	SURFACE
	enumeration	SUBSURFACE
annotation	documentation	Enumerated choice for The type of formation being Ground, Air, Surface or Subsurface

6.13. Simple Type **msdl:enumFrameShapeModifierType**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	

used by	element	<i>msdl:InstallationSymbolModifiersType/FrameShapeModifier</i>
	element	<i>msdl:MOOTWSymbolModifiersType/FrameShapeModifier</i>
facets	enumeration	PENDING
	enumeration	ASSUMED_FRIEND
	enumeration	SUSPECT
	enumeration	EXERCISE_PENDING
	enumeration	EXERCISE_UNKNOWN
	enumeration	EXERCISE_FRIEND
	enumeration	EXERCISE_NEUTRAL
	enumeration	EXERCISE_ASSUMED_FRIEND
	enumeration	JOKER
	enumeration	FAKER
annotation	documentation	Enumeration values: PENDING - A unit/system/platform which has not been subjected to the identification process. ASSUMED_FRIEND - A unit/system/platform assumed to be friendly as a result of the identification process. SUSPECT - A unit/system/platform suspected to be hostile as a result of the identification process. EXERCISE_PENDING - unit/system/platform pending the identification process. EXERCISE_UNKNOWN – A unit/system/platform of unknown affiliation within the context of an exercise. EXERCISE-FRIEND – A unit/system/platform of friendly affiliation within the context of an exercise. EXERCISE-NEUTRAL – A unit/system/platform of neutral affiliation within the context of an exercise. EXERCISE_ASSUMED_FRIEND – A unit/system/platform assumed to be friendly within the context of an exercise. JOKER – A friendly unit/system/platform acting as a suspect for exercise purposes. FAKER - A friendly unit/system/platform acting as hostile for exercise purposes.

6.14. Simple Type **msdl:enumGroundFormationType**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	element	<u><i>msdl:FormationDataType/GroundFormationType</i></u>
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.

6.15. Simple Type **msdl:enumModelResolutionType**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	elements	<i>msdl:EquipmentModelType/Resolution</i> <i>msdl:UnitModelType/Resolution</i>
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. The enumerations are defined as follows: NONE: No resolution/representation of the unit or equipment is necessary to achieve scenario objectives. MINIMAL: Minimal resolution representation (graphical display only, no behaviors) of the unit or equipment is necessary to achieve scenario objectives. This resolution typically applies to elements that are displayed as part of the common operating picture, but have no direct impact on scenario objectives.

STANDARD: Standard (low) resolution representation of the unit or equipment necessary to achieve scenario objectives. This resolution typically applies to elements that are two or more echelons above, below or adjacent to the principal planning unit.

ENHANCED: Enhanced (medium) resolution representation of the unit or equipment necessary to achieve scenario objectives. This resolution typically applies to elements that are within two echelons of the principal planning unit.

HIGH: High resolution representation of the unit or equipment necessary to achieve scenario objectives. This resolution typically applies to elements that are within one echelon of the principal planning unit.

6.16. Simple Type msdl:enumMOPPLLevelType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element **msdl:StatusType/MOPPLLevel**

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. The enumerations are defined as follows:
LEVEL_0: None of the protective clothing and equipment is worn, but it is readily available.
LEVEL_1: The overgarment and helmet cover are worn.
LEVEL_2: TBD.
LEVEL_3: Chemical protective mask and hood are added. At this point personnel are completely encapsulated.
LEVEL_4: Butyl rubber gloves are added.

6.17. Simple Type msdl:enumOrientationType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by elements **msdl:InstallationType/Orientation msdl:PointSymbolModifiersType/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. The enumerations are defined as follows:
ORIENT_RIGHT: Orientation of the point graphic is 90 degrees to the right.
ORIENT_LEFT: Orientation of the point graphic is 90 degrees to the left.

6.18. Simple Type msdl:enumOverlayType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by elements **msdl:OverlayType/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. A2C2 – Army Airspace Command and Control.

6.19. Simple Type msdl:enumReinforcedReducedType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by elements **msdl:MOOTWSymbolModifiersType/ReinforcedReduced msdl:UnitSymbolModifiersType/ReinforcedReduced**

facets enumeration R
enumeration D
enumeration RD

annotation documentation The graphic modifier in a unit symbol that displays (+) for “R” or reinforced, (-) for “D” or reduced, (±) for “RD” or reinforced and reduced.

6.20. Simple Type msdl:enumSubsurfaceFormationType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element **msdl:FormationDataType/SubsurfaceFormationType**

facets enumeration NOT_SPECIFIED

annotation documentation This is the subsurface formation from which subordinate elements are placed in formation. Additional enumerations will be added as MSDL evolves.

6.21. Simple Type msdl:enumSupportRelationType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element **msdl:SupportRelationType/SupportType**

facets enumeration GS
enumeration DS
enumeration R
enumeration GSR
enumeration NOT_SPECIFIED

annotation documentation The support relationship of this unit with respect to the unit being supported:
GS – General Support (Ref Army FM 3-0)
DS – Direct Support (Ref Army FM 3-0)
R – Reinforcing (Ref Army FM 3-0)
GSR – General Support Reinforcing (Ref Army FM 3-0)
NOT_SPECIFIED – Not specified

6.22. Simple Type msdl:enumSupportRoleType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element **msdl:SupportRelationType/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

6.23. Simple Type msdl:enumSurfaceFormationType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element **msdl:FormationDataType/SurfaceFormationType**

facets enumeration NOT_SPECIFIED

annotation documentation This is the surface formation from which subordinate elements are placed in formation. Additional enumerations will be added as MSDL evolves.

6.24. Simple Type msdl:enumSymbolClassType

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element **msdl:TacticalGraphicType/SymbolClassChoice**

facets enumeration POINT
enumeration LINE
enumeration AREA
enumeration BOUNDARY
enumeration NBC_EVENT
enumeration TASK

annotation documentation Enumerated choice for the class of symbology modifiers.

6.25. Simple Type *msdl:enumSymbologyStandardType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	element	<i>msdl:SymbologyDataStandardType/StandardName</i>	
facets	enumeration	MILSTD_2525B	
	enumeration	NATO_APP-6	
annotation	documentation	Enumerated choice for the type of symbology standard.	

6.26. Simple Type *msdl:enumWeaponControlStatusType*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	element	<i>msdl:StatusType/WeaponControlStatus</i>	
facets	enumeration	WEAPONS_FREE	
	enumeration	WEAPONS_TIGHT	
	enumeration	WEAPONS_HOLD	
annotation	documentation	Degree of fire control, values include free, tight, and hold. The enumerations are defined as follows: WEAPONS_FREE: Weapons systems may be fired at any target not positively recognized as friendly. WEAPONS_TIGHT: Weapons systems may only be fired in self-defense or in response to a formal order. WEAPONS_HOLD: Weapons systems may be fired only at targets recognized as hostile.	

6.27. Simple Type *msdl:boolean*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	xs:boolean		
used by	elements	<i>msdl:OrganizationDetailType/AggregateBased</i> <i>msdl:UnitModelType/AggregateBased</i> <i>msdl:EquipmentSymbolModifiersType/AuxiliaryEquipment</i> <i>msdl:FormationPositionType/OutOfFormation</i>	
annotation	documentation	The MSDL base type for boolean values.	

6.28. Simple Type *msdl:floatCartesianValue9_3*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	xs:double		
used by	elements	<i>msdl:GCCType/X</i> <i>msdl:GCCType/Y</i> <i>msdl:GCCType/Z</i>	
annotation	documentation	The double precision X component of the Geocentric coordinate.	

6.29. Simple Type *msdl:floatCompassDegrees3_3*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:float		
used by	elements	<i>msdl:EquipmentDispositionType/DirectionOfMovement</i> <i>msdl:METOCDispositionType/DirectionOfMovement</i> <i>msdl:MOOTWDispositionType/DirectionOfMovement</i> <i>msdl:NBCEventSymbolModifiersType/DirectionOfMovement</i> <i>msdl:UnitDispositionType/DirectionOfMovement</i> <i>msdl:OwnFormationType/FormationOrientation</i> <i>msdl:FormationPositionType/SensorOrientation</i>	
facets	minInclusive	0.00	
	maxInclusive	360.00	
annotation	documentation	The unit is compass degrees measured relative to magnetic north 0 to 360 degrees clockwise. For reference trigonometric degrees = (90 – compass degrees).	

6.30. Simple Type *msdl:floatElevationAGL6_2*

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:float		
used by	elements	<i>msdl:GDCType/ElevationAGL</i> <i>msdl:MGRSType/ElevationAGL</i> <i>msdl:UTMType/ElevationAGL</i>	
facets	minInclusive	-999999.0	
	maxInclusive	999999.0	
annotation	documentation	Altitude or height relative to ground level in meters.	

6.31. Simple Type **msdl:floatLatitudeLongitude3_3**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:float		
used by	elements	<i>msdl:GDCType/Latitude msdl:GDCType/Longitude</i>	
facets	minInclusive	-180.0	
	maxInclusive	180.0	
annotation	documentation	Decimal degrees of longitude/latitude.	

6.32. Simple Type **msdl:floatSpacing4_3**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:float		
used by	element	<i>msdl:OwnFormationType/FormationSpacing</i>	
facets	minInclusive	1.	
	maxExclusive	9999.999	
annotation	documentation	The default spacing in meters between subordinate elements one echelon below.	

6.33. Simple Type **msdl:floatSpeed6_2**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:float		
used by	elements	<i>msdl:EquipmentDispositionType/Speed msdl:MOOTWDDispositionType/Speed msdl:UnitDispositionType/Speed</i>	
facets	minInclusive	0.0	
	maxInclusive	999999.0	
annotation	documentation	The field for unit or equipment speed in meters per second.	

6.34. Simple Type **msdl:floatUTMEasting9_2**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:float		
used by	element	<i>msdl:UTMType/UTMEasting</i>	
facets	minInclusive	0.0	
	documentation	The easting component of the UTM coordinate.	

6.35. Simple Type **msdl:floatUTMNorthing9_2**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:float		
used by	element	<i>msdl:UTMType/UTMNorthing</i>	
facets	minInclusive	0.0	
	documentation	The northing component of the UTM coordinate.	

6.36. Simple Type **msdl:integerMGRSEasting5**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:long		
used by	element	<i>msdl:MGRSType/MGRSEasting</i>	
facets	minInclusive	0	
	maxInclusive	99999	
annotation	documentation	The easting component of the MGRS coordinate.	

6.37. Simple Type **msdl:integerMGRSNorthing5**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:long		

used by	element	<i>msdl:MGRSType/MGRSNorthing</i>
facets	minInclusive	0
	maxInclusive	99999
annotation	documentation	The northing component of the MGRS coordinate.

6.38. Simple Type **msdl:integerMGRSPrecision1**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:int	
used by	element	<i>msdl:MGRSType/MGRSPrecision</i>
facets	minInclusive	2
	maxInclusive	5
annotation	documentation	The precision is defined by assigning a value of 2 to define a number using kilometers as its units of measure; a value of 3 to define a number using 100 meters as its units of measure, a value of 4 to define a number using 10 meters as its units of measure, or a value of 5 to define a number using meters as its units of measure. The precision determines how the MGRS value is encoded (padded with leading zeros) in a fixed length string.

6.39. Simple Type **msdl:integerPriorityToSupport1**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:integer	
used by	element	<i>msdl:SupportRelationType/PriorityToSupport</i>
facets	minInclusive	1
	maxInclusive	9
annotation	documentation	The Supporting Unit's priority to support another unit from 1 to 9 where 1 is the top priority.

6.40. Simple Type **msdl:integerQuantity9**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:int	
used by	elements	<i>msdl:EquipmentSymbolModifiersType/Quantity</i> <i>msdl:METOCGraphicType/Quantity</i> <i>msdl:NBCEventSymbolModifiersType/Quantity</i>
facets	minInclusive	0
	maxInclusive	999999999
annotation	documentation	The text modifier of a symbol that identifies the number of items present.

6.41. Simple Type **msdl:integerSequence6**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:integer	
used by	element	<i>msdl:FormationPositionType/FormationOrder</i>
facets	minInclusive	1
	maxInclusive	999999
annotation	documentation	The sequence or order of elements.

6.42. Simple Type **msdl:patternForceSymbolID15**

namespace	urn:sisostds:scenario:military:data:draft:msdl:1	
type	restriction of xs:string	
used by	elements	<i>msdl:EquipmentItemtype/SymbolIdentifier</i> <i>msdl:UnitType/SymbolIdentifier</i>
facets	length	15
	pattern	[S]{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 ForceSide structure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values. The coding scheme, position 1, shall be 'S' for unit and equipment symbol identification. The elements in the force symbol are defined in MIL STD 2525B.

6.43. Simple Type msdl:patternInstallationSymbolID15

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	element	<i>msdl:InstallationType/SymbolIdentifier</i>	
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 ForceSide structure data. Status is to be interpreted as 'Present' until such time as a separate element is created to distinguish truth values from perceived values. The coding scheme, position 1, shall be 'S' for installation symbol identification. The elements in the installation symbol are defined in MIL STD 2525B.	

6.44. Simple Type msdl:patternMETOCSymbolID15

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	element	<i>msdl:METOCGraphicType/SymbolIdentifier</i>	
facets	length	15	
	pattern	[W]{1}[AOS]{1}\-[BCGHILMOPTW\-]{1}[ABCDEFGHIJLMNOPRSTX\-]{1}[ABCDEFGHIJLMNOPQRSTUVWXYZ\-]{1}[ABCDEFGHIJLMNOPQRSTUVWXYZ\-]{1}[ABCDEFGHIJLMNOPRSTVW\-]{1}[ABCEFGHILMOPQRSTUVWXYZ\-]{1}\-\-\-\-	
annotation	documentation	The 15 character METOC 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 ForceSide structure data. Status is to be interpreted as 'Present' until such time as a separate element is created to distinguish truth values from perceived values. The coding scheme, position 1, shall be 'W' METOC symbol identification. The elements in the METOC symbol are defined in MIL STD 2525B.	

6.45. Simple Type msdl:patternMGRSGridSquare2

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	elements	<i>msdl:MGRSType/MGRSGridSquare</i> <i>msdl:MGRSType/MGRSGridZone</i>	
facets	length	2	
	pattern	[ABCDEFGHJKLMNPQRSTUVWXYZ]{2}	
annotation	documentation	The MGRS one hundred thousand meter grid square designator, as defined by NIMA TM 8358.1.	

6.46. Simple Type msdl:patternMOOTWSymbolID15

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	element	<i>msdl:MOOTWGraphicType/SymbolIdentifier</i>	
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 ForceSide structure data. Status is to be interpreted as 'Present' until such time as a separate element is created to distinguish truth values from perceived values. The coding scheme, position 1, shall be 'O' for MOOTW symbol identification. The elements in the MOOTW symbol are defined in MIL STD 2525B.	

6.47. Simple Type msdl:patternTacticalGraphicSymbolID15

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	element	<i>msdl:TacticalGraphicType/SymbolIdentifier</i>	
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 ForceSide structure data. Status is to be interpreted as 'Present' until such time as a separate element is created to	

distinguish truth values from perceived values. The coding scheme, position 1, shall be 'G' for tactical graphic symbol identification. The elements in the tactical graphic symbol are defined in MIL STD 2525B.

6.48. Simple Type msdl:patternTimeDTG20

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	element msdl:EnvironmentType/ScenarioTime
facets	length 20 pattern [0-9]{4}-[0-9]{2}-[0-9]{2}[T]{1}[0-9]{2}:[0-9]{2}:[0-9]{2}:[Z]{1}
annotation	documentation The ISO 8601:2000 DateTime Group format yyyy-mm-ddThh:mm:ssZ e.g. 1998-05-12T14:15:00Z.

6.49. Simple Type msdl:patternTimeDTGRelative20

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	elements msdl:AreaSymbolModifiersType/DateTimeGroup msdl:InstallationSymbolModifiersType/DateTimeGroup msdl:LineSymbolModifiersType/DateTimeGroup msdl:METOCGraphicType/DateTimeGroup msdl:MOOTWSymbolModifiersType/DateTimeGroup msdl:NBCEventSymbolModifiersType/DateTimeGroup msdl:PointSymbolModifiersType/DateTimeGroup msdl:TaskSymbolModifiersType/DateTimeGroup msdl:AreaSymbolModifiersType/DateTimeGroup1 msdl:LineSymbolModifiersType/DateTimeGroup1 msdl:METOCGraphicType/DateTimeGroup1 msdl:PointSymbolModifiersType/DateTimeGroup1
facets	length 20 pattern [P]{1}[0-9]{2}[Y]{1}[M]{1}[0-9]{2}[D]{1}[0-9]{2}[H]{1}[0-9]{2}[M]{1}[0-9]{2}[S]{1}
annotation	documentation The ISO 8601:2000 time interval by duration format PnYnMnDnHnMnS e.g. P00Y00M00DT00H00M00S relative to ScenarioTime when n is a two digit number padded with 0.

6.50. Simple Type msdl:patternUTMGridZone3

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	element msdl:UTMType/UTMGridZone
facets	length 3 pattern [0-9]{2}[A-Z]{1}
annotation	documentation The UTM Grid Zone designator, to include the number and letter as defined by NIMA TM 8358.1.

6.51. Simple Type msdl:patternUUID32

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	elements msdl:ForceSideType/AllegianceHandle msdl:EquipmentItemtype/ObjectHandle msdl:ForceSideType/ObjectHandle msdl:InstallationType/ObjectHandle msdl:METOCGraphicType/ObjectHandle msdl:MOOTWGraphicType/ObjectHandle msdl:OverlayType/ObjectHandle msdl:TacticalGraphicType/ObjectHandle msdl:UnitType/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 in ISO/IEC 11578:1996 Information technology - Open Systems Interconnection - Remote Procedure Call (RPC).

6.52. Simple Type msdl:patternUUIDRef32

namespace	urn:sisostds:scenario:military:data:draft:msdl:1
type	restriction of xs:string
used by	elements msdl:AssociationType/AffiliateHandle msdl:CommandRelationType/CommandingSuperiorHandle msdl:OwnerDataType/ForceOwnerHandle msdl:ForceRelationDataType/ForceSideHandle msdl:OrganicRelationDataType/OrganicForceSideHandle msdl:EquipmentRelationsType/OrganicSuperiorHandle msdl:OrganicRelationDataType/OrganicSuperiorHandle msdl:OverlayHandlesType/OverlayHandle msdl:AnchorType/PointSymbolHandle msdl:SupportRelationType/SupportedUnitHandle msdl:CommunicationNetReferenceType/UnitOwnerHandle msdl:OwnerDataType/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 Reference to a Universal Unique Identifier (UUID) of an object as defined in ISO/IEC 11578:1996 Information technology - Open Systems Interconnection - Remote Procedure Call (RPC).

6.53. Simple Type *msdl:text20*

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by elements *msdl:AreaSymbolModifiersType/AdditionalInfo* *msdl:EquipmentSymbolModifiersType/AdditionalInfo*
msdl:InstallationSymbolModifiersType/AdditionalInfo *msdl:METOCGraphicType/AdditionalInfo*
msdl:MOOTWSymbolModifiersType/AdditionalInfo
msdl:NBCEventSymbolModifiersType/AdditionalInfo *msdl:PointSymbolModifiersType/AdditionalInfo*
msdl:UnitSymbolModifiersType/AdditionalInfo *msdl:AreaSymbolModifiersType/AdditionalInfo1*
msdl:PointSymbolModifiersType/AdditionalInfo1 *msdl:AreaSymbolModifiersType/AdditionalInfo2*
msdl:NBCEventSymbolModifiersType/NBCType
msdl:EquipmentSymbolModifiersType/StaffComments
msdl:InstallationSymbolModifiersType/StaffComments
msdl:MOOTWSymbolModifiersType/StaffComments *msdl:UnitSymbolModifiersType/StaffComments*

facets minLength 0
maxLength 20
pattern ([-z]{1})*

annotation documentation General text of length 20 characters.

6.54. Simple Type *msdl:text21*

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by elements *msdl:UnitSymbolModifiersType/HigherFormation* *msdl:AreaSymbolModifiersType/UniqueDesignation*
msdl:BoundarySymbolModifiersType/UniqueDesignation
msdl:EquipmentSymbolModifiersType/UniqueDesignation
msdl:InstallationSymbolModifiersType/UniqueDesignation
msdl:LineSymbolModifiersType/UniqueDesignation *msdl:METOCGraphicType/UniqueDesignation*
msdl:MOOTWSymbolModifiersType/UniqueDesignation
msdl:NBCEventSymbolModifiersType/UniqueDesignation
msdl:PointSymbolModifiersType/UniqueDesignation
msdl:TaskSymbolModifiersType/UniqueDesignation
msdl:UnitSymbolModifiersType/UniqueDesignation
msdl:BoundarySymbolModifiersType/UniqueDesignation1
msdl:LineSymbolModifiersType/UniqueDesignation1
msdl:PointSymbolModifiersType/UniqueDesignation1

facets minLength 0
maxLength 21
pattern ([-z]{1})*

annotation documentation General text of length 21 characters.

6.55. Simple Type *msdl:textDatum8*

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element *msdl:CoordinateDataStandardType/CoordinateSystemDatum*

facets minLength 0
maxLength 8
pattern ([-z]{1})*

annotation documentation The Datum used to calculate coordinates.

6.56. Simple Type *msdl:textEquipmentType24*

namespace urn:sisostds:scenario:military:data:draft:msdl:1

type restriction of **xs:string**

used by element *msdl:EquipmentSymbolModifiersType/EquipmentType*

facets minLength 0
maxLength 24
pattern ([-z]{1})*

annotation documentation The text modifier that indicates type of equipment.

6.57. Simple Type msdl:textIdentifier64

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	elements	msdl:CommunicationNetInstanceType/CommunicationNetId msdl:CommunicationNetReferenceType/CommunicationNetId msdl:OptionsType/MSDLVersion	
facets	minLength	0	
	maxLength	64	
	pattern	([-z]{1})*	
annotation	documentation	The general text identifier.	

6.58. Simple Type msdl:textIFF5

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	elements	msdl:EquipmentSymbolModifiersType/IFF msdl:InstallationSymbolModifiersType/IFF msdl:MOOTWSymbolModifiersType/IFF msdl:UnitSymbolModifiersType/IFF	
facets	minLength	0	
	maxLength	5	
	pattern	([-z]{1})*	
annotation	documentation	Text modifier for identification friend or foe (IFF).	

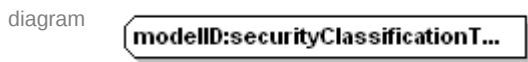
6.59. Simple Type msdl:textName255

namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	elements	msdl:ForceSideType/ForceSideName msdl:EquipmentItemName/Name msdl:InstallationType/Name msdl:RectangleAreaType/Name msdl:UnitType/Name msdl:OverlayType/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.	

6.60. Simple Type msdl:textSpecialC2HQ9

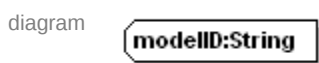
namespace	urn:sisostds:scenario:military:data:draft:msdl:1		
type	restriction of xs:string		
used by	elements	msdl:MOOTWSymbolModifiersType/SpecialC2HQ msdl:UnitSymbolModifiersType/SpecialC2HQ	
facets	minLength	0	
	maxLength	9	
	pattern	([-z]{1})*	
annotation	documentation	The name of the special C2 headquarters.	

6.61. Complex Type modelID:securityClassificationType



namespace	http://www.sisostds.org/schemas/modelID		
type	extension of modelID:SecurityClassificationUnion		
used by	element	modelID:modelIdentificationType/securityClassification	
attributes	Name	Type	Use
	notes	xs:IDREFS	optional
	idtag	xs:ID	optional
	Default	Fixed	Annotation

6.62. Complex Type modelID:String



namespace	http://www.sisostds.org/schemas/modelID		
type	extension of xs:string		

used by	elements	modelID:modelIdentificationType/other modelID:pocType/pocEmail modelID:pocType/pocName modelID:pocType/pocOrg modelID:pocType/pocTelephone modelID:modelIdentificationType/purpose modelID:modelIdentificationType/releaseRestriction modelID:keywordType/taxonomy modelID:modelIdentificationType/useHistory modelID:modelIdentificationType/useLimitation				
attributes	Name	Type	Use	Default	Fixed	Annotation
	notes	xs:IDREFS	optional			
	idtag	xs:ID	optional			

6.63. Simple Type modelID:ApplicationDomainEnumerations

namespace	http://www.sisostds.org/schemas/modelID	
type	restriction of xs:string	
used by	simpleType	modelID:ApplicationDomainUnion
facets	enumeration	Analysis
	enumeration	Training
	enumeration	Test and Evaluation
	enumeration	Engineering
	enumeration	Acquisition

6.64. Simple Type modelID:ApplicationDomainUnion

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

6.65. Simple Type modelID: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

6.66. Simple Type modelID:glyphTypeUnion

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

6.67. Simple Type modelID:nonEmptyString

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

6.68. Simple Type modelID:OMTypeEnumerations

namespace	http://www.sisostds.org/schemas/modelID	
type	restriction of xs:string	
used by	simpleType	modelID:OMTypeUnion
facets	enumeration	FOM
	enumeration	SOM
	enumeration	BOM
annotation	documentation	FOM = Federation Object Model; SOM = Simulation Object Model; BOM = Base Object Model

6.69. Simple Type modelID:OMTypeUnion

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

6.70. Simple Type **modelID:POCTypeEnumeration**

namespace <http://www.sisostds.org/schemas/modelID>

type restriction of **xs:string**
used by simpleType **modelID:POCTypeUnion**
facets
enumeration Primary author
enumeration Contributor
enumeration Proponent
enumeration Sponsor
enumeration Release authority
enumeration Technical POC

6.71. Simple Type **modelID:POCTypeUnion**

namespace <http://www.sisostds.org/schemas/modelID>

type union of (**modelID:POCTypeEnumeration**, **modelID:nonEmptyString**)
used by complexType **modelID:pocTypeType**

6.72. Simple Type **modelID:referenceTypeEnumerations**

namespace <http://www.sisostds.org/schemas/modelID>

type restriction of **xs:string**
used by simpleType **modelID:referenceTypeUnion**
facets
enumeration Source Material
enumeration Conceptual Model
enumeration Related BOM

6.73. Simple Type **modelID:referenceTypeUnion**

namespace <http://www.sisostds.org/schemas/modelID>

type union of (**modelID:referenceTypeEnumerations**, **xs:string**)
used by element **modelID:referenceType/type**

6.74. Simple Type **modelID:SecurityClassificationEnumeration**

namespace <http://www.sisostds.org/schemas/modelID>

type restriction of **xs:string**
used by simpleType **modelID:SecurityClassificationUnion**
facets
enumeration Unclassified
enumeration Confidential
enumeration Secret
enumeration Top Secret

6.75. Simple Type **modelID:SecurityClassificationUnion**

namespace <http://www.sisostds.org/schemas/modelID>

type union of (**modelID:SecurityClassificationEnumeration**, **modelID:nonEmptyString**)
used by complexType **modelID:securityClassificationType**

6.76. Simple Type **jc3iedm:AngleOptionalTypeRangeAngle7_4**

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

type restriction of **xs:decimal**
used by elements **jc3iedm:Wind/DirectionAngle** **jc3iedm:Wind/EffectiveDownwindDirectionAngle**
facets
minInclusive 0.0000
maxInclusive 360.0000
totalDigits 7
fractionDigits 4

6.77. Simple Type **jc3iedm:DatetimeOptionalTypeFix18**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0		
type	restriction of xs:string		
used by	elements	jc3iedm:Light/DownDatetime jc3iedm: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)	

6.78. Simple Type **jc3iedm:DimensionMandatoryType12_3**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0		
type	restriction of xs:decimal		
used by	element	jc3iedm: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 meters. (Mandatory)	

6.79. Simple Type **jc3iedm:DimensionOptionalType12_3**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0		
type	restriction of xs:decimal		
used by	elements	jc3iedm:CloudCover/BaseDimension jc3iedm: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 meters. (Optional)	

6.80. Simple Type **jc3iedm:QuantityOptionalType8_4**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0		
type	restriction of xs:decimal		
used by	element	jc3iedm: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 shall 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)	

6.81. Simple Type **jc3iedm:RateOptional4_1**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0		
type	restriction of xs:decimal		
used by	element	jc3iedm: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 shall be specified on an attribute-by-attribute basis. (Optional)	

6.82. Simple Type jc3iedm:RateOptional8_4

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of xs:decimal	
used by	element	jc3iedm: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 shall be specified on an attribute-by-attribute basis. (Optional)

6.83. Simple Type jc3iedm:RatioOptionalTypeRangeRatio6_5

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of xs:decimal	
used by	element	jc3iedm: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 shall be specified on an attribute-by-attribute basis. (Optional)

6.84. Simple Type jc3iedm:RatioOptionalTypeRangeRatio7_6

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of xs:decimal	
used by	element	jc3iedm: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 shall be specified on an attribute-by-attribute basis. (Optional)

6.85. Simple Type jc3iedm:TemperatureTypeRangeTemperature5_1

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of xs:decimal	
used by	element	jc3iedm: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.

6.86. Simple Type jc3iedm:AffiliationGeopoliticalCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of xs:token	
used by	element	msdl:ForceSideType/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
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
	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. Description of enumerations can be found in Domain List of JC3IEDM under affiliation-geopolitical-code.

6.87. Simple Type **jc3iedm:AtmosphereInversionLayerCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of xs:token	
used by	element	jc3iedm: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. . Description of enumerations can be found in Domain List of JC3IEDM under atmosphere-inversion-layer-code.

6.88. Simple Type **jc3iedm:AtmosphereTemperatureGradientCode**

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

6.89. Simple Type **jc3iedm:CloudCoverAverageCoverageCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of xs:token	
used by	element	jc3iedm: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. . Description of enumerations can be found in Domain List of JC3IEDM under cloud-cover-average-coverage-code.	

6.90. Simple Type **jc3iedm:CloudcoverCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0		
type	restriction of xs:token		
used by	element	jc3iedm:CloudCover/CategoryCode	
facets	enumeration	C	
	enumeration	RDACCL	
	enumeration	SMOKE	
annotation	documentation	The specific value that represents the prevailing class of a specific CLOUD-COVER . Description of enumerations can be found in Domain List of JC3IEDM under cloud-cover-category-code.	

6.91. Simple Type **jc3iedm:IcingCategoryCode**

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

6.92. Simple Type **jc3iedm:IcingSeverityQualifierCode**

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

6.93. Simple Type **jc3iedm:LightCategoryCode**

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0		
type	restriction of xs:token		
used by	element	jc3iedm:Light/CategoryCode	
facets	enumeration	CIVIL	
	enumeration	DARK	
	enumeration	DAY	
	enumeration	MOON	
	enumeration	NAUTIC	
annotation	documentation	The specific value that represents the class of LIGHT.	

6.94. Simple Type **jc3iedm:LightMoonPhaseCode**

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

6.95. Simple Type **jc3iedm:MilitaryOrganisationTypeServiceCode**

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

type restriction of **xs:token**

used by element **msdl:ForceSideType/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. Description of enumerations can be found in Domain List of JC3IEDM under military-organisation-type-service-code.

6.96. Simple Type **jc3iedm:NuclearYieldGroupCode**

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

type restriction of **xs:token**

used by element **jc3iedm: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). Description of enumerations can be found in Domain List of JC3IEDM under nuclear-yield-group-code.

6.97. Simple Type **jc3iedm:ObjectItemHostilityStatusCode**

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

type restriction of **xs:token**

used by element **msdl:AssociationType/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. Description of enumerations can be found in Domain List of JC3IEDM under object-item-hostility-status-code.

6.98. Simple Type jc3iedm:PrecipitationCategoryCode

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

type restriction of **xs:token**

used by element **jc3iedm: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. Description of enumerations can be found in Domain List of JC3IEDM under precipitation-category-code.

6.99. Simple Type jc3iedm:VisibilityCategoryCode

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

type restriction of **xs:token**

used by element **jc3iedm: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. Description of enumerations can be found in Domain List of JC3IEDM under visibility-category-code.

6.100. Simple Type jc3iedm:WindAirStabilityCategoryCode

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

type restriction of **xs:token**

used by element **jc3iedm: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. Description of enumerations can be found in Domain List of JC3IEDM under wind-air-stability-category-code. The enumeration values map to the following descriptive labels:
1 – Detailed, very unstable
2 – Detailed, unstable
3 – Detailed, slightly unstable
4 – Detailed, neutral

5 – Detailed, slightly stable
 6 – Detailed, stable
 7 – Detailed, very stable
 N – Simplified, neutral
 S – Simplified, stable
 U – Simplified, unstable

6.101. Simple Type jc3iedm:WindAltitudeLayerCode

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

type restriction of xs:token

used by element jc3iedm: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. Description of enumerations can be found in Domain List of JC3IEDM under wind-altitude-layer-code. The enumeration values map to the following descriptive labels:
 10 – 10,000 meters
 12 – 12,000 meters
 14 – 14,000 meters
 16 – 16,000 meters
 18 – 18,000 meters
 2 – 2,000 meters
 20 – 20,000 meters
 24 – 24,000 meters
 26 – 26,000 meters
 28 – 28,000 meters
 30 – 30,000 meters
 4 – 4,000 meters
 6 – 6,000 meters
 8 – 8,000 meters

6.102. Simple Type jc3iedm:WindCategoryCode

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

type restriction of xs:token

used by element jc3iedm: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. Description of enumerations can be found in Domain List of JC3IEDM under wind-category-code.