Simulation Interoperability Standards Organization (SISO)

Specification for: Military Scenario Definition Language (MSDL)

X February 2007

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TABLE OF CONTENTS

LIST OF FIGURES

1 Introduction

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

A common mechanism for validating and loading Military Scenarios.

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

A way to improve scenario consistency between federated simulations.

The standardization of scenario descriptions through MSDL will enable the Army, Joint, and international communities the ability to reuse military scenarios between exercises and course of action development activities.

1.1 Purpose

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

1.2 Scope

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

1.3 Objectives

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

1.4 Intended Audiences

This document is intended for the Modeling & Simulation community.

2 References

2.1 SISO References:

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

2.2 Other References:

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

3 Definitions

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)

(This definition has been modified to prevent exclusion of information and knowledge about its own force, the friendly forces, and the environment. The kind of information and knowledge is unspecified in the definition and as such could include COA data.)

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 is given in the context of a desired execution for both its reality and its intelligence on this reality. The desired execution is described in terms of the METT-TC factors: mission, enemy, terrain and weather, troops and support available, time available and civil considerations.

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

xs:all Compositor Particles defined within an xs:all element 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 annotion elements. Elements declared within an xs:all element can either occur 0 or 1 time as set by the minOccurs and maxOccurs on the element declarations.

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

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

4 Acronyms and Abbreviations

BMNT	Begin Morning Nautical Twilight
BSO	Battle Space Object
COP	Common Operational Picture
DIS	Distributed Interactive Simulation
EENT	End Evening Nautical Twilight
EXCOM	Executive Committee
GCC	Geocentric Coordinate
GDC	Geodetic Coordinate
JC3IEDM	Joint Consultation Command and Control Information Exchange Data Model
JCDB	Joint Command Database
MDMP	Military Decision Making Process
METOC	Meteorology & Oceanography
MGRS	Military Grid Reference System
MIL STD	Military Standard
MOOTW	Military Operation Other Than War

71	MSDB	Military Source Database
72	MSDE	Military Scenario Development Environment
73	MSDL	Military Scenario Definition Language
74	M&S	Modeling & Simulation
75	MTO&E	Modified Table of Organization and Equipment
76	PDG	Product Development Group
77	POC	Point of Contact
78	SAC	Standard Activity Committee
79	SIMCI	Simulation to C4I Interoperability
80	SISO	Simulation Interoperability Standards Organization
81	UOB	Unit Order of Battle
82	UTM	Universal Transverse Mercator
83	UUID	Universal Unique Identifiers
84	XML	eXtensible Markup Language

5 Military Scenario Definition Language (MSDL)

5.1 MSDL Concepts

This section presents some concepts that characterize MSDL.

5.1.1 Planning and Execution

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 proprietary format and the standard MSDL format. Additionally, the conversion to the execution format may add information that the execution system requires.

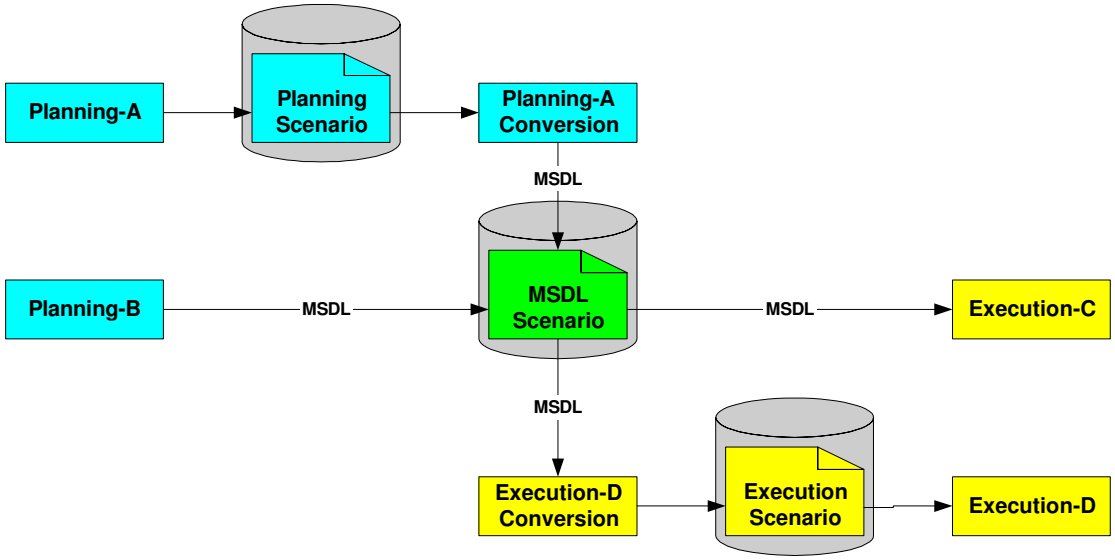


Figure 1 - Planning to Execution

5.1.2 Reality and Intelligence

A lifelike execution that supports some sort of decision making will make use of information that is gathered through an intelligence process. This process derives information from what is considered the reality of the execution. There could be as many sets of derived information as there are instances in the execution that implement portions of the intelligence process. Because of this, an MSDL scenario contains one description of the reality and the description of all the derived information that is known at the beginning of the execution.

5.1.3 Element Identification & Reference

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

5.2 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 portion of the scenario while others describe the intelligence portion.

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 environment in which the execution is to occur. During the course of the execution, each instance in the execution may obtain information and knowledge about the environment through its intelligence gathering process.

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

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

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

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 portion, is unspecified in this version of MSDL. Execution applications may select to use or derive the reality portion from the provided information during initialization.

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 portion, is unspecified in this version of MSDL. Execution applications may select to use or derive the reality portion from the provided information during initialization.

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

5.3 Schema Structure

MSDL is defined using an XML schema that allows for format verification and content validation. The MSDL schema makes liberal use of specific schema restrictions (sequence, all, and choice) 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.

5.3.1 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 MSDL elements are declared in the msdlElements.xsd schema and are bound to the MSDL namespace. MSDL simple types are declared with msdlSimpleTypes.xsd. ModelID elements are declared in the ModelID_v2006.xsd schema. Likewise, JC3IEDM Domain values and meteorological data types and elements are defined in JC3IEDM-3.1-Codes-20061208.xsd and JC3IEDMMeteorological.xsd respectively. MSDL specific domain values are found in msdlCodes.xsd.

Unless otherwise specified, the MSDL information is defined within the “http://www.sisostds.org/Schemas/msdl/v1” namespace and identified by the “msdl” prefix. MSDL imports two additional XML namespaces to define specific types and elements. These namespaces are “http://www.sisostds.org/schemas/ModelID” identified with prefix “id” and “urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0” identified with prefix “jc3iedm20”.

5.3.2 MSDL Business Rules

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. 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 multiplicity 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. Descriptive text is also used to describe the relationship of standards selected to instancing 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.

5.3.3 Style & Diagram Notation

This section provides a summary of the style used to highlight MSDL elements and the XML Spy notation used in the schema diagrams.

5.3.3.1 Style

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

5.3.3.2 Mandatory Elements

The rectangle indicates an element and the solid border indicates that the element is required. 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.

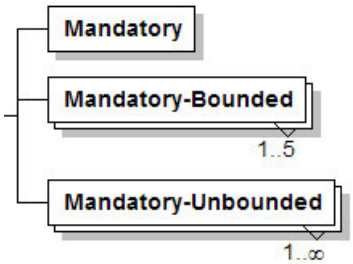


Figure 2: Mandatory Elements Notation

5.3.3.3 Optional Elements

The rectangle indicates an element and the dashed border indicates that the element is optional. The absence of a number range indicates a single element (i.e. minOccurs=0 and maxOccurs=1). The element is bounded when numbers are specified under the rectangle (i.e. minOccurs=0 and maxOccurs=5). The element is unbounded when infinity sign is specified as upper bound under the rectangle (i.e. minOccurs=0 and maxOccurs=unbounded).

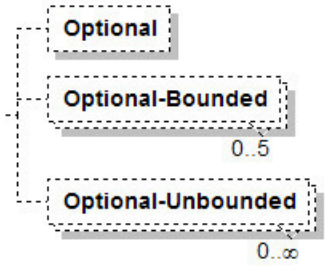


Figure 3: Optional Elements Notation

5.3.3.4 Expandable Element

A plus sign on the right side of an element indicates that the element contains child elements. When appearing in the diagrams, it means that the child elements are described somewhere else in the document.

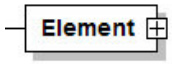


Figure 4: Expandable Element

5.3.3.5 Compositors

A compositor defines the order in which child elements occur. There are three compositors: sequence, choice, and all. The compositors like the elements can be mandatory or optional and may be bounded or unbounded.

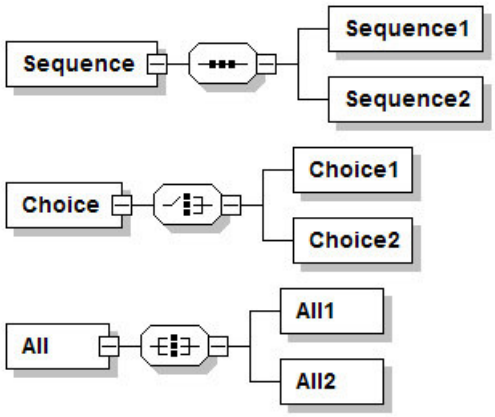


Figure 5: Compositors Notation

5.3.3.6 Complex Type

The irregular hexagon with a plus sign indicates a global complex type. A global complex type can be used either as the data type of an element, or the base type of another complex type.

Figure 6: Complex Type Notation

6 *msdl:MilitaryScenario* Element

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

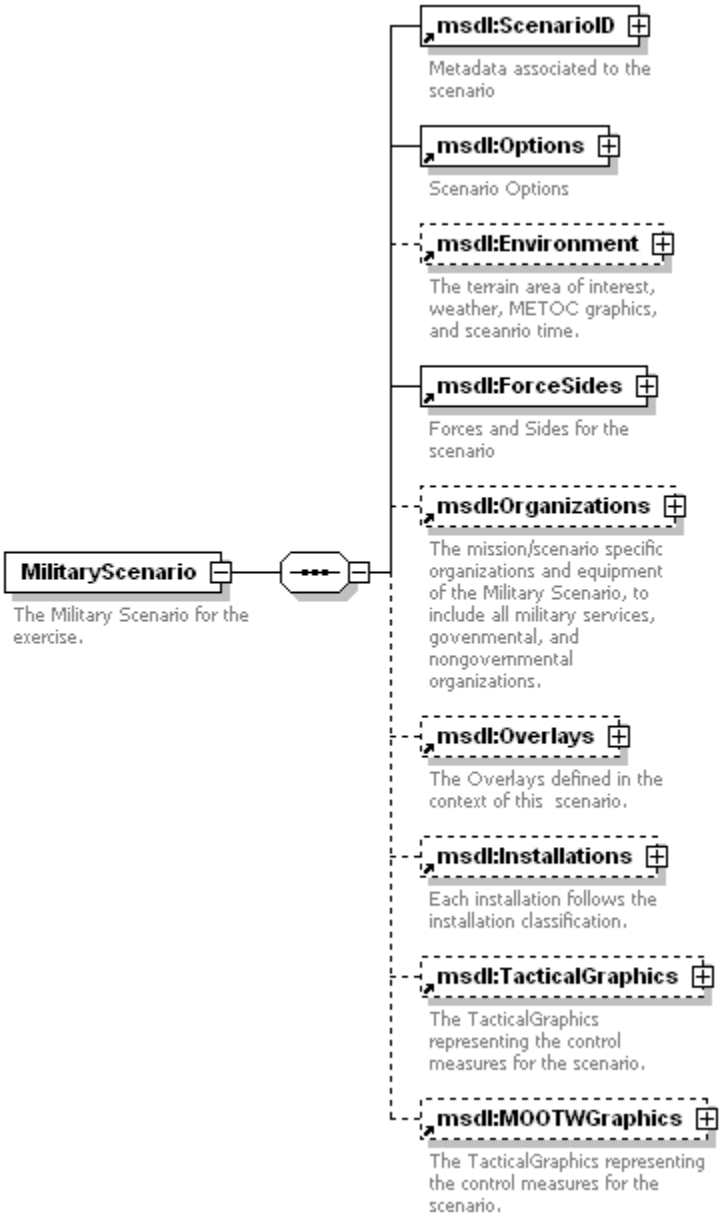


Figure 7: MilitaryScenario Element Structure

6.1 *msdl:ScenarioID* Element

For every ***msdl:MilitaryScenario*** element there shall be one ***msdl:ScenarioID*** element. The ***msdl:ScenarioID*** defines the structure to hold metadata associated with the military scenario. The domain type is id:modelidentificationType.

6.2 *msdl:Options*

For every ***msdl:MilitaryScenario*** element there shall be one ***msdl:Options*** element. The ***msdl: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 ***msdl:Options*** element is comprised of an XML "all" compositor containing the elements shown in Figure 8 and described in the subsequent subsections.

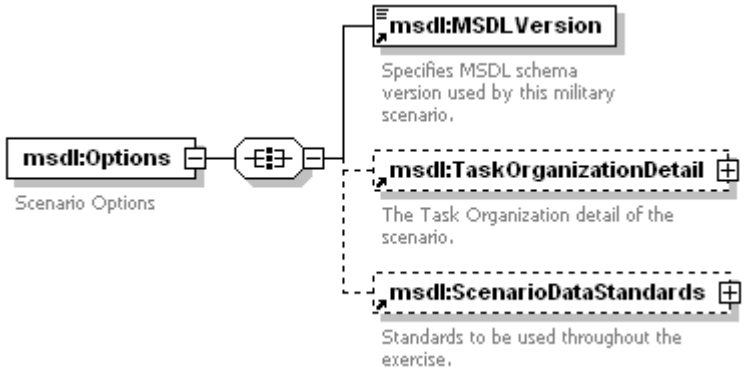


Figure 8: *msdl:Options* Element Structure

6.2.1 *msdl:MSDLVersion* Element

For every ***msdl:Options*** element there shall be one ***msdl:MSDLVersion*** element. The ***msdl: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 MSDL schema version. The domain type is ***msdl:textIdentifier64.***

6.2.2 *msdl:TaskOrganizationDetail* Element

For every ***msdl:Options*** element there shall be zero or one ***msdl:TaskOrganizationDetail*** element. The ***msdl:TaskOrganizationDetail*** element specifies the task organization detail of the scenario including the unit and echelon aggregate information. The ***msdl:TaskOrganizationDetail*** element, an xs:all compositor, is comprised of the elements shown in Figure 9 and described in the following subsections.

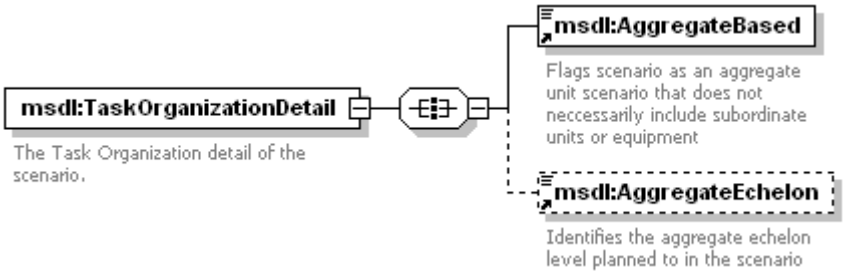


Figure 9: *msdl:TaskOrganizationDetail* Element Structure

6.2.2.1 *msdl:AggregateBased* Element

For every ***msdl:TaskOrganizationDetail*** element there shall be one ***msdl:AggregateBased*** element. The ***msdl:AggregateBased*** element either specifies the scenario as an aggregate unit scenario that does not necessarily include subordinate units or equipment, by setting the value to "true" or one that is not aggregate-based but entity-based, by setting the value to "false". When the ***msdl:AggregateBased*** element is set to "true" the ***msdl: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 ***msdl:AggregateEchelon***. The domain type is ***msdl:booleanAggregateBased***.

6.2.2.2 *msdl:AggregateEchelon Element*

For every ***msdl:TaskOrganizationDetail*** element there shall be zero or one ***msdl:AggregateEchelon*** element. The ***msdl: AggregateEchelon*** element specifies the aggregate echelon level planned to in the scenario. For example an aggregate echelon of "Company" would indicate the scenario task organizations are defined down to the "Platoon" level. The domain type is ***msdl:enumEchelon***.

6.2.2.3 *msdl:ScenarioDataStandards* Element

For every ***msdl:Options*** element there shall be zero or one ***msdl:ScenarioDataStandards*** element. The ***msdl: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 10 and described in the following subsections.

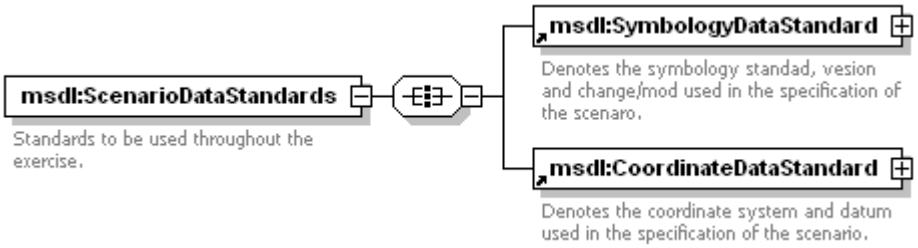


Figure 10: *msdl:ScenarioDataStandards* Element Structure

6.2.2.4 *msdl:SymbologyDataStardard* Element

For every ***msdl:ScenarioDataStandards*** element there shall be one ***msdl:SymbologyDataStandard*** element. The ***msdl:SymbologyDataStandard*** element specifies the symbology standard, version, and change or mod used in the specification of the military scenario. It is an xs:all compositor comprised of the elements shown in Figure 11 and described in the following subsections.

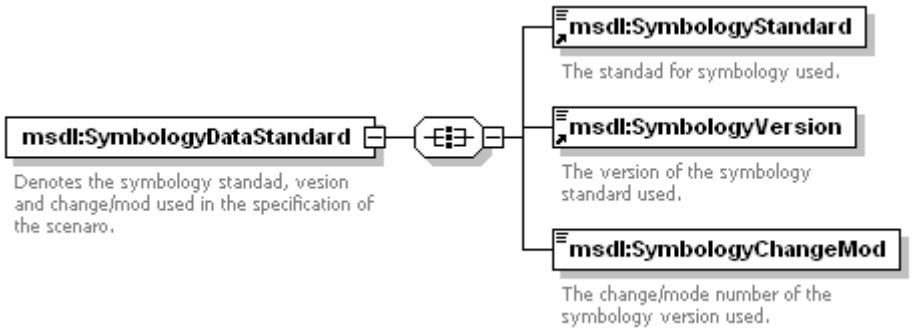


Figure 11: *msdl:SybmologyDataStandard* Element Structure

6.2.2.4.1 *msdl:SymbologyStandard* Element

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

6.2.2.4.2 *msdl:SymbologyVersion* Element

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

6.2.2.4.3 *msdl:SymbologyChangeModification Element*

For every ***msdl:ScenarioDataStandard*** element there shall be one ***msdl:SymbologyChangeModification*** element. The ***msdl:SymbologyChangeModification*** element specifies the version of the change/mod number of the symbology version used within the military scenario. The domain type is ***msdl:textIdentifier64.***

6.2.2.5 *msdl:CoordinateDataStandard* Element

For every ***msdl:ScenarioDataStandards*** element there shall be one ***msdl:CoordinateDataStandard*** element. The ***msdl: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. Unless the coordinate system is specified as GDC, the datum must be provided in order for location values to be unambiguously exchanged. The ***msdl:coordinateDataStandard***, an xs:all compositor, is comprised of the elements shown in Figure 12 and described in the following subsections.

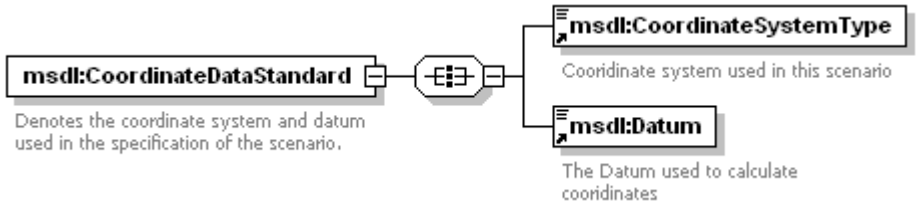


Figure 12: *msdl:CoordinateDataStandard* Element Structure

6.2.2.5.1 *msdl:CoordinateSystemType* Element

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

6.2.2.5.2 *msdl:Datum* Element

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

6.3 *msdl:Environment* Element

For every ***msdl:MilitaryScenario*** element there shall be zero or one ***msdl:Environment*** element following the ***msdl:Options*** element. The ***msdl:Environment*** element describes the surroundings, at a synoptic level, of the military scenario. It includes the ***msdl:ScenarioTime***, the scenario ***msdl:AreaOfInterest***, the ***msdl:GlobalWeather*** and the ***msdl:METOC*** information. The METOC information 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 ***msdl:ScenarioWeather*** elements and the ***msdl:METOC*** elements. The ***msdl:ScenarioWeather*** elements describe the overall weather while the ***msdl:METOC*** elements describe the specific details. The ***msdl:ScenarioWeather*** elements must be derived from the ***msdl:METOC*** elements when both forms are present in a scenario. Other dependencies exist between various elements. The consistency of the scenario must be valid prior to the initialization of the applications.

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

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

The ***msdl:Environment*** element, an xs:all compositor, is comprised of the elements shown in Figure 13 and described in the following subsections.

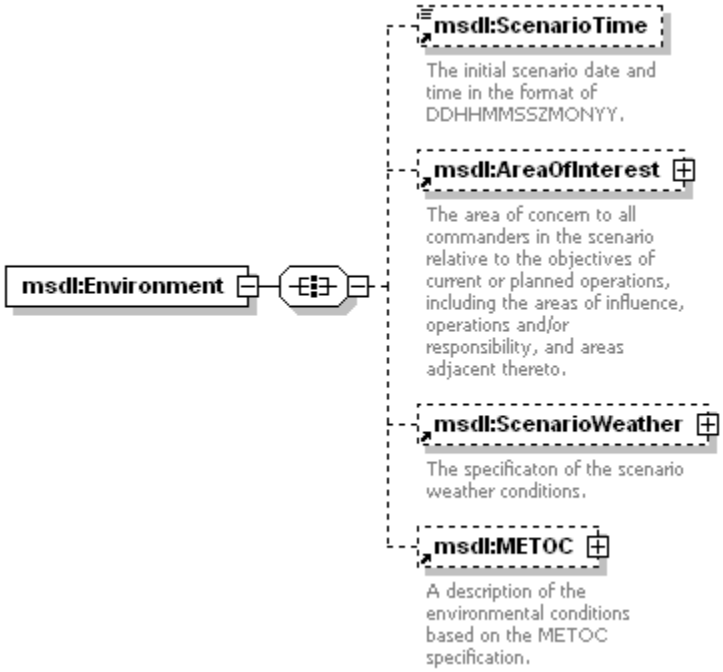


Figure 13: *msdl:Environment* Element Structure

6.3.1 *msdl:ScenarioTime* Element

For every ***msdl:Environment*** element there shall be zero or one ***msdl:ScenarioTime*** element. The ***msdl:ScenarioTime*** element indicates the absolute time when the exercise is perceived by the elements of the applications to start. It is used to initialize the exercise time. ***msdl:ScenarioTime*** is the reference for all relative times in the scenario. The domain type is ***msdl:patternTimeDTG14.***

6.3.2 *msdl:AreaOfInterest* Element

For every ***msdl:Environment*** element there shall be zero or one ***msdl:AreaOfInterest*** element. The ***msdl:AreaOfInterest*** indicates a rectangular area where the exercise is perceived by the elements of the scenario to occur. It is expected to include the areas of interest, influence, operation, etc. of all elements in the scenario. The domain value is a pair of coordinates describing a rectangle area. The domain type is ***msdl:RectangleArea***.

6.3.3 *msdl:ScenarioWeather* Element

For every ***msdl:Environment*** element there shall be zero or one ***msdl:ScenarioWeather*** element. The ***msdl: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 ***msdl:ScenarioWeather*** is described by a combination of instances from seven types: ***msdl:Atmosphere***, ***msdl:CloudCover***, ***msdl:Icing***, ***msdl:Light***, ***msdl:Precipitation***, ***msdl:Visibility***, and ***msdl:Wind***. The ***msdl:ScenarioWeather*** element, an xs:all compositor, is comprised of the elements shown in Figure 14 and described in the following subsections.

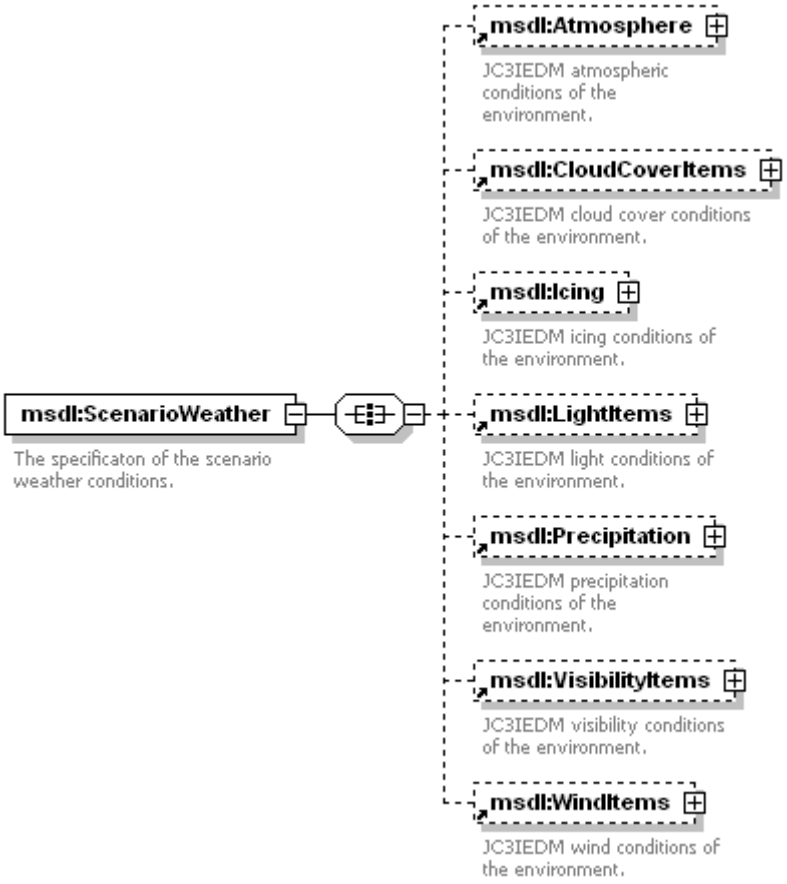


Figure 14: *msdl:ScenarioWeather* Element Structure

6.3.3.1 *msdl:Atmosphere* Element

For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:Atmosphere*** element. The ***msdl:Atmosphere*** element specifies the JC3IEDM-based atmospheric conditions of the military scenario. The domain type is jc3iedm20:Atmosphere.

6.3.3.2 *msdl:CloudCoverItems* Element

For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:CloudCoverItems*** element. The ***msdl:CloudCoverItems*** Element specifies the JC3IEDM-based cloud cover conditions of the environment. The ***msdl:CloudCoverItems*** element, an xs:sequence compositor, is comprised of the elements shown in Figure ***15*** and described in the following subsection.

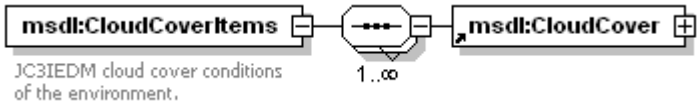


Figure 15: *msdl:CloudCoverItems* Element Structure

6.3.3.2.1 *msdl:CloudCover* Element

For every ***msdl:CloudCoverItems*** element there shall be one or more ***msdl:CloudCover*** elements. The ***msdl:CloudCover*** element specifies an instance of the cloud cover conditions of the environment. The domain type is jc3iedm20:CloudCover.

6.3.3.3 *msdl:Icing* Element

For every ***msdl:GlobalWeather*** element there shall be zero or one ***msdl:Icing*** element. The Icing element specifies JC3IEDM-based accumulation of frozen water on the surface. The domain type is jc3iedm20:Icing.

6.3.3.4 *msdl:LightItems* Element

For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:LighItems*** element. The ***msdl:LightItems*** element specifies the JC3IEDM-based availability of natural illumination by type and time. The ***msdl:LightItems*** element, an xs:sequence compositor, is comprised of the elements shown in Figure 16 and described in the following subsection.

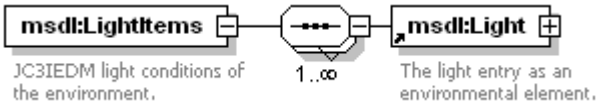


Figure 16: *msdl: LightItems* Element Structure

6.3.3.4.1 *msdl:LightItem* Element

For every ***msdl:LightItems*** element there shall be one or more ***msdl:LightItem*** elements. The ***msdl:LightItem*** element specifies an instance of the JC3IEDM-based light conditions of the environment. The domain type is jc3iedm20:Light.

6.3.3.5 *msdl:Precipitation* Element

For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:Precipitation*** element. The Precipitation element specifies the JC3IEDM-based precipitation conditions of the environment. The domain type is jc3iedm20:Precipitation.

6.3.3.6 *msdl:VisibilityItems* Element

For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:VisibilityItems*** element. The jc3iedm20:Visibility complex type specifies the JC3IEDM-based visibility conditions of the environment. The ***msdl:VisibilityItems*** element, an xs:sequence compositor, is comprised of the elements shown in Figure 17 and described in the following subsection.

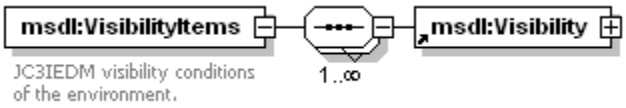


Figure 17: *msdl:VisibilityItems* Element Structure

6.3.3.6.1 *msdl:Visibility* Element

For every ***msdl:VisibilityItems*** element there shall be one or more ***msdl:Visibility*** elements. The ***msdl:Visibility*** element specifies an instance of the JC3IEDM-based visibility conditions of the environment. It is intended that the ***msdl:Visibility*** element is derived from and consistent with the ***msdl:Environment*** elements that are included within the scenario document. The domain type is jc3iedm20:Visibility.

6.3.3.7 *msdl:WindItems* Element

The ***msdl:WintItem*** element specifies the JC3IEDM-based wind conditions of the environment. The ***msdl:WindItems*** element, an xs:sequence compositor, is comprised of the elements shown in Figure 18 and described in the following subsection.

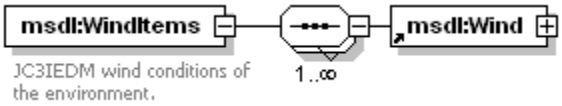


Figure 18: *msdl:WindItems* Element Structure

6.3.3.7.1 *msdl:Wind* Element

For every ***msdl:WindItems*** element there shall be one or more ***msdl:Wind*** elements. The ***msdl:Wind*** element specifies an instance of the JC3IEDM-based wind conditions of the environment. The domain type is jc3iedm20:Wind.

6.3.4 *msdl:METOC* Element

For every ***msdl:ScenarioWeather*** element there shall be zero or one ***msdl:METOC*** element. The ***msdl: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 ***msdl:METOC*** element , an xs:sequence compositor, is comprised of the elements shown in Figure 19 and described in the following subsections.

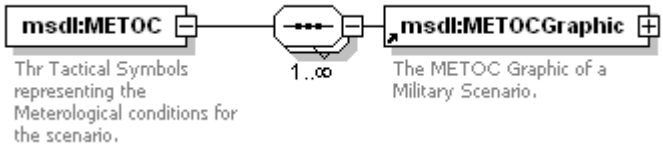


Figure 19: *msdl:METOC* Element Structure

6.3.4.1 *msdl:METOCGraphic* Element

For every ***msdl:METOC*** element there shall be one ***msdl:METOCGraphic*** element. The ***msdl: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 ***msdl:METOCGraphic*** element, an xs:all compositor, is comprised of the elements shown in Figure 20 and described in the following subsections.

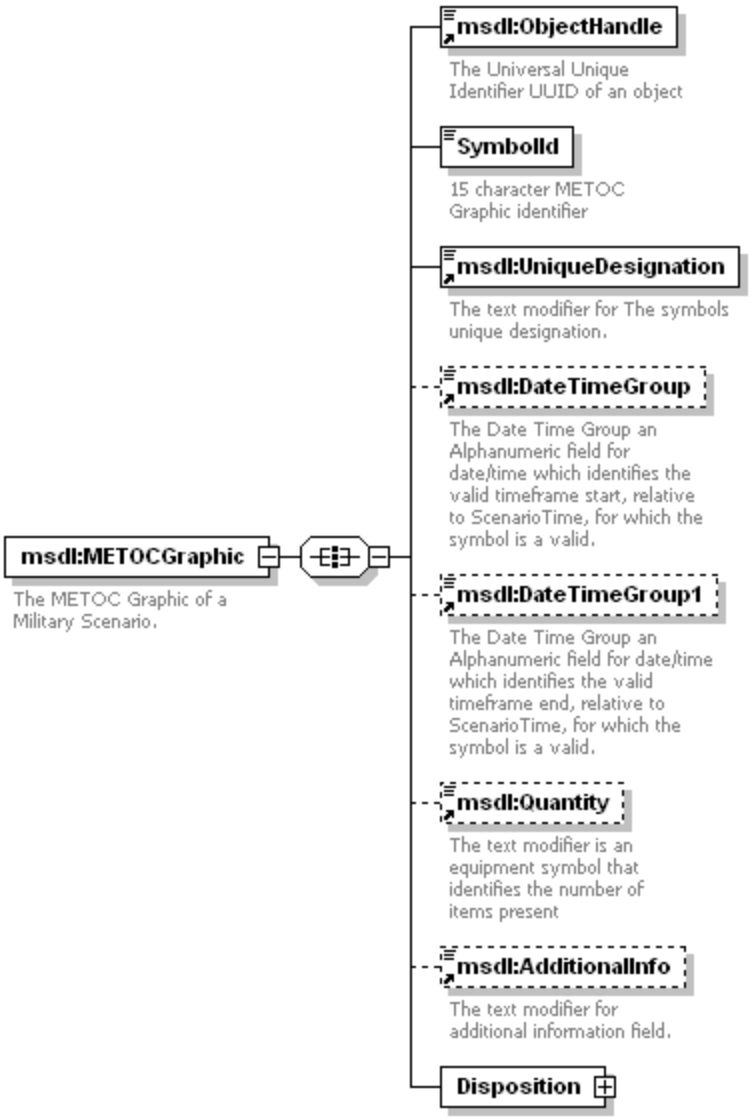


Figure 20: *msdl:METOCGraphic* Element Structure

6.3.4.1.1 *msdl:ObjectHandle* Element

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

6.3.4.1.2 *msdl:METOCSymbolId* Element

For every ***msdl:METOCGraphic*** element there shall be one ***msdl:METOCSymbolID*** element. The type identifier of a specific ***msdl:METOC*** element. The domain is a METOC Symbol Identification Code (SIDC)

from the MIL-STD-2525B w/CHANGE 1 specification APPENDIX C. Only the Category (position 2) and the Function ID (position 5 through 10) are used. The Coding Scheme (position 1) must be 'W'. The domain type is ***msdl:METOCSymbolID***.

6.3.4.1.3 *msdl:UniqueDesignation* Element

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

6.3.4.1.4 *msdl:DateTimeGroup* Element

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

6.3.4.1.5 *msdl:DateTimeGroup1 Element*

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

6.3.4.1.6 *msdl:Quantity* Element

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

6.3.4.1.7 *msdl:AdditionalInfo* Element

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

6.3.4.1.8 *Disposition* Element

For every ***msdl:METOCGraphic*** element there shall be one or more ***Disposition*** elements. The structure describing anchorpoints, speed, and direction of movement of the ***msdl:METOCGraphic***. The ***Disposition*** element, an xs:all compositor, is comprised of the elements shown in Figure 21 and described in the following subsections.

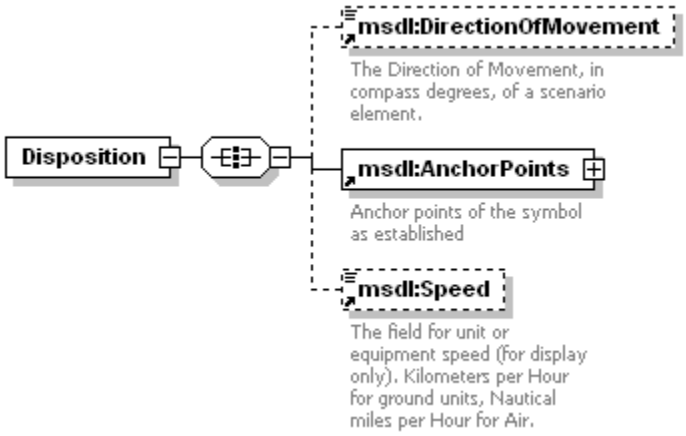


Figure 21: *Disposition* Element Structure

1. msdl:DirectionOfMovement Element - For each ***msdl:METOCGraphic*** there shall be zero or one or more ***msdl:DirectionOfMovement*** elements. The numerical value that denotes the direction of movement of a specific ***msdl:METOC*** Element. The unit is compass degrees. The domain type is ***msdl:floatCompassDegrees3_3.***
2. msdl:AnchorPoints Element - For every ***msdl:METOCGraphic*** element there shall be one ***msdl:AnchorPoints*** element. The structure describing the location, size and shape (Point, Line or Area) of a specific ***msdl:METOC*** element. The domain type is ***msdl:AnchorPoints***.
3. msdl:Speed Element - For each ***msdl:METOCGraphic*** there shall be zero or one or more ***msdl:Speed*** elements. The numerical value that denotes the distance per unit time of a specific ***msdl:METOC*** element. The units are Kilometres per Hour for Ground objects, Nautical miles per Hour for Maritime and Air objects. The domain type is ***msdl:Speed***.

6.4 *msdl:ForceSides* Element

For every ***msdl:MilitaryScenario*** element there shall be one ***msdl:ForceSides*** element. The ***msdl:ForceSides*** element is used to specify the Forces and Sides and their associations within a military scenario. The ***msdl:ForceSides*** element, an xs:sequence compositor contains all the elements shown in Figure 22 and described in the subsequent subsections.

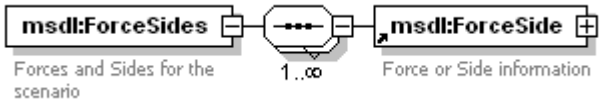


Figure 22: *msdl:ForceSides* Element Structure

6.4.1 *msdl:ForceSide* Element

For every ***msdl:ForceSides*** element there shall be one ***msdl:ForceSide*** element. The ***msdl:ForceSide*** element specifies the force or side information. It is an xs:all compositor and comprised of the elements shown in Figure 23 and described in the following subsections.

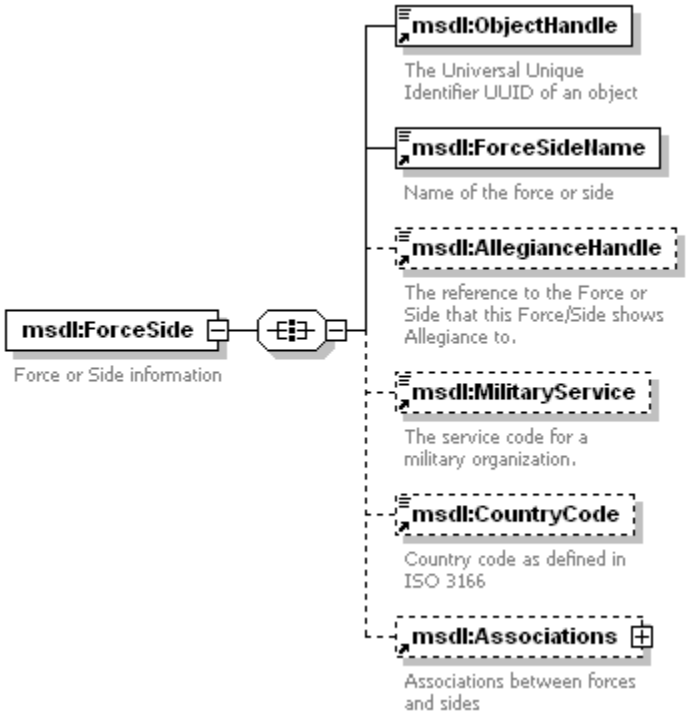


Figure 23: *msdl:ForceSide* **Element Structure**

6.4.1.1 *msdl:ObjectHandle* Element

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

6.4.1.2 *msdl:ForceSideName* Element

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

6.4.1.3 *msdl:AllegianceHandle* Element

For every ***msdl:ForceSide*** element there shall be zero or one ***msdl:AllegianceHandle*** element. The ***msdl: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 alliegiance 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.***

6.4.1.4 *msdl:MilitaryService* Element

For every ***msdl:ForceSide*** element there shall be zero or one ***msdl:MilitaryService*** element. The ***msdl:MilitaryService*** element specifies a Service code for a military organization. The domain type is jc3iedm20:MilitaryOrganisationTypeServiceCode.

6.4.1.5 *msdl:CountryCode* Element

For every ***msdl:ForceSide*** element there shall be zero or one ***msdl:CountryCode*** element. The ***msdl:CountryCode*** element specifies a Country code for to which the organization belongs. The domain type is jc3iedm20:AffiliationGeopoliticalCode***.***

6.4.1.6 *msdl:Associations* Element

For every ***msdl:ForceSide*** element there shall be zero or one ***msdl: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 explicity defined within the ***msdl:Associations*** structure. The ***msdl:Associations*** element, an xs:sequence compositor, specifies the associations between forces and sides and is show in Figure 24.

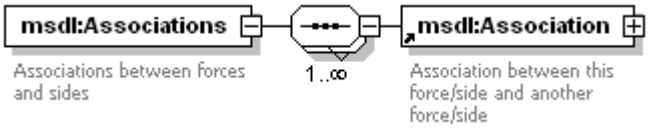


Figure 24: *msdl:Associations* Element Structure

6.4.1.6.1 *msdl:Association* Element

For every ***msdl:Associations*** element there shall be one or more ***msdl:Association*** elements. The ***msdl:Association*** element specifies the relations ship between the current force or side and the other specified forces or sides. Because each Force or Side has its own list of associations the relationship between the forces or sides can be asymmetric. It is an xs:all compositor comprised of the elements shown in Figure 25 and described in the following subsections.

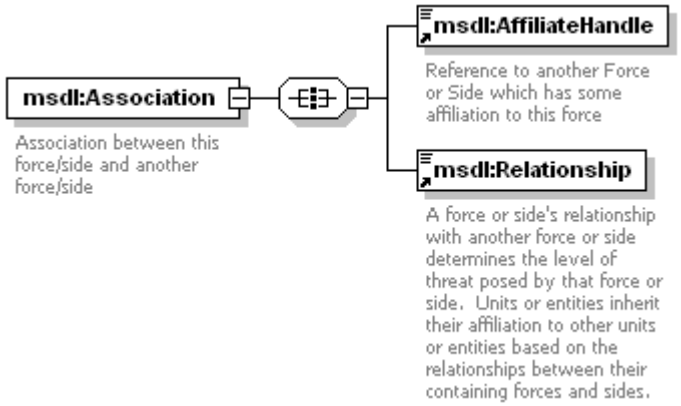


Figure 25: *msdl:Association* Element Structure

1. ***msdl:AffiliateHandle*** - For every ***msdl:Association*** element there shall be one ***msdl:AffiliateHandle*** element. The ***msdl: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***:Relationship - For every ***msdl:Association*** element there shall be one ***msdl:Relationship*** element. The ***msdl:Relationship*** element specifies a Force or Side's relationship with another Force or Side. It is to be used to determine 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 Forces and Sides. The domain type is a jc3iedm20:ObjectItemHostilityStatusCode.

6.5 *msdl:Organizations* Element

For every ***msdl:MilitaryScenario*** element there shall be zero or one ***msdl:Organizations*** element. The ***msdl:Organization*** element is used to specifythe mission/scenario specific organizations and equipment within the military scenario document to include all military service, governmental, and nongovernmental organizations. The mapping of the battle dimensions instances other than ground into the unit and equipment elements is application defined. Organizations in MSDL are comprised of ***msdl:Units*** and ***msdl:Equipment***. ***msdl:Equipment*** generally equates to entities in the simulation. Whether ***msdl:Equipment*** is represented in the ***msdl:Organization*** depends on the planning model specified in the ***msdl:TaskOrganizationDetail*** of the scenario ***msdl:Options***. The description of the units and equipment does not specify how each unit and equipment is reported during intelligence gathering by the other unit and equipment. However, it is expected that each simulation application will be able to derive the proper information. The information in the ***msdl:Organizations*** element describes the initialization data of each unit and equipment element and is not intended to be interpreted as a perceived value. The ***msdl:Organizations*** element is comprised of an xs:all compositor comprised the elements shown in Figure 26 and described in the subsequent subsections.

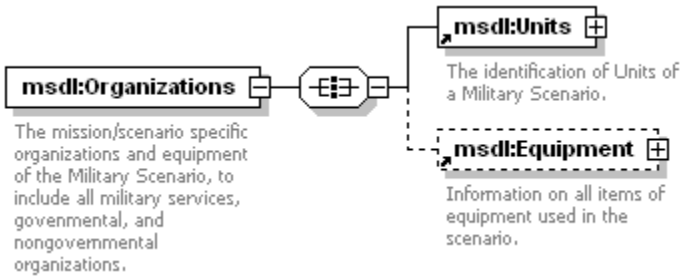


Figure 26: *msdl:Organizations* Element Structure

6.5.1 *msdl:Units* Element

For every ***msdl:Organizations*** element there shall be one ***msdl:Units*** element. The ***msdl:Units*** element , an xs:sequence compositor, specifies the units within the military scenario document and is show in Figure 27.

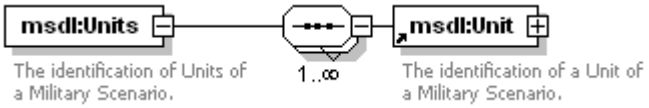


Figure 27: *msdl:Units* Element Structure

6.5.1.1 *msdl:Unit* Element

For every ***msdl:Units*** element there shall be one or more ***msdl:Unit*** elements. The ***msdl:Unit*** element specifies a unit within the military scenario document. It is an xs:all compositor comprised of the elements shown in Figure 28 and described in the following subsections.

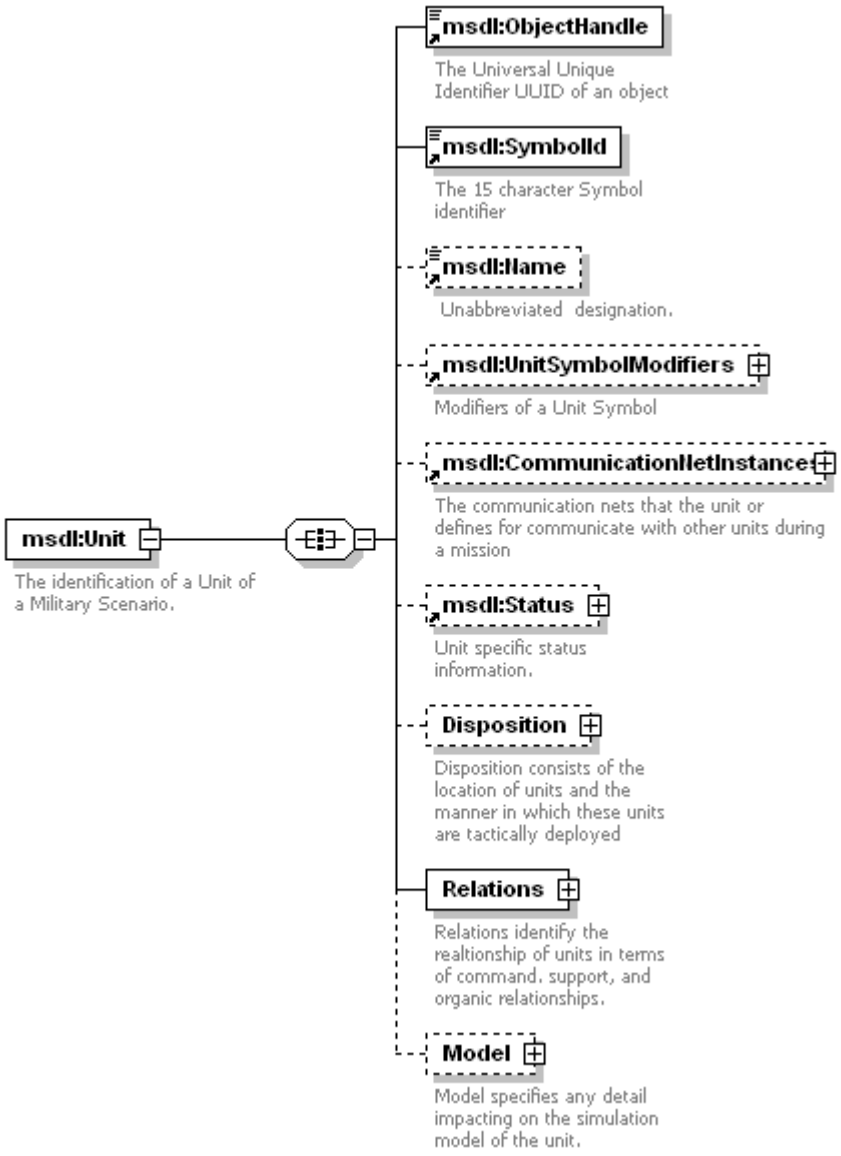


Figure 28: *msdl:Unit* Element Structure

6.5.1.1.1 *msdl:ObjectHandle* Element

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

6.5.1.1.2 *msdl:SymbolID* Element

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

6.5.1.1.3 *msdl:Name* Element

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

6.5.1.1.4 *msdl:UnitSymbolModifiers* Element

For every ***msdl:Unit*** element there shall be zero or one ***msdl:UnitSymbolModifiers*** element. The ***msdl:UnitSymbolModifiers*** element specifies the modifiers of unit symbol. It is an xs:all compositor comprised of the elements shown in Figure 29 and described in the following subsections.

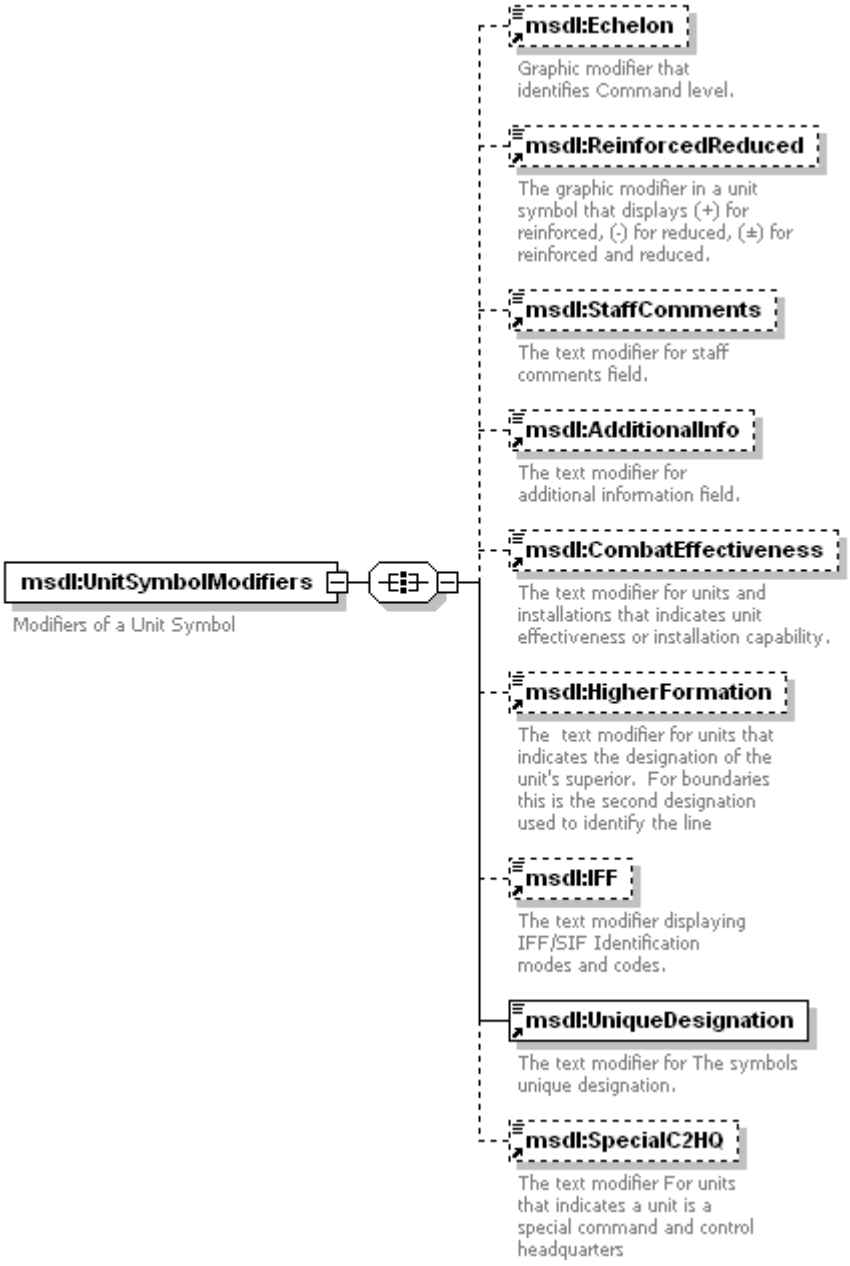


Figure 29: *msdl:UnitSymbolModifiers* Element Structure

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

3. ***msdl:StaffComments*** - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:StaffComments*** element. The ***msdl:StaffComments*** element specifies the text modifier for staff comments field. The domain type is a ***msdl:text20.***
4. ***msdl***:AdditionalInfo - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an additional information field. The domain type is a restricted ***msdl:text20.***
5. ***msdl***:CombatEffectiveness - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:CombatEffectiveness*** elements. The ***msdl:CombatEffectiveness*** element specifies the text modifier thatindicates unit effectiveness or installation capability. The domain type is ***msdl:enumCombatEffectivenessType***.
6. ***msdl:HigherFormation*** - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:HigherFormation*** element. The ***msdl:HigherFormation*** element specifies the text modifier that indicates the designation of the unit's superior. The domain type is ***msdl:text21.***
7. ***msdl***:IFF - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:IFF*** element. The ***msdl:IFF*** element specifies the text modifier displaying IFF/SIF identification modes and codes. The domain type is ***msdl:text20.***
8. ***msdl:UniqueDesignation*** - For every ***msdl:UnitSymbolModifiers*** element there shall be one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
9. ***msdl***:SpecialC2HQ - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:SpecialC2HQ*** element. The ***msdl:SpecialC2HQ*** element specifies the text modifier for units, that indicates a unit is a special command and control headquarters. The domain type is ***msdl:integerSpecialC2HQ1.***
10. ***msdl***:FeintDummyIndicator - For every ***msdl:UnitSymbolModifiers*** element there shall be zero or one ***msdl:FeintDummyIndicator*** element. The ***msdl:FeintDummyIndicator*** element specifies the graphic modifier for units, equipement, and installations that identifies an offensive or defensive unit intended to draw the enemy's attention away from the area of the main attack. The domain type is ***msdl:booleanFeintDummyIndicator***.

6.5.1.1.5 *msdl:CommunicationNetInstance* Element

For every ***msdl:Unit*** element there shall be zero or one ***msdl:CommunicationNetInstances*** element. The ***msdl: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 30 and described in the following subsections.

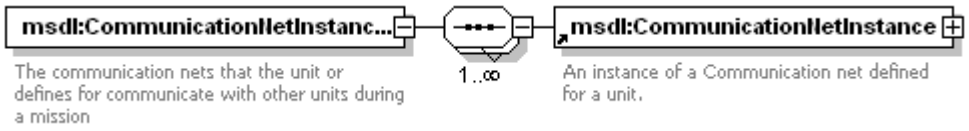


Figure 30: *msdl:CommunicationsNetInstances* Element Structure

1. ***msdl:CommunicationNetInstance*** - For every ***msdl:CommunicationNetInstances*** element there shall be one or more ***msdl:CommunicationNetInstance*** elements. The ***msdl: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 31 and described in the following subsections.

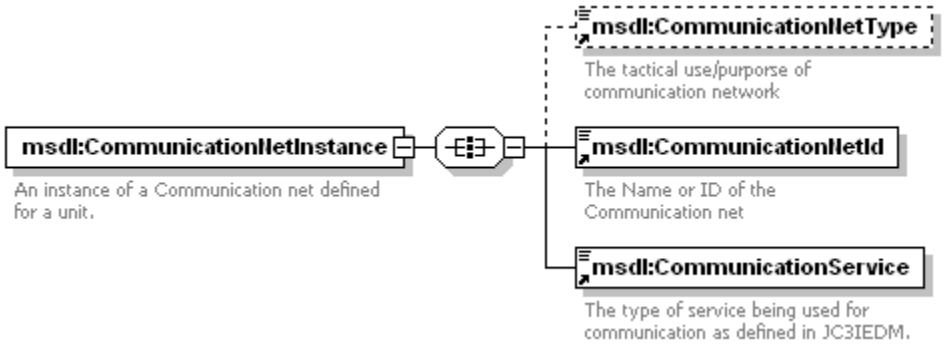


Figure 31: *msdl:CommunicationNetInstance* Element Structure

a) ***msdl:CommunicationNetType*** - For every ***msdl:CommunicationNetInstance*** element there shall be zero or one ***msdl:CommunicationNetType*** element. The ***msdl:CommunicationNetType*** element specifies the the tactical use or purpose of the communication network. The domain type is ***msdl:CommunicationNetType***.

b) ***msdl:CommunicationNetId*** - For every ***msdl:CommunicationNetInstance*** element there shall be zero or one ***msdl:CommunicationNetId*** element. The ***msdl:CommunicationNetId*** element specifies the name or ID of the communication network. The domain type is ***msdl:textIdentifier64.***

c) ***msdl***:CommunicationService - For every ***msdl:CommunicationNetInstance*** element there shall be one ***msdl:CommunicationService*** element. The ***msdl:CommunicationService*** element specifies the type of service being used for communication as defined in the JC3IEDM(doesn't match diagram). The domain type is a restricted ***msdl:enumCommunicationServiceType***.

6.5.1.1.6 *msdl:Status* Element

For every ***msdl:Unit*** element there shall be zero or one ***msdl:Status*** element. The ***msdl:Status*** element specifies unit specific status information. It is an xs:all compositor comprised of the elements shown in Figure 32 and described in the following subsections.

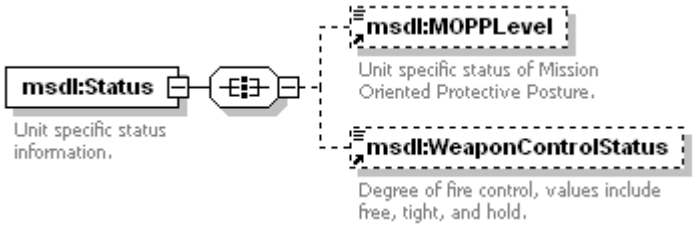


Figure 32: *msdl:Status* Element Structure

1. ***msdl:MOPPLevel*** - For every ***msdl:Status*** element there shall be zero or one ***msdl:MOPPLevel*** elements. The ***msdl:MOPPLevel*** element specifies the status of the Mission Oriented Protective Posture (MOPP). The domain type is restricted ***msdl:enumMOPPLevelType***.
2. ***msdl:WeaponControlStatus*** - For every ***msdl:Status*** element there shall be zero or one ***msdl:WeaponControlStatus*** element. The ***msdl:WeaponControlStatus*** element specifies the degree of fire control, values include free, tight, and hold. The domain type is restricted ***msdl:enumWeaponControlStatusType***.

6.5.1.1.7 *Disposition* Element

For every ***msdl:Unit*** element 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 33 and described in the following subsections.

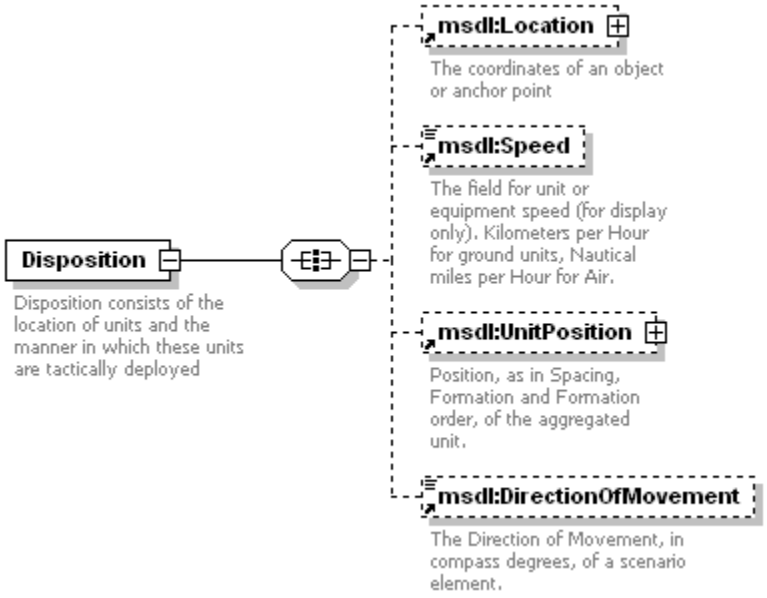


Figure 33: *Disposition* Element Structure

1. ***msdl:Location*** - For every ***Disposition*** element there shall be zero or one ***msdl:Location*** element. The ***msdl: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:FormationLocationType. The domains type is ***msdl:Coordinate***.
2. ***msdl***:Speed - For every ***Disposition*** element there shall be zero or one ***msdl:Speed*** element. The ***msdl:Speed*** 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:FormationLocationType. The domains type is ***msdl:floatSpeed6_2***.
3. ***msdl:UnitPosition*** - For every ***Disposition*** element there shall be zero or one ***msdl:UnitPosition*** element. The ***msdl:UnitPosition*** element specifies if the unit is out of formation with respect to its higher units formation, the specific placement or order of the unit in the higher unit's formation and its own current formation. The higher unit is identified within the ***Relations*** element. It is an xs;all compositor comprised of the elements shown in Figure 34 and described in the following subsections.

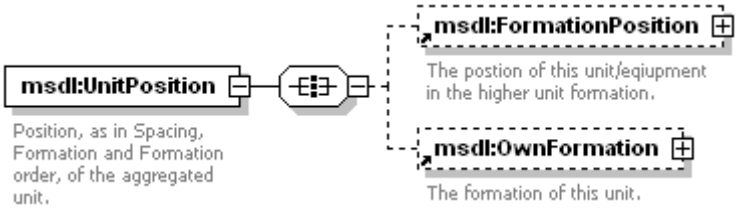


Figure 34: *msdl:UnitPosition* Element Structure

a) ***msdl:FormationPosition*** - For every ***msdl:UnitPosition*** element there shall be zero or one ***msdl:FormationPosition*** element. The ***msdl: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 35 and described in the following subsections.

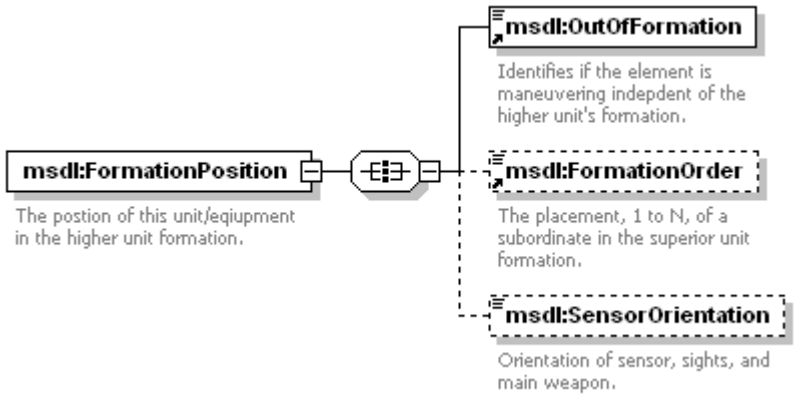


Figure 35: *msdl:FormationPosition* Element Structure

i) ***msdl:OutOfFormation*** - For every ***msdl:FormationPosition*** element there shall be one ***msdl:OutOfFormation*** element. The ***msdl:OutOfFormation*** element specifies if the element is maneuvering independent of the higher unit's formation. The domain type is ***msdl:booleanOutOfFormation***.

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

b) ***msdl***:OwnFormation - For every ***msdl:UnitPosition*** element there shall be zero or one ***msdl:OwnFormation*** element. The ***msdl:OwnFormation*** element specifies the formation of the unit. It is an xs:all compositor comprised of the elements shown in Figure 36 and described in the following subsections.

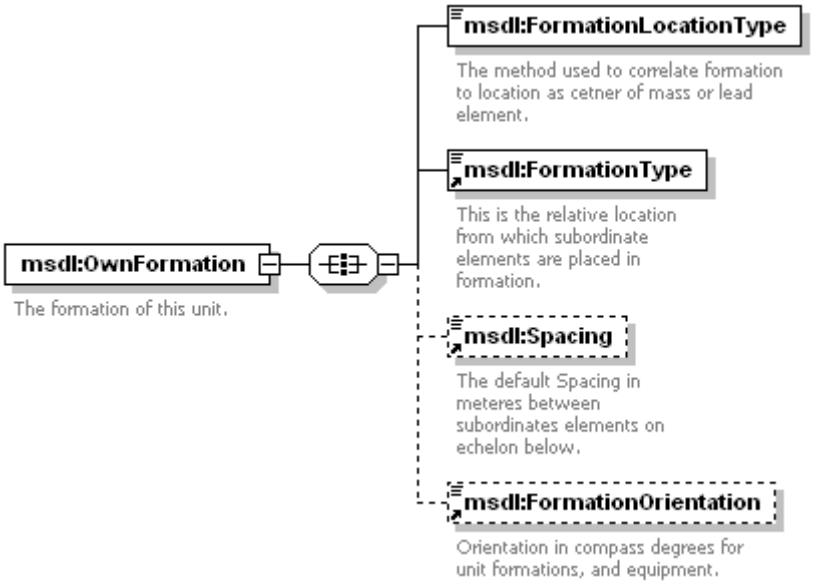


Figure 36: *msdl:OwnFormation* Element Structure

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

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

iii) ***msdl:Spacing*** - For every ***msdl:OwnFormation*** element there shall be zero or one ***msdl:Spacing*** element. The ***msdl:Spacing*** element specifies the default spacing in meters between subordinate element. The domain type is ***msdl:integerSpacing4.***

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

6.5.1.1.8 *Relations* Element

For every ***msdl:Unit*** element there shall be one ***Relations*** element. The ***Relations*** element specifies the 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 37 and described in the following subsections.

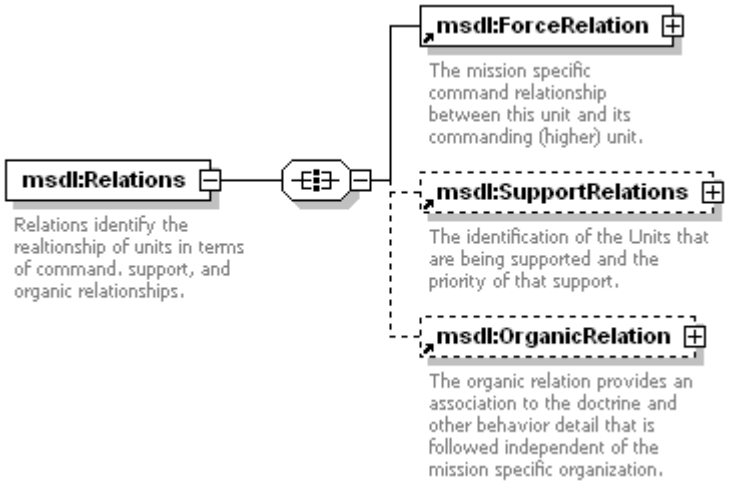


Figure 37: *Relations* Element Structure

1. ***msdl:ForceRelation*** -For every ***Relations*** element there shall be one ***msdl:ForceRelation*** element. The ***msdl:ForceRelation*** element specifies the the mission specific command relationship between this unit and its commanding (higher) unit. The msdl:ForceRelation either holds a relationship to a commanding unit, msdl:Unit, or to a msdl:ForceSide element. It is an xs:all compositor comprised of the elements shown in Figure 38 and described in the following subsections.

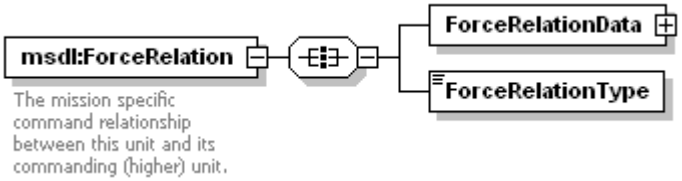


Figure 38: *msdl:ForceRelation* Element Structure

a) ***msdl:ForceRelationData*** - For every ***msdl:ForceRelation*** element there shall be one ***msdl:ForceRelationData*** element. The ***msdl:ForceRelationData*** element specifies the structure for holding command relationship between this unit/equipment and its commanding unit.; and the msdlForceSideHandle. It is an xs:choice compositor comprised of only one of the elements shown in Figure 39 and described in the following subsections.

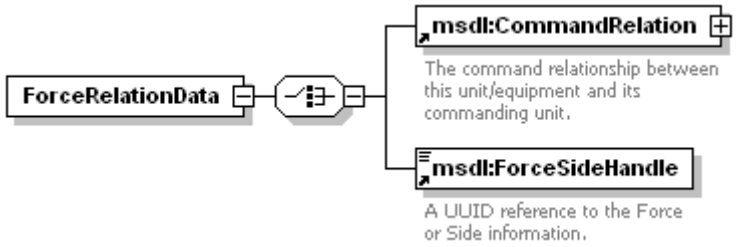


Figure 39: msdl:CommandRelation Element Structure

i) ***msdl:CommandRelation*** - For every ***msdl:ForceRelation*** element there shall be one ***msdl:CommandRelation*** element. The ***msdl: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 40 and described in the following subsections.

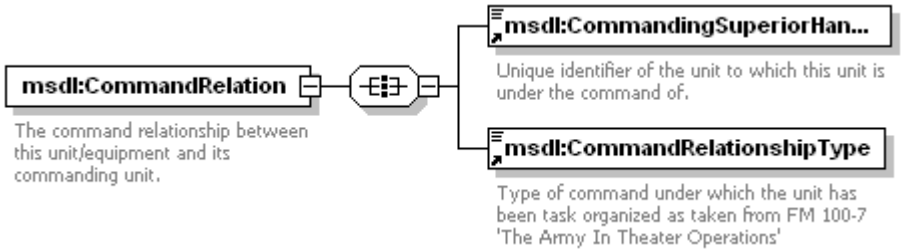


Figure 40: *msdl:CommandRelation* Element Structure

(1) ***msdl:CommandingSuperiorHandle*** - For every ***msdl:CommandRelation*** element there shall be one ***msdl:CommandingSuperiorHandle*** element. The ***msdl:CommandingSuperiorHandle*** element specifies a unique identifier of the commanding msdl:Unit. . The domain type is ***msdl:patternUUIDRef32.***

(2) ***msdl*:*CommandRelationshipType*** - For every ***msdl:CommandRelation*** element there shall be one ***msdl:CommandRelationshipType*** element. The ***msdl:CommandRelationshipType*** element specifies the type of command under which the unit has been task organized .The domain type is restricted ***msdl:CommandRelationshipType***.

(3) ***msdl:ForceSideHandle*** - For every ***msdl:ForceRelation*** element there shall be zero or one ***msdl:ForceSideHandle*** element. The ***msdl:ForceSideHandle*** element specifies a UUID reference to the ***msdl:ForceSide*** for the ***msdl:Unit***. The domain type is ***msdl:patternUUIDRef32.***

ii) ***msdl*:*SupportRelations*** - For every ***Relations*** element there shall be zero or one ***msdl:SupportRelations*** element. The ***msdl: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 41 and described in the following subsections.

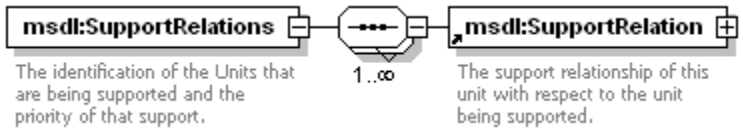


Figure 41: *msdl:SupportRelations* Element Structure

(1) ***msdl:SupportRelation*** - For every ***msdl:SupportRelations*** element there shall be one or more ***msdl:SupportRelation*** elements. The ***msdl: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 42 and described in the following subsections.

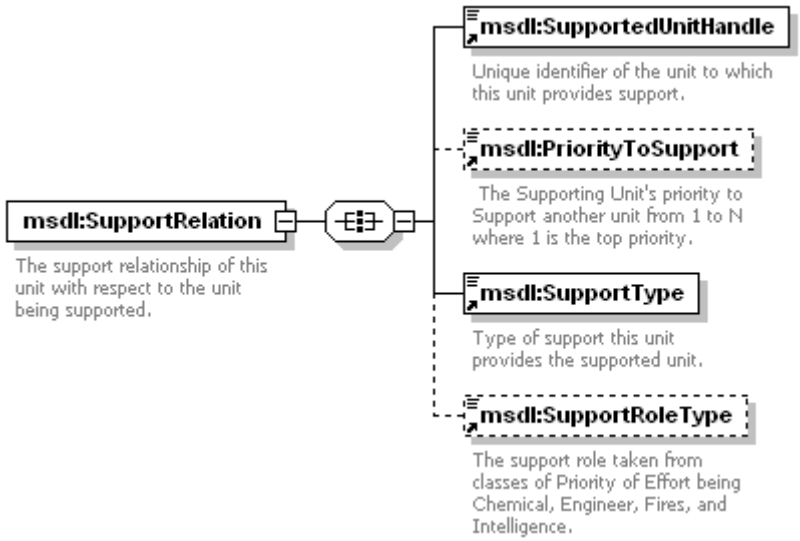


Figure 42: *msdl:SupportRelation* Element Structure

(a) ***msdl:SupportedUnitHandle*** - For every ***msdl:SupportRelation*** element there shall be one ***msdl:SupportedUnitHandle*** element. The ***msdl:SupportedUnitHandle*** element specifies the unique identifier of the unit to which this unit provides support The domain type is ***msdl:patternUUIDREF32.***

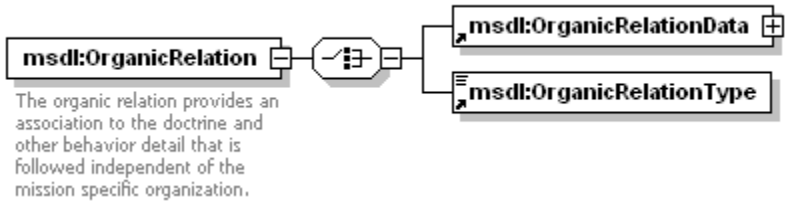
(b) ***msdl***:PriorityToSupport - For every ***msdl:SupportRelation*** element there shall be zero or one ***msdl:PriorityToSupport*** element. The ***msdl:PriorityToSupport*** element specifies the supporting unit's priority to support another unit from 1 to N where 1 is the top priority. The domain type is a restricted ***msdl:integerPriorityToSupport1.***

(c) ***msdl***:SupportType - For every ***msdl:SupportRelation*** element there shall be one ***msdl:SupportType*** element. The ***msdl:SupportType*** element specifies the type of support this unit provides the supported unit. The domain type is a restricted ***msdl:enumSupportRelationType***.

(d) ***msdl:SupportRoleType*** - For every ***msdl:SupportRelation*** element there shall be zero or one ***msdl:SupportRoleType*** element. The ***msdl:SupportRoleType*** element specifies the support role taken from clases of Priority of Effort begin Chemical, Engineer, Fires, and Intelligence. The domain type is a restricted ***msdl:enumSupportRoleType***.

iii) ***msdl:OrganicRelation*** For every ***Relations*** element there shall be zero or one ***msdl:OrganicRelation*** element. The ***msdl:OrganicRelation*** element specifies an association of the doctrine and other behavior detail that is followed independent of the mission specific

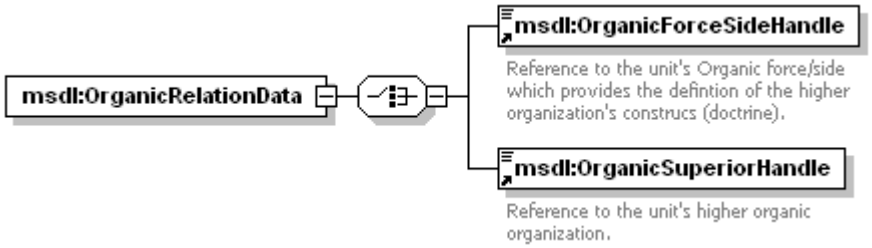
792 organization. It is an xs:choice compositor comprised of one and only one of the elements
793 shown in Figure 43 and described in the following subsections.



794

795 **Figure 43: msdl:OrganicRelation Element Structure**

796 ***(1) msdl*:*OrganicRelationData*** - For every ***msdl:OrganicRelation*** element there shall be zero
797 or one ***msdl:OrganicRelationaData*** element. The ***msdl:OrganicRelationData*** element
798 specifies the structure to hold a reference to the unit's organic superior and to the unit's
799 organic force or side. It is an xs:choice compositor comprised of one and only one of the
800 elements shown in Figure 44 and described in the following subsections.



801

802 **Figure 44: *msdl:OrganicRelation* Element Structure**

803 ***(a) msdl***:OrganicForceSideHandle - For every ***msdl:OrganicRelation*** element there shall
804 be zero or one ***msdl:OrganicForceSideHandle*** element. The
805 ***msdl:OrganicForceSideHandle*** element specifies a reference to the unit's organic
806 ***msdl:ForceSide*** which provides the definition of the higher organization's doctrine. The
807 domain type is ***msdl:patternUUIDRef32.***

808 ***(b) msdl:OrganicSuperiorHandle*** - For every ***msdl:OrganicRelation*** element there shall
809 be zero or one ***msdl:OrganicSuperiorHandle*** element. The
810 ***msdl:OrganicSuperiorHandle*** element specifies a reference to the unit's higher organic
811 organization. The domain type is ***msdl:patternUUIDRef32.***

812 ***(2) msdl***:OrganicRelationType - For every ***msdl:OrganicRelation*** element there shall be zero
813 or one ***msdl:OrganicRelationType*** element. The ***msdl:OrganicRelationType*** element
814 specifies the type of organic relationship to the unit's force or side. The domain type is
815 ***msdl:enumForceOwnerType.***

816 **6.5.1.1.9 *Model* Element**

817 For every ***msdl:Unit*** element there shall be one ***Model*** element. The ***Model*** element specifies the the
818 resolution and aggregation information impacting import of the military scenario. It is an xs;all compositor
819 comprised of the elements shown in Figure 45 and described in the following subsections.

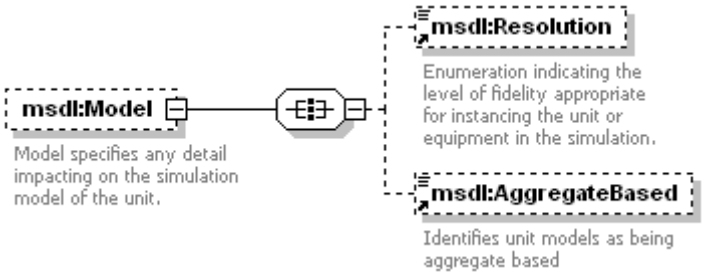


Figure 45: *Model* Element Structure

1. ***msdl:Resolution*** - For every ***Model*** element there shall be zero or one ***msdl:Resolution*** element. The ***msdl:Resolution*** element specifies an enumeration indicating the level of fidelity appropriate for instancing the unit or equipment in the simulation. The domain type is a restricted ***msdl:enumModelResolutionType***.
2. ***msdl:IsDeaggregated*** - For every ***Model*** element there shall be zero or one ***msdl:IsDeaggregated*** element. The ***msdl:IsDeaggregated*** element specifies a flag indicating that a unit's underlying task organization has been deaggregated to its subordinates. The domain type is a restricted ***msdl:booleanAggregateBased***.

6.5.2 *msdl:Equipment* Element

For every ***msdl:Organizations*** element there shall be zero or one ***msdl:Units*** element. The ***msdl:Equipment*** element, an xs:sequence compositor, specifies all of the equipment elements used within the military scenario and is shown in Figure 46.

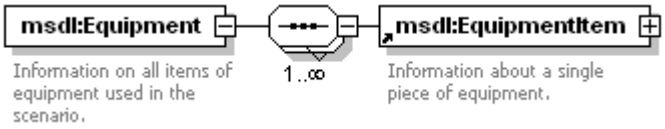


Figure 46: *msdl:Equipment* Element Structure

6.5.2.1 *msdl:EquipmentItem* Element

For every ***msdl:Equipment*** element there shall be one or more ***msdl:EquipmentItem*** elements. The ***msdl: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 47 and described in the following subsections.

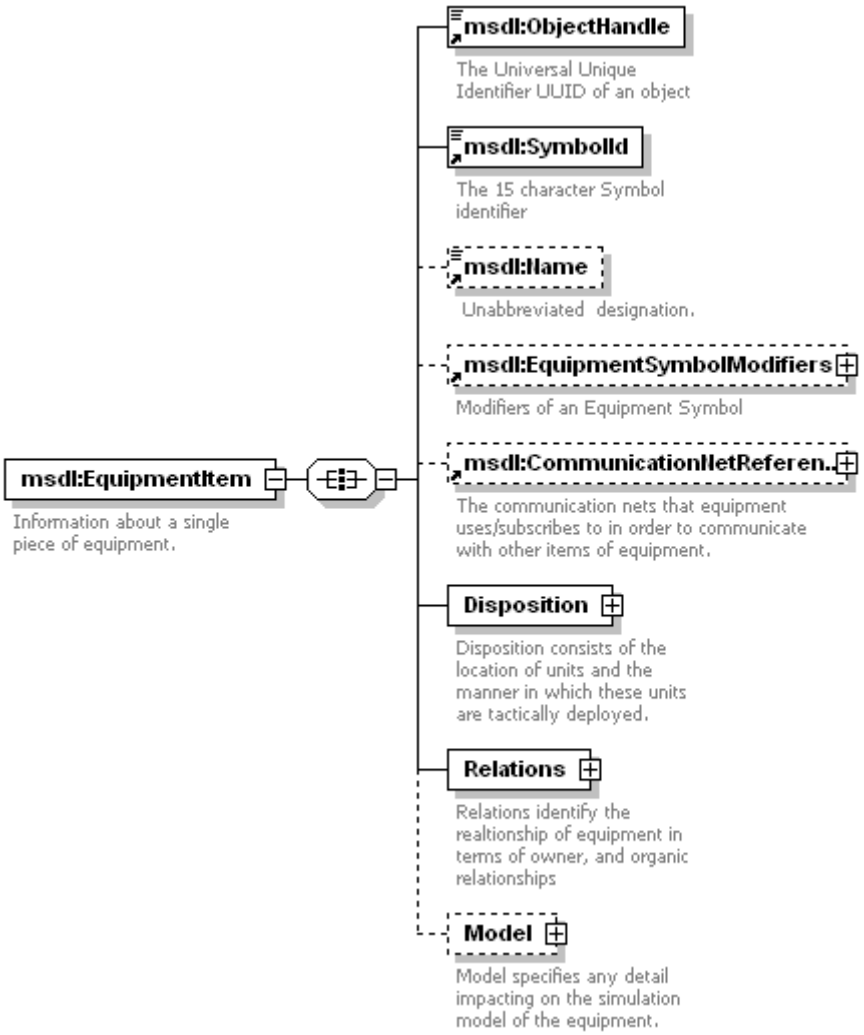


Figure 47: *msdl:EquipmentItem* Element Structure

6.5.2.1.1 *msdl:ObjectHandle* Element

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

6.5.2.1.2 *msdl:SymbolID* Element

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

6.5.2.1.3 *msdl:Name* Element

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

6.5.2.1.4 *msdl:EquipmentSymbolModifiers* Element

For every ***msdl:EquipmentItem*** element there shall be zero or one ***msdl:EquipmentSymbolModifiers*** element. The ***msdl:EquipmentSymbolModifiers*** element specifies the modifiers of an equipment symbol. It is an xs:all compositor comprised of the elements shown in Figure 48 and described in the following subsections.

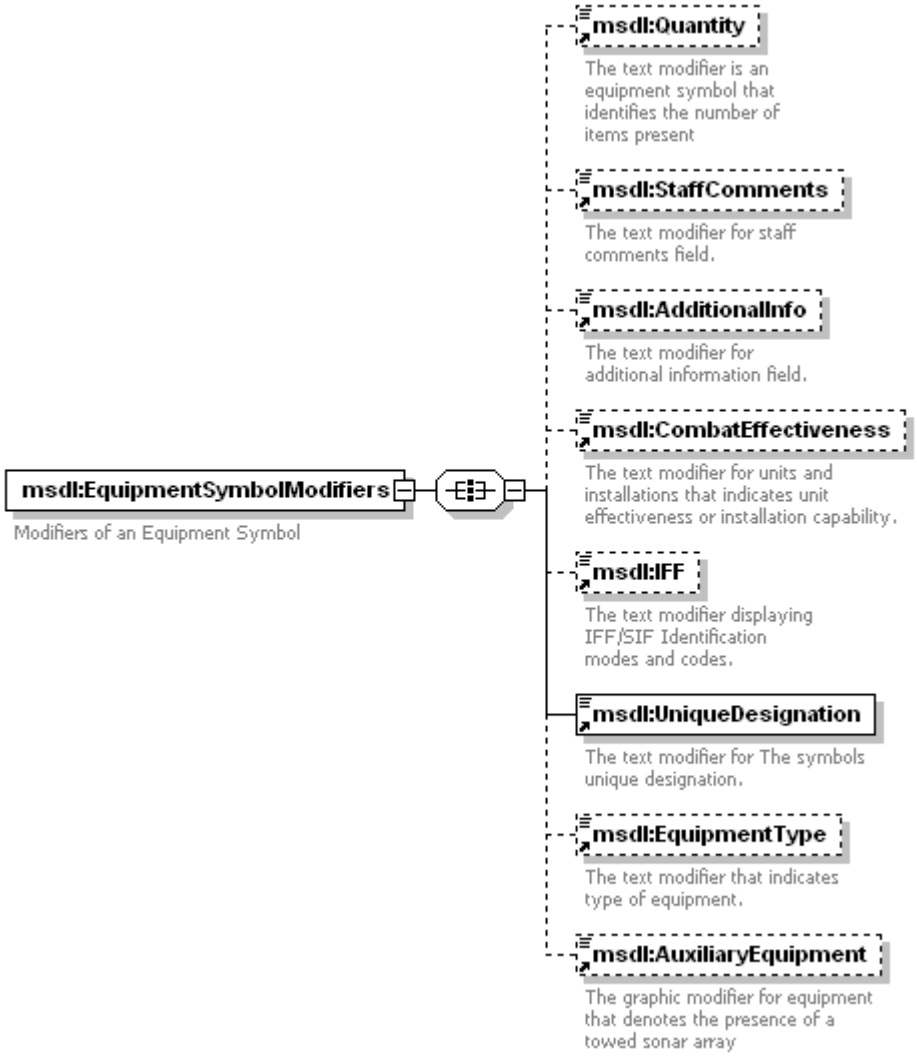


Figure 48: *msdl:EquipmentSymbolModifiers* Element Structure

1. ***msdl:Quantity*** - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:Echelon*** elements. The ***msdl:Echelon*** element specifies the text modifier that identifies the number of items present. The domain type is ***msdl:integerQuantity9.***
2. ***msdl***:StaffComments - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:StaffComments*** element. The ***msdl:StaffComments*** element specifies the text modifier for staff comments field. The domain type is ***msdl:text20.***
3. ***msdl***:AdditionalInfo - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an additional information field. The domain type is ***msdl:text20.***
4. ***msdl***:CombatEffectiveness - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:CombatEffectiveness*** elements. The ***msdl:CombatEffectiveness*** element specifies the

text modifier thatindicates unit effectiveness or installation capability. The domain type is restricted ***msdl:enumCombatEffectivenessType***.

5. ***msdl***:IFF - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:IFF*** element. The ***msdl:IFF*** element specifies the text modifier displaying IFF/SIF identification modes and codes. The domain type is ***msdl:textIFF5.***
6. ***msdl***:DirectionOfMovementIndicator - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:DirectionOfMovementIndicator*** element. The ***msdl:DirectionOfMovementIndicator*** element specifies the graphic modifier thatidentifies the direction of movement or intended direction of movement if the ***msdl:Speed*** element has a value of zero. The domain type is ***msdl:booleanDirectionOfMovementIndicator***.
7. ***msdl:UniqueDesignation*** - For every ***msdl:EquipmentSymbolModifiers*** element there shall be one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
8. ***msdl***:EquipmentType - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:EquipmentType*** element. The ***msdl:EquipmentType*** element specifies the text modifier that identifies equipment type. The domain type is ***msdl:textEquipmentType24.***
9. ***msdl:AuxilliaryEquipment*** - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:AuxilliaryEquipment*** element. The ***msdl:AuxilliaryEquipment*** element specifies the graphic modifier in that denotes the presence of towed sonar array. The domain type is ***msdl:booleanAuxiliaryEquipment***.

6.5.2.1.5 *msdl:CommunicationNetReferences* Element

For every ***msdl:EquipmentItem*** element there shall be zero or one ***msdl:CommunicationNetReferences*** element. The ***msdl: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 49 and described in the following subsections.

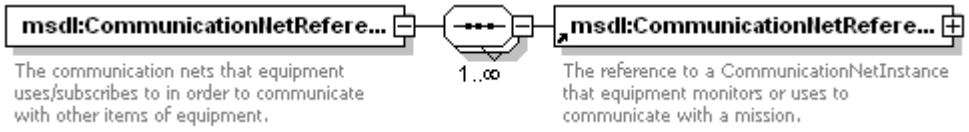


Figure 49: *msdl:CommunicationNetReferences* Element Structure

1. msdl:CommunicationNetReference - For every msdl:CommunicationNetReferences element there shall be one or more msdl:CommunicationNetReference elements. The msdl:CommunicationNetReference element specifies a reference to a msdl:CommunicationNetInstance that the equipment monitors or uses to communicate mission information. It is an xs:sequence compositor comprised of the elements shown in Figure 50 and described in the following subsections.

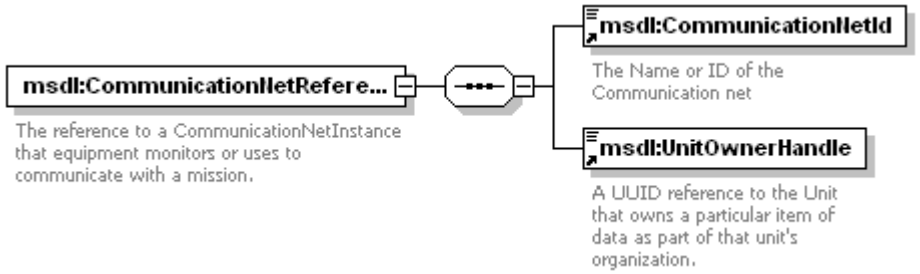


Figure 50: *msdl:CommunicationNetReference* Element Structure

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

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

6.5.2.1.6 *Disposition* Element

For every ***msdl:EquipmentItem*** element there shall be 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 51 and described in the following subsections.

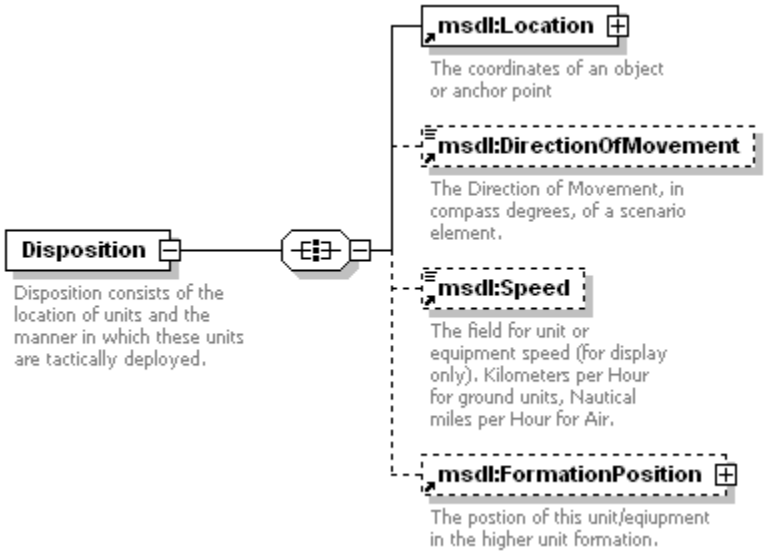


Figure 51: *Disposition* Element Structure

1. ***msdl:Location*** - For every ***Disposition*** element there shall be one ***msdl:Location*** element. The ***msdl:Location*** element specifies the coordinates of the equipment. The domains type is ***msdl:Coordinate***.
2. ***msdl:DirectionOfMovement*** - For every ***Disposition*** element there shall be zero or one ***msdl:DirectionOfMovement*** element. The ***msdl:DirectionOfMovement*** element specifies the direction of movement in compass degress of a military scenario element. The domain type ***msdl:floatCompassDegrees3_3.***
3. ***msdl:Speed*** - For every ***msdl:EquipmentSymbolModifiers*** element there shall be zero or one ***msdl:Speed*** element. The ***msdl:Speed*** element specifies the the unit or equipment speed in the direction as specified in the ***msdl:DirectionofMovement*** element. The domain type is ***msdl:floatSpeed6_2.***
4. ***msdl***:FormationPosition - For every ***Disposition*** element there shall be zero or one ***msdl:FormationPosition*** element. The ***msdl:FormationPosition*** element specifies the position of the specific msdl:EquipmentItem with relation to the other pieces of equipment within the formation. It is an xs:all compositor comprised of the elements shown in Figure 52 and described in the following subsections.

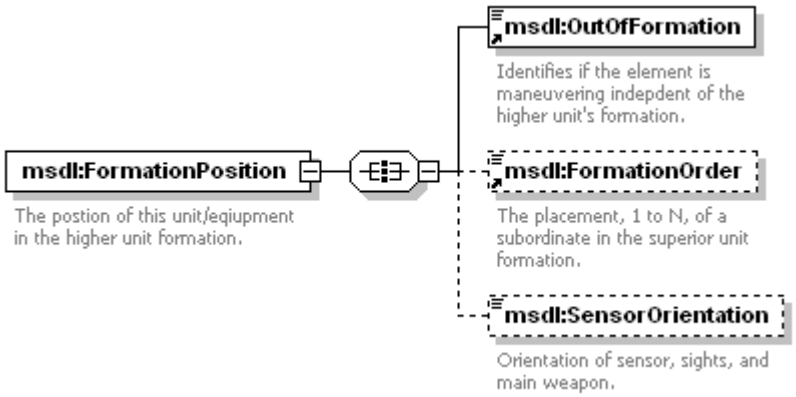


Figure 52: *msdl:FormationPosition* Element Structure

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

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

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

6.5.2.1.7 *Relations* Element

For every ***msdl:EquipementItem*** element there shall be one ***Relations*** element. The ***Relations*** element specifies the 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 53 and described in the following subsections.

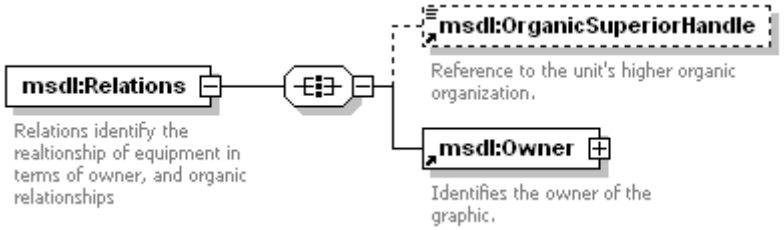


Figure 53: *Relations* Element Structure

1. ***msdl:OrganicSuperiorHandle*** - For every ***Relations*** element there shall be zero or one ***msdl:OrganicSuperiorHandle*** element. The ***msdl:OrganicSuperiorHandle*** element specifies a reference to the unit's higher organic organization. The domain type is ***msdl:patternUUIDRef32.***
2. ***msdl***:Owner - For every ***Relations*** element there shall be one ***msdl:Owner*** element. The ***msdl:Owner*** element specifies the owner of the EquipmentItem. The domain type is ***msdl:Owner***.

6.5.2.1.8 *Model* Element

For every ***msdl:EquipmentItem*** element there shall be one ***Model*** element. The ***Model*** element specifies the the resolution and aggregation information impacting import of the military scenario. It is an xs:all compositor comprised of the elements shown in Figure 54 and described in the following subsections.

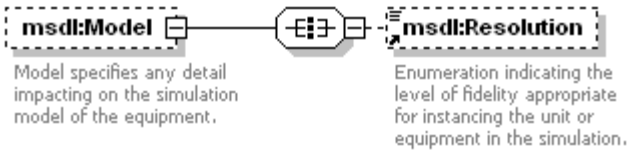


Figure 54: *Model* Element Structure

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

6.6 *msdl:Overlays* Element

For every ***msdl:MilitaryScenario*** element there shall be zero or one ***msdl:Overlays*** element. The ***msdl:Overlays*** element is used to specific the overlays within the context of the military scenario. The ***msdl:Overlays*** element is an xs:sequence compositor containing all the elements shown in Figure 55 and described in the subsequent subsections.

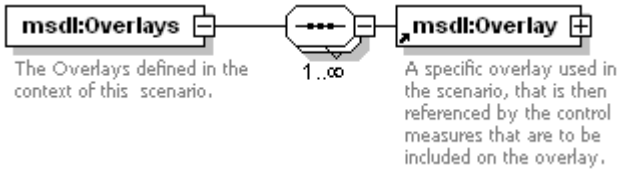


Figure 55: *msdl:Overlays* Element Structure

6.6.1 *msdl:Overlay* Element

For every ***msdl:Overlays*** element there shall be one or more ***msdl: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 ***msdl:Overlay*** element, an xs:all compositor, specifies a specific 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 56.

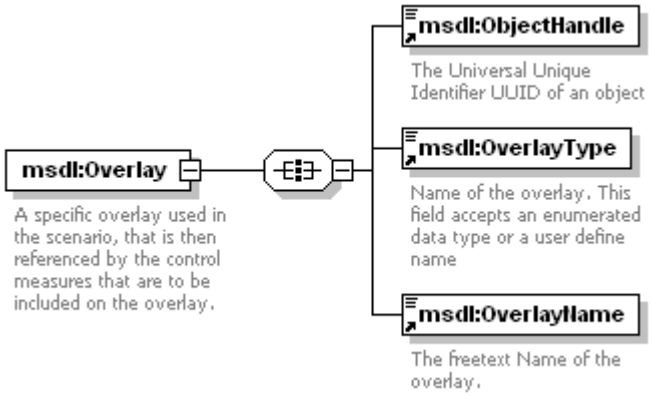


Figure 56: *msdl:Overlay* Element Structure

6.6.1.1 *msdl:ObjectHandle* Element

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

6.6.1.2 *msdl:OverlayType* Element

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

6.6.1.3 *msdl:OverlayName* Element

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

6.7 *msdl:Installations* Element

For every ***msdl:MilitaryScenario*** element there shall be zero or one ***msdl:Installations*** element. The ***msdl: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 ***msdl:Installations*** element ,an xs:sequence compositor, contains all the elements shown in Figure 57 and described in the subsequent subsections.

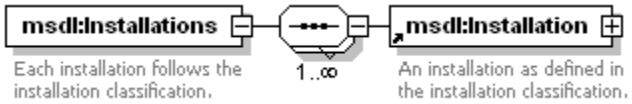


Figure 57: *msdl:Installations* Element Structure

6.7.1 *msdl:Installation* Element

For every ***msdl:Installations*** element there shall be one or more ***msdl:Installation*** elements. An Installation description is tactical information that is part of the COP of the Force, Side, or Unit specified in the ***msdl:Owner*** element. Its level of threat as determined through intelligence gathering is specified in the ***msdl:Affliation*** and ***msdl:FrameShapeModifier*** elements. The quality of the gathering intelligence used to create this tactical information is specified in the ***msdl:EvaluationRating*** element. The time when the information is specified in the ***msdl:DateTimeGroup*** element. This tactical information is organized within the COP through the overlays specified in the ***msdl:AssociatedOverlays*** element. Each COP (one per opposing side) may have its own Installation description for the same actual Installation. The ***msdl:Installation*** element, an xs:all compositor, specifies the installations within the military scenario document and is show in Figure 58 ***msdl:Installation***.

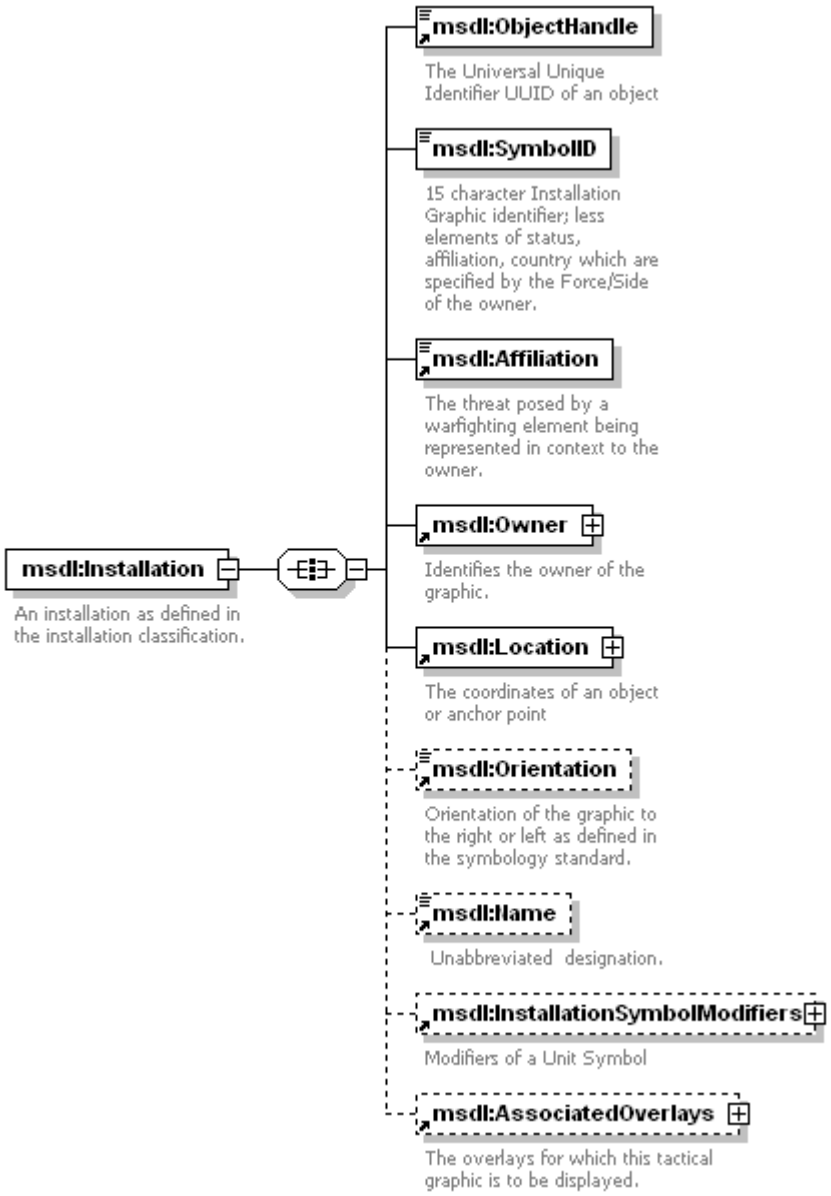


Figure 58: *msdl:Installation* Element Structure

6.7.1.1 *msdl:ObjectHandle* Element

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

6.7.1.2 *msdl:SymbolID* Element

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

6.7.1.3 *msdl:Affiliation* Element

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

6.7.1.4 *msdl:Owner* Element

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

6.7.1.5 *msdl:Location* Element

For every ***msdl:Installation*** element there shall be one ***msdl:Location*** element. The ***msdl:Location*** element specifies the coordinates of the unit. The domains type is ***msdl:Coordinate.***

6.7.1.6 *msdl:Orientation* Element

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

6.7.1.7 *msdl:Name* Element

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

6.7.1.8 *msdl:InstallationSymbolModifiers* Element

For every ***msdl:Installation*** element there shall be zero or one ***msdl:InstallationSymbolModifiers*** element. The ***msdl:InstallationSymbolModifiers*** element specifies the modifiers of an equipment symbol. It is an xs:all compositor comprised of the elements shown in Figure 59 and described in the following subsections.

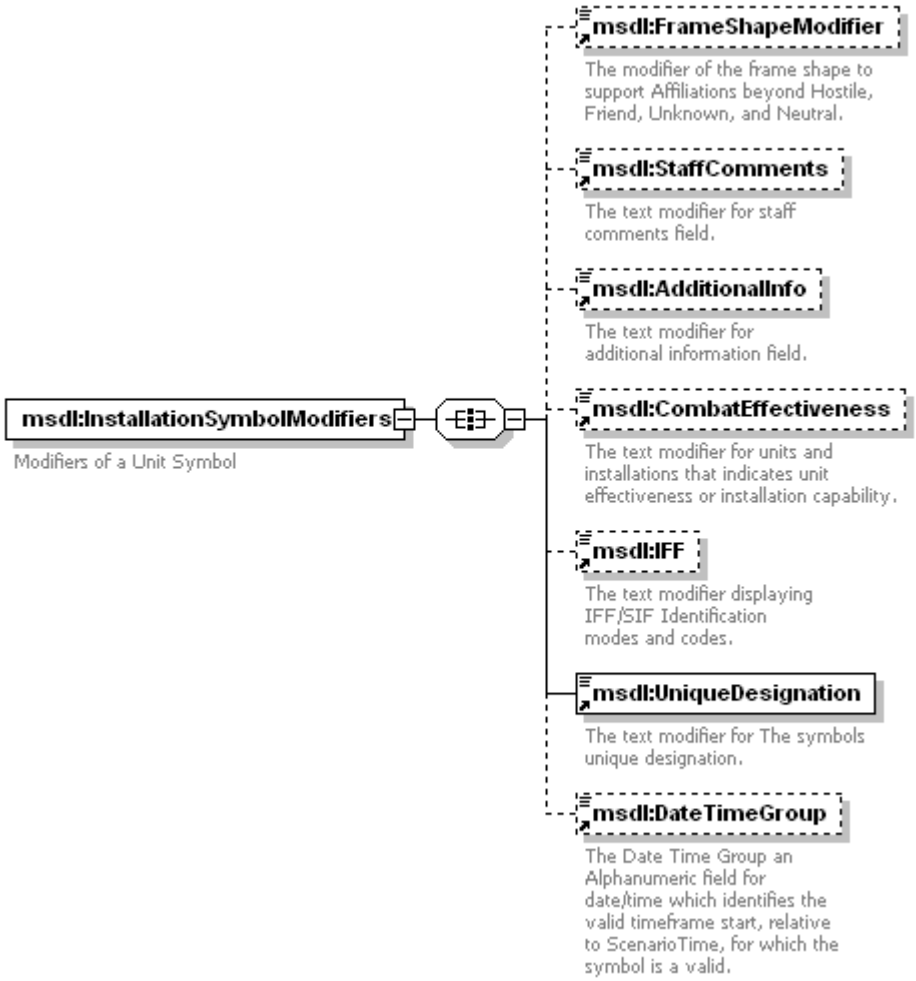


Figure 59: *msdl:InstallationSymbolModifiers* Element Structure

6.7.1.8.1 *msdl:FrameShapeModifier* Element

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

6.7.1.8.2 *msdl:StaffComments* Element

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

6.7.1.8.3 *msdl:AdditionalInfo* Element

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

6.7.1.8.4 *msdl:CombatEffectiveness* Element

For every ***msdl:InstallationSymbolModifiers*** element there shall be zero or one ***msdl:CombatEffectiveness*** elements. The ***msdl:CombatEffectiveness*** element specifies the text modifier thatindicates unit effectiveness or installation capability. The domain type is ***msdl:enumCombatEffectivenessType***.

6.7.1.8.5 *msdl:IFF* Element

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

6.7.1.8.6 *msdl:UniqueDesignation* Element

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

6.7.1.8.7 *msdl:DateTimeGroup* Element

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

6.7.1.9 *msdl:AssociatedOverlays* Element

For every ***msdl:TacticalGraphic*** element there shall be one ***msdl:AssociatedOverlay*** element. The ***msdl:AssociatedOverlay*** 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 60 and described in the following subsections.

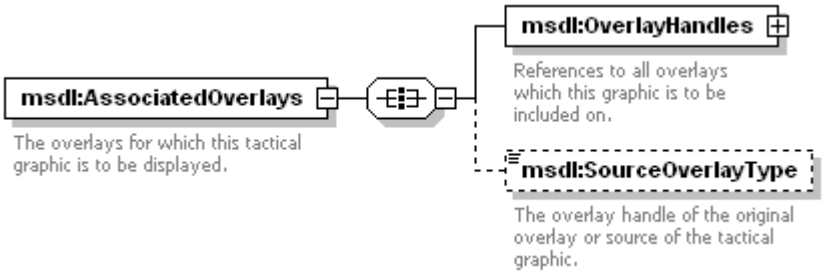


Figure 60: *msdl:AssociatedOverlays* Element Structure

6.7.1.9.1 *msdl:OverlayHandles* Element

For every ***msdl:AssociatedOverlays*** element there shall be one ***msdl:OverlayHandles*** elements. The ***msdl:OverlayHandles*** element specifies a reference to a all overlays which this graphic is to be included on. It is an xs:sequence compositor comprised of the elements shown in Figure 61 and described in the following subsections.

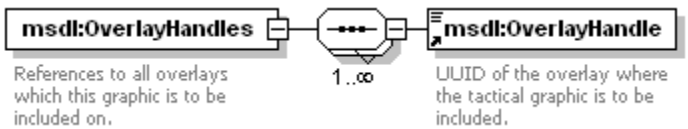


Figure 61: *msdl:OverlayHandles* Element Structure

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

6.7.1.9.2 *msdl:SourceOverlayType* Element

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

6.8 *msdl:TacticalGraphics* Element

For every ***msdl:MilitaryScenario*** element there shall be zero or one ***msdl:TacticalGraphics*** element. The ***msdl:TacticalGraphics*** element is used to specify the control measures for the military scenario. The ***msdl:TacticalGraphics*** element , an xs:sequence compositor, contains all the elements shown in Figure 62 and described in the subsequent subsections.

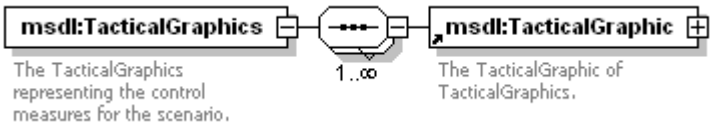


Figure 62: *msdl:TacticalGraphics* Element Structure

6.8.1 *msdl:TacticalGraphic* Element

For every ***msdl:TacticalGraphics*** element there shall be zero or one ***msdl:TacticalGraphic*** element. The ***msdl: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 ***msdl:Owner*** element. Its level of threat as determined through intelligence gathering is specified in the ***msdl:Affiliation*** and ***msdl:FrameShapeModifier*** elements. The quality of the gathered intelligence used to create this tactical information is specified in the ***msdl:EvaluationRating*** element. The time when the information was gathered is specified in the ***msdl:DateTimeGroup*** element.This tactical information is organized within the COP through the overlays specified in the ***msdl:AssociatedOverlays*** element. The ***msdl:TacticalGraphic*** element, an xs:all compositor, is comprised of an XML “sequence” structure containing all the elements shown in Figure 63 and described in the subsequent subsections.

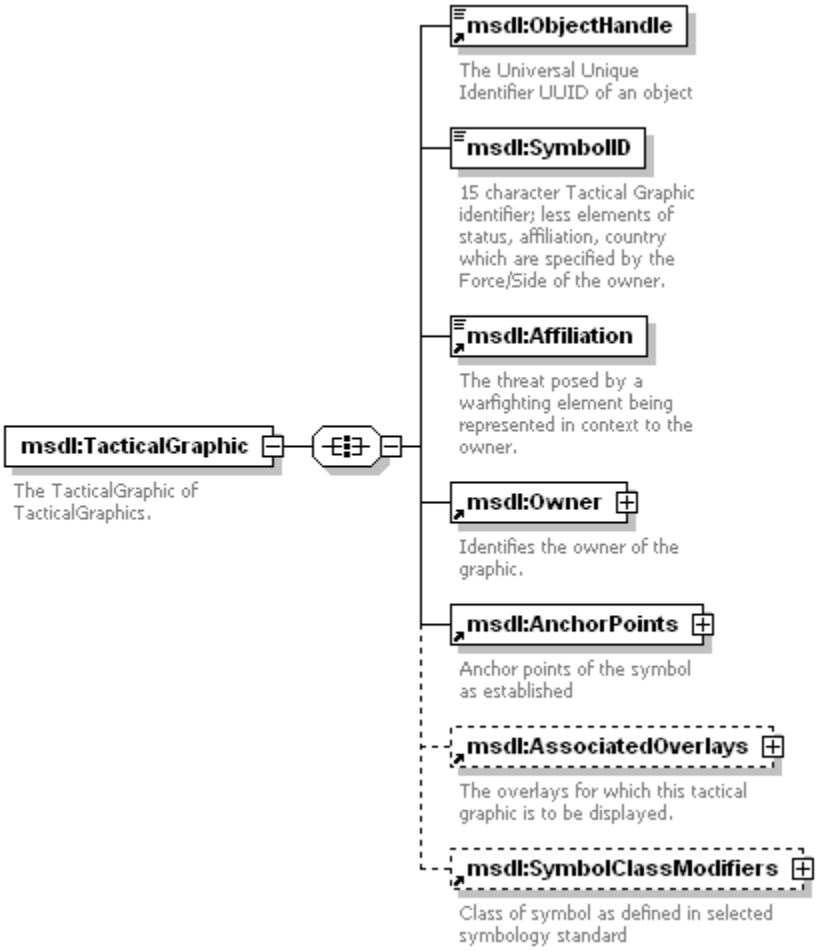


Figure 63: *msdl:TacticalGraphic* Element Structure

6.8.1.1 *msdl:ObjectHandle* Element

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

6.8.1.2 *msdl:SymbolID* Element

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

6.8.1.3 *msdl:Affiliation* Element

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

6.8.1.4 *msdl:Owner* Element

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

6.8.1.5 *msdl:AnchorPoints* Element

For every ***msdl:TacticalGraphic*** element there shall be one ***msdl:AnchorPoints*** element. The ***msdl:AnchorPoints*** element specifies the anchor points for the tactical graphic. It is an xs:sequence compositor comprised of the elements shown in Figure 64 and described in the following subsections.

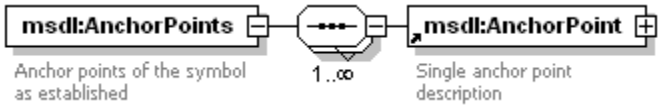


Figure 64: *msdl:AnchorPoints* Element Structure

6.8.1.5.1 *msdl:AnchorPoint* Element

For every ***msdl:AnchorPoints*** element there shall be one or more ***msdl:Anchorpoint*** elements. The ***msdl:AnchorPoint*** element specifies a a single anchor point. It is an xs:all compositor comprised of the elements shown in Figure 65 and described in the following subsections.

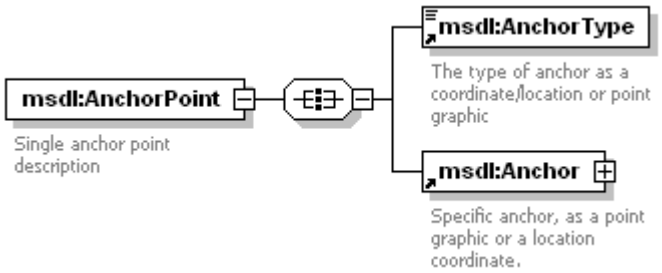


Figure 65: *msdl:AnchorPoint* Element Structure

1. ***msdl:AnchorType*** - For every ***msdl:AnchorPoint*** element there shall be one ***msdl:AnchorType*** element. The ***msdl:AnchorType*** element specifies the type of anchor as a coordinate/location or a point graphic. The domain type is a restricted ***msdl:enumAnchorPointType***.
2. ***msdl:Anchor*** - For every ***msdl:AnchorPoint*** element there shall be one ***msdl:Anchor*** elements. The ***msdl:Anchor*** element specifies a location for the anchor. It is an xs:all compositor comprised of the elements shown in Figure 66 and described in the following subsections.

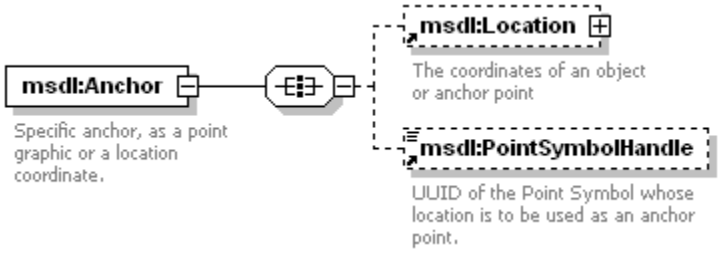


Figure 66: *msdl:Anchor* Element Structure

a) ***msdl:Location*** - For every ***msdl:Anchor*** element there shall be zero or one ***msdl:Location*** elements. The ***msdl:Location*** element specifies the coordinates of the unit. The domains type is ***msdl:Coordinate***.

b) ***msdl:PointSymbolHandle*** - For every ***msdl:Anchor*** element there shall be zero or one ***msdl:PointSymbolHandle*** elements. The ***msdl:PointSymbolHandle*** element specifies a UUID of

the point symbol whose location is to be used as an anchor point. The domain type ***msdl:patternUUIDRef32.***

6.8.1.6 *msdl:AssociatedOverlays* Element

For every ***msdl:TacticalGraphic*** element there shall be zero or one ***msdl:AssociatedOverlays*** element. The ***msdl: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 67 and described in the following subsections.

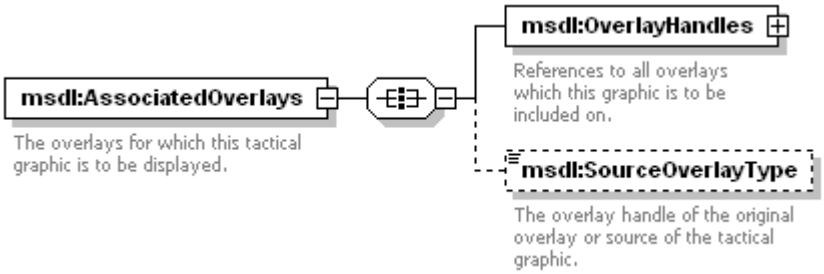


Figure 67: *msdl:AssociatedOverlays* Element Structure

6.8.1.6.1 *msdl:OverlayHandles* Element

For every ***msdl:AssociatedOverlays*** element there shall be one ***msdl:OverlayHandles*** elements. The ***msdl:OverlayHandles*** element specifies a reference to a all overlays which this graphic is to be included on. It is an xs:sequence compositor comprised of the elements shown in Figure 68 and described in the following subsections.

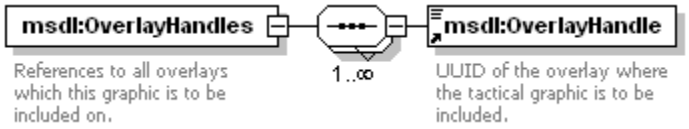


Figure 68: *msdl:OverlayHandles* Element Structure

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

6.8.1.6.2 *msdl:SourceOverlayType* Element

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

6.8.1.7 *msdl:SymbolClassModifiers* Element

For every ***msdl:TacticalGraphic*** element there shall be zero or one ***msdl:SymbolClassModifiers*** element. The ***msdl:SymbolClassModifiers*** element specifies the class of symbol as defined in the selected symbology standard. It is an xs:choice compositor comprised one and only one of the elements shown in Figure 69 and described in the following subsections.

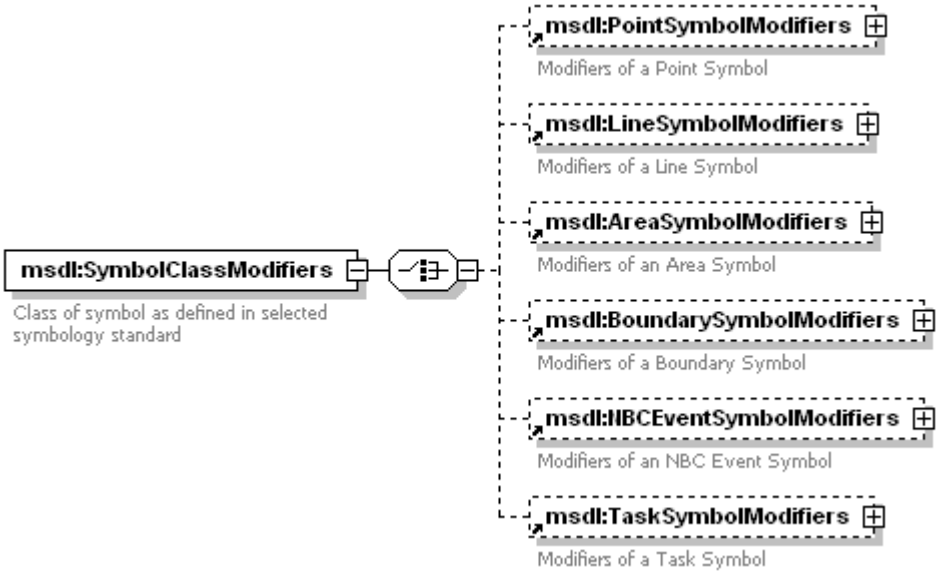


Figure 69: *msdl:SymbolClassModifiers* Element Structure

6.8.1.7.1 *msdl:PointSymbolModifiers* Element

For every ***msdl:SymbolClassModifiers*** element there shall be zero or one ***msdl:PointSymbolModifiers*** element. The domain type is ***msdl:SymbolClassModifiers***. It is an xs:all compositor comprised of the elements shown in Figure 70 and described in the following subsections.

Figure 70: msdl:PointSymbolModifiers Element Structure

1. ***msdl:AdditionalInfo*** - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an additional information field. The domain type is ***msdl:text20.***
2. ***msdl:AdditionalInfo1*** - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo1*** element specifies the text modifier for an additional information field. The domain type is ***msdl:text20.***
3. ***msdl:UniqueDesignation*** - For every ***msdl:PointSymbolModifiers*** element there shall be one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
4. ***msdl:UniqueDesignation1*** - For every ***msdl:PointSymbolModifiers*** element there shall be one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation1*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
5. ***msdl***:DateTimeGroup - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one ***msdl:DateTimeGroup*** element. The ***msdl:DateTimeGroup*** element specifies the date time group as from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8.***
6. ***msdl***:DateTimeGroup1 - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one ***msdl:DateTimeGroup1 element***. The ***msdl:DateTimeGroup1 element*** specifies the date time group as from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8.***

7. ***msdl***:Orientation - For every ***msdl:PointSymbolModifiers*** element there shall be zero or one ***msdl:Orientation1 element***. The ***msdl:Orientation element*** specifies the the orientation of the graphic to the right or left as defined in the symbology standard. The domain type is ***msdl:enumOrientationType.***

6.8.1.7.2 *msdl:LineSymbolModifiers* Element

For every ***msdl:SymbolClassModifiers*** element there shall be zero or one ***msdl:LineSymbolModifiers*** element. The ***msdl:LineSymbolModifiers*** element specifies the modifiers for a line symbol. It is an xs:all compositor comprised of the elements shown in Figure 71 and described in the following subsections.

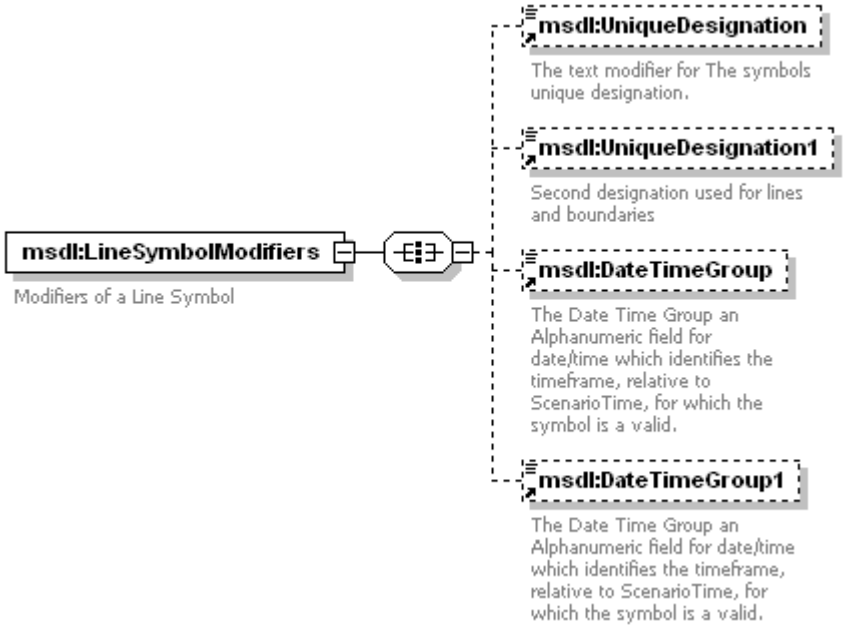


Figure 71: *msdl:LineSymbolModifiers* Element Structure

1. ***msdl:UniqueDesignation*** - For every ***msdl:LineSymbolModifiers*** element there shall be zero or one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
2. ***msdl***:UniqueDesignation1 - For every ***msdl:LineSymbolModifiers*** element there shall be be zero or one ***msdl:UniqueDesignation1 element***. The ***msdl:UniqueDesignation1 element*** specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
3. ***msdl***:DateTimeGroup - For every ***msdl:LineSymbolModifiers*** element there shall be zero or one ***msdl:DateTimeGroup*** element. The ***msdl:DateTimeGroup*** element specifies the date time group as from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8.***
4. ***msdl***:DateTimeGroup1 - For every ***msdl:LineSymbolModifiers*** element there shall be zero or one ***msdl:DateTimeGroup1 element***. The ***msdl:DateTimeGroup1 element*** specifies the date time group as from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8.***

6.8.1.7.3 *msdl:AreaSymbolModifiers* Element

For every ***msdl:SymbolClassModifiers*** element there shall be zero or one ***msdl:AreaSymbolModifiers*** element. The ***msdl:AreaSymbolModifiers*** element specifies themodifiers for an area symbol. It is an xs:all compositor comprised of the elements shown in Figure 72 and described in the following subsections.

Figure 72: *msdl:AreaSymbolModifiers* Element Structure

1. ***msdl:Echelon*** - For every ***msdl:AreaSymbolModifiers*** element there shall be zero or one ***msdl:Echelon*** elements. The ***msdl:Echelon*** element specifies the graphic modifier that identifies command level. The domain type is restricted ***msdl:enumEchelon***.
2. ***msdl:AdditionalInfo*** - For every ***msdl:AreaSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an additional information field. The domain type is ***msdl:text20.***
3. ***msdl***:AdditionalInfo1 - For every ***msdl:AreaSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo1 element***. The ***msdl:AdditionalInfo1 element*** specifies the text modifier for an additional information field. The domain type is ***msdl:text20.***
4. ***msdl***:AdditionalInfo2 - For every ***msdl:AreaSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo2 element***. The ***msdl:AdditionalInfo2 element*** specifies the text modifier for an additional information field. The domain type is ***msdl:text20.***
5. ***msdl***:UniqueDesignation - For every ***msdl:AreaSymbolModifiers*** element there shall be zero or one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
6. ***msdl***:DateTimeGroup - For every ***msdl:AreaSymbolModifiers*** element there shall be zero or one ***msdl:DateTimeGroup*** element. The ***msdl:DateTimeGroup*** element specifies the date time group as from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8.***

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

6.8.1.7.4 *msdl:BoundarySymbolModifiers* Element

For every ***msdl:SymbolClassModifiers*** element there shall be zero or one ***msdl:BoundarySymbolModifiers*** element. The ***msdl:BoundarySymbolModifiers*** element specifies the modifiers for a boundary symbol. It is an xs:all compositor comprised of the elements shown in Figure 73 and described in the following subsections.

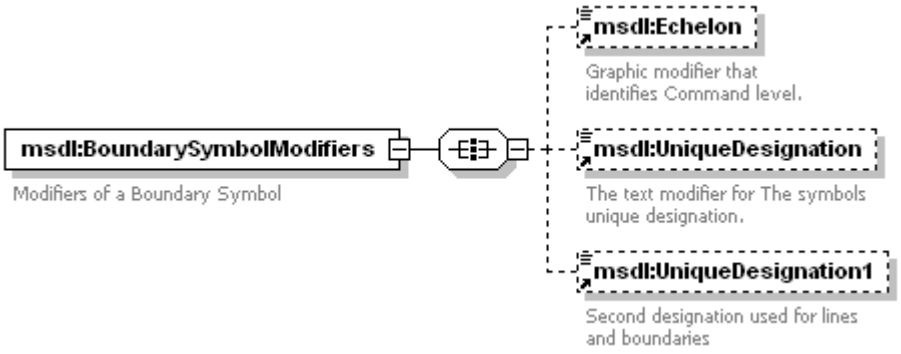


Figure 73: *msdl:BoundarySymbolModifiers* Element Structure

1. ***msdl:Echelon*** - For every ***msdl:BoundarySymbolModifiers*** element there shall be zero or one ***msdl:Echelon*** elements. The ***msdl:Echelon*** element specifies the graphic modifier that identifies command level. The domain type is restricted ***msdl:enumEchelon***.
2. ***msdl:UniqueDesignation*** - For every ***msdl:BoundarySymbolModifiers*** element there shall be zero or one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
3. ***msdl***:UniqueDesignation1 - For every ***msdl:BoundarySymbolModifiers*** element there shall be zero or one ***msdl:UniqueDesignation1 element***. The ***msdl:UniqueDesignation1 element*** specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***

6.8.1.7.5 *msdl:NBCEventSymbolModifiers* Element

For every ***msdl:SymbolClassModifiers*** element there shall be zero or one ***msdl:NBCEventSymbolModifiers*** element. The ***msdl:NBCEventSymbolModifiers*** element specifies the modifiers for a NBC Event symbol. It is an xs:all compositor comprised of the elements shown in Figure 74 and described in the following subsections.

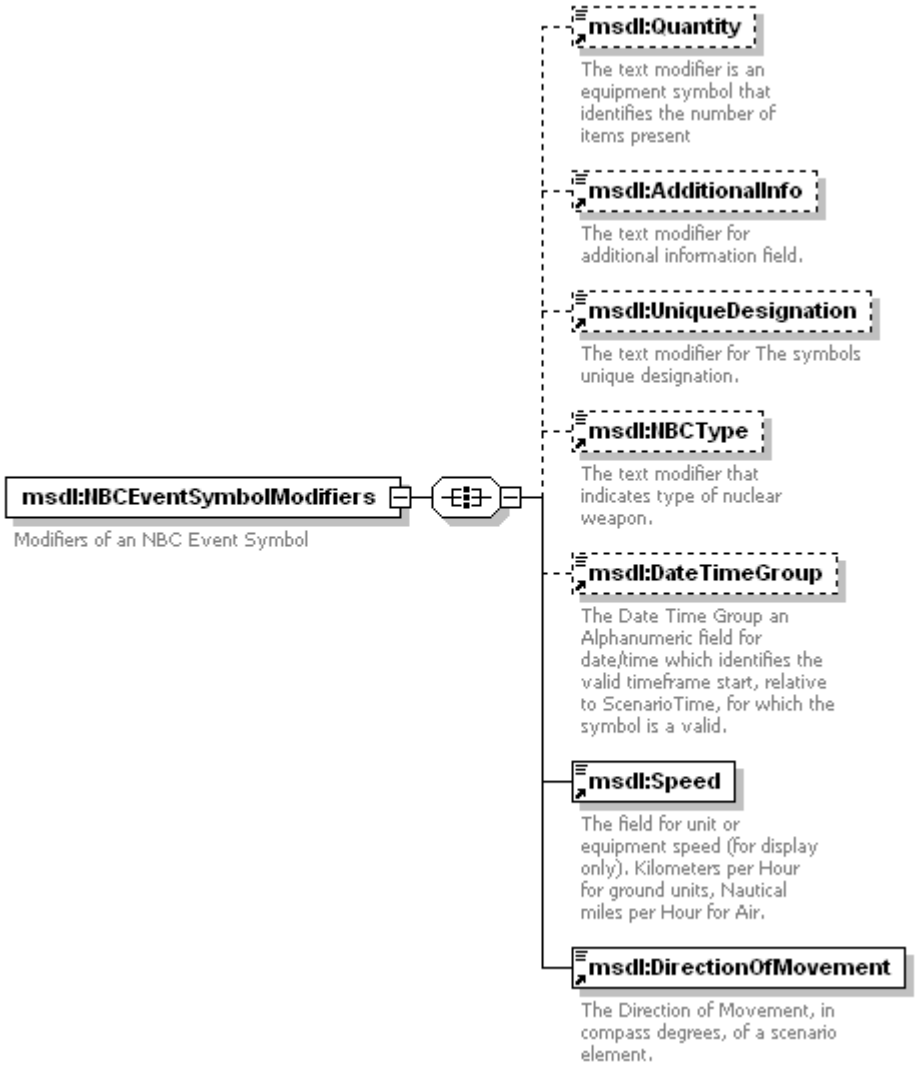


Figure 74: *msdl:NBCEventSymbolModifiers* Element Structure

1. ***msdl:Quantity*** - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one ***msdl:Echelon*** elements. The ***msdl:Echelon*** element specifies the text modifier that identifies the number of items present. The domain type is ***msdl:integerQuantity9.***
2. ***msdl***:AdditionalInfo - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one ***msdl:AdditionalInfo*** element. The ***msdl:AdditionalInfo*** element specifies the text modifier for an additional information field. The domain type is ***msdl:text20.***
3. ***msdl:UniqueDesignation*** - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
4. ***msdl***:NBCType - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one ***msdl:NBCType*** element. The ***msdl:NBCType*** element specifies the text for the type of nuclear weapon. The domain type is ***msdl:text20.***
5. ***msdl***:DateTimeGroup - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one ***msdl:DateTimeGroup*** element. The ***msdl:DateTimeGroup*** element specifies the date time group as from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8***

6. ***msdl:Speed*** - For every ***msdl:NBCEventSymbolModifiers*** element there shall be zero or one ***msdl:Spped*** element. The ***msdl:Speed*** element specifies the speed associated with the specific tactical graphic. The domain type is ***msdl:floatSpeed6_2.***
7. ***msdl***:DirectionOfMovementIndicator - For every ***msdl:NBCEventSymbolModifiers*** element there shall be one ***msdl:DirectionOfMovementIndicator*** element. The ***msdl:DirectionOfMovementIndicator*** element specifies the graphic modifier thatidentifies the direction of movement or intended direction of movement. The domain type is ***msdl:booleanDirectionOfMovementIndicator..***

6.8.1.7.6 *msdl:TaskSymbolModifiers* Element

For every ***msdl:SymbolClassModifiers*** element there shall be zero or one ***msdl:TaskSymbolModifiers*** element. The ***msdl:TaskSymbolModifiers*** element specifies the modifiers for a task symbol. It is an xs:all compositor comprised of the elements shown in Figure 75 and described in the following subsections.

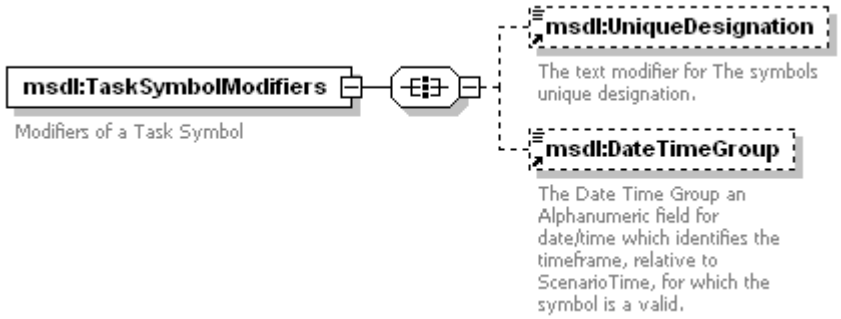


Figure 75: TaskSymbolModifiers Element Structure

1. ***msdl:UniqueDesignation*** - For every ***msdl:TaskSymbolModifiers*** element there shall be be zero or one ***msdl:UniqueDesignation*** element. The ***msdl:UniqueDesignation*** element specifies the text modifier for the symbols unique designation. The domain type is ***msdl:text21.***
2. ***msdl***:DateTimeGroup - For every ***msdl:TaskSymbolModifiers*** element there shall be zero or one ***msdl:DateTimeGroup*** element. The ***msdl:DateTimeGroup*** element specifies the date time group as from which a symbol is valid. The domain type is ***msdl:patternTimeDTGRelative8.***

6.9 *msdl:MOOTWGraphics* Element

For every ***msdl:MilitaryScenario*** element there shall be zero or one ***msdl:MOOTWGraphics*** element. The ***msdl:MOOTWGraphics*** element is used to specify the MOOTW graphics for the military scenario. The ***msdl:MOOTWGraphics*** element , an xs:sequence compositor, contains all the elements shown in Figure 76 and described in the subsequent subsections.

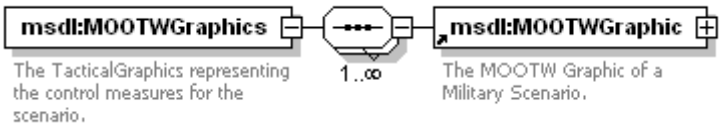


Figure 76: *msdl:MOOTWGraphics* Element Structure

6.9.1 *msdl:MOOTWGraphic* Element

For every ***msdl:MOOTWGraphics*** element there shall be zero or one ***msdl:MOOTWGraphic*** element. The ***msdl: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 ***msdl:Affiliation*** and ***msdl:FrameShapeModifier*** elements. The quality of the gathered intelligence used to create this tactical information is specified in the ***msdl:EvaluationRating*** element. The time when the

information was gathered is specified in the ***msdl:DateTimeGroup*** element. This tactical information is organized within the COP through the overlays specified in the ***msdl:AssociatedOverlays*** element. Each COP (one per opposing sides) may have its own Installation description for the same actual Installation. The ***msdl:MOOTWGraphic*** element, an xs:sequence compositor, contains all the elements shown in Figure 77 and described in the subsequent subsections.

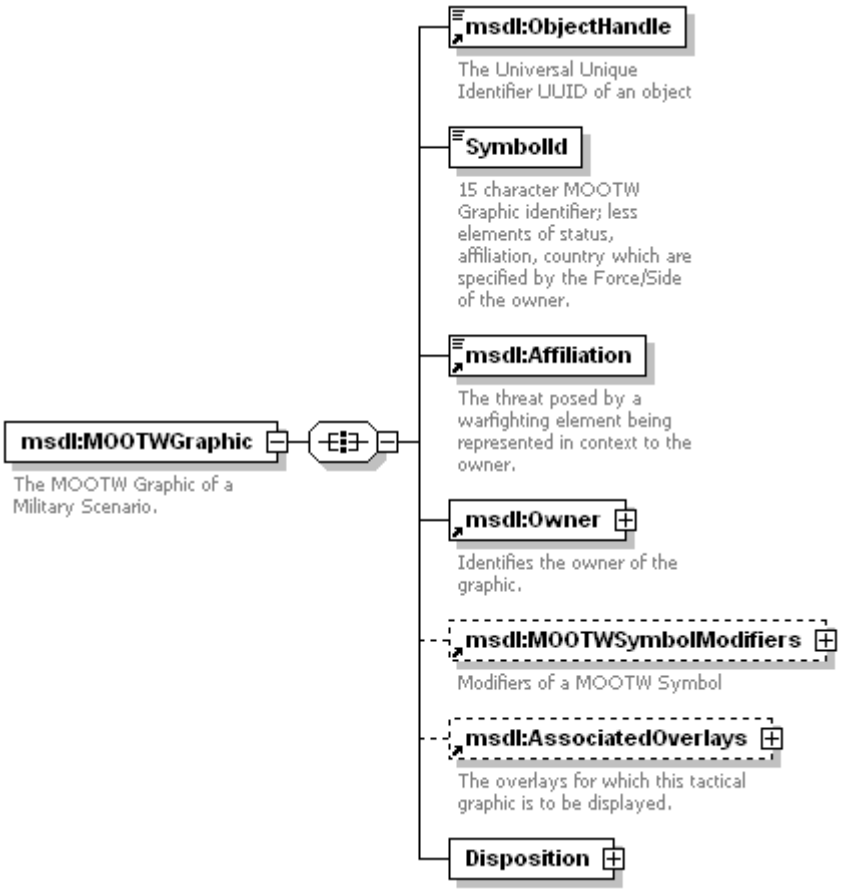


Figure 77: *msdl:MOOTWGraphic* Element Structure

6.9.1.1 *msdl:ObjectHandle* Element

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

6.9.1.2 *msdl:SymbolID* Element

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

6.9.1.3 *msdl:Affiliation* Element

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

1362 **6.9.1.4 *msdl:Owner* Element**

1363 For every ***msdl:MOOTWGraphic*** element there shall be one ***msdl:Owner*** element. The ***msdl:Owner***
1364 element specifies the owner of the graphic. The domain type is ***msdl:Owner***.

1365 **6.9.1.5 *msdl:Location* Element**

1366 For every ***msdl:MOOTWGraphic*** element there shall be one ***msdl:Location*** element. The ***msdl:Location***
1367 element specifies the coordinates of the MOOTWGraphic. The domains type is ***msdl:Coordinate***.

1368 **6.9.1.6 *msdl:MOOTWsymbolModifiers* Element**

1369 For every ***msdl:MOOTWGraphic*** element there shall be zero or one ***msdl:MOOTWSymbolModifiers***
1370 element. The ***msdl:MOOTWSymbolModifiers*** element specifies the modifiers of a MOOTW symbol. It is an
1371 xs:all compositor comprised of the elements shown in Figure 78 and described in the following subsections.

1372

Figure 78: *msdl:MOOTWSymbolModifiers* Element Structure

6.9.1.6.1 *msdl:Echelon* Element

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

6.9.1.6.2 *msdl:ReinforcedReduced* Element

For every ***msdl:MOOTWSymbolModifiers*** element there shall be zero or one ***msdl:ReinforcedReduced*** element. The domain type is ***msdl:enumReinforcedReducedType***.

6.9.1.6.3 *msdl:FrameShapeModifier* Element

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

6.9.1.6.4 *msdl:StaffComments* Element

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

6.9.1.6.5 *msdl:AdditionalInfo* Element

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

6.9.1.6.6 *msdl:CombatEffectiveness* Element

For every ***msdl:MOOTWSymbolModifiers*** element there shall be zero or one ***msdl:CombatEffectiveness*** elements. The ***msdl:CombatEffectiveness*** element specifies the text modifier thatindicates unit effectiveness or installation capability. The domain type is restricted ***msdl:enumCombatEffectivenessType***.

6.9.1.6.7 *msdl:IFF* Element

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

6.9.1.6.8 *msdl:DirectionOfMovementIndicator* Element

For every ***msdl:MOOTWSymbolModifiers*** element there shall be zero or one ***msdl:DirectionOfMovementIndicator*** element. The ***msdl:DirectionOfMovementIndicator*** element specifies the graphic modifier thatidentifies the direction of movement or intended direction of movement. The domain type is a restricted xs:booleanDirectionOfMovementIndicator.

6.9.1.6.9 *msdl:UniqueDesignation* Element

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

6.9.1.6.10 *msdl:DateTimeGroup* Element

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

6.9.1.6.11 *msdl:Speed* Element

For every ***msdl:MOOTWSymbolModifiers*** element there shall be zero or one ***msdl:Speed*** element. The ***msdl:Speed*** element specifies the the unit or equipment speed. The domain type is a restricted xs:float with boundaries 0.0 to 999999.0 inclusive.

6.9.1.6.12 *msdl:SpecialC2HQ* Element

For every ***msdl:MOOTWSymbolModifiers*** element there shall be zero or one ***msdl:SpecialC2HQ*** element. The ***msdl:SpecialC2HQ*** element specifies the text modifier for units, that indicates a unit is a special command and control headquarters. The domain type is ***msdl:integerSpecialC2HQ1.***

6.9.1.6.13 *msdl:AssociatedOverlays* Element

For every ***msdl:TacticalGraphic*** element there shall be zero or one ***msdl:AssociatedOverlay*** element. The ***msdl:AssociatedOverlay*** 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 79 and described in the following subsections.

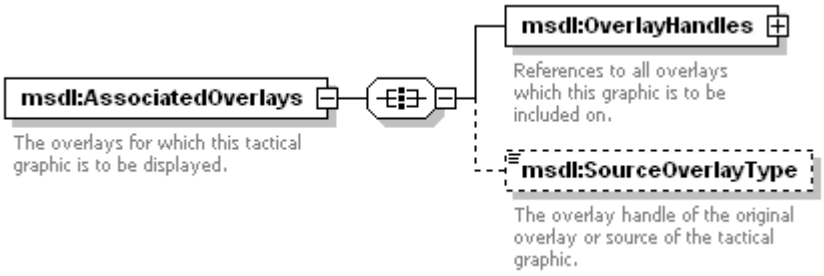


Figure 79: *msdl:AssociatedOverlays* Element Structure

6.9.1.6.14 *msdl:OverlayHandles* Element

For every ***msdl:AssociatedOverlays*** element there shall be one ***msdl:OverlayHandles*** elements. The ***msdl:OverlayHandles*** element specifies a reference to a all overlays which this graphic is to be included on. It is an xs:sequence compositor comprised of the elements shown in Figure 80 and described in the following subsections.

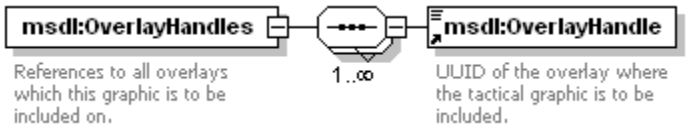


Figure 80: *msdl:OverlayHandles* Element Structure

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

6.9.1.6.15 *msdl:SourceOverlayType* Element

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

6.9.1.6.16 *Disposition* Element

For every ***msdl:Unit*** element 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 81 and described in the following subsections.

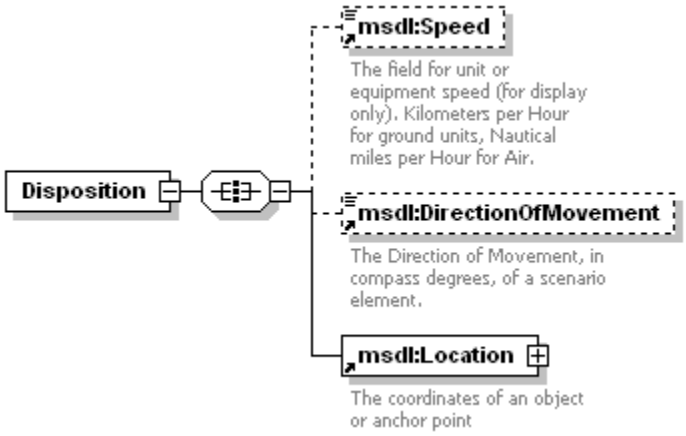


Figure 81: *Disposition* Element Structure

1. ***msdl***:Speed - For every ***Disposition*** element there shall be zero or one ***msdl:Speed*** element. The ***msdl:Speed*** 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:FormationLocationType. The domains type is ***msdl:floatSpeed6_2***.
2. ***msdl***:DirectionOfMovement - For every ***Disposition*** element there shall be zero or one ***msdl:DirectionOfMovement*** element. The ***msdl:DirectionOfMovement*** element specifies the direction of movement in compass degress, of a scenario the unit. The domains type is ***msdl:floatCompassDegrees3_3***.
3. msdl:Location – For every Disposition element there shall be one msdl:Location element. This element provides the coordinates of the msdl:MOOTWGraphic. The comain type is msdl:coordinate.

7 *Complex* Data Types

Within MSDL reuseable simple and complex data types are offered through the use of XML data type declarations. Section 5.5 specifies the current set of complex and simple data types in use by the previously defined element declarations. It is assumed that these as MSDL is extended through active use additional data types will be added as will specific element declarations that extend or restrict specific data types. It is envisioned that the restriction and extension capability provides configuration management mechanism to control and integrate extensions to the MSDL specification.

7.1 Complex Type id:modelIdentificationType

The id:modelIdentificationType complex type specifies the information to describe the military scenario. The id:modelIdentificationType contains the optional attributes id:notes of type xs:IDREFS and id:idtag of type xs:ID. These optional attributes are defined and are consistently used within each element of the id: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. The id:idtag is used to creatt a unique id that can be referenced from other parts of the instance document of from outside the instance document, this is an optional attribute and is not required to be filled. The id:modelIdentificationType complex type, is an xs:sequence compositor, contains all the elements shown in Figure 82 and described in the subsequent subsections.

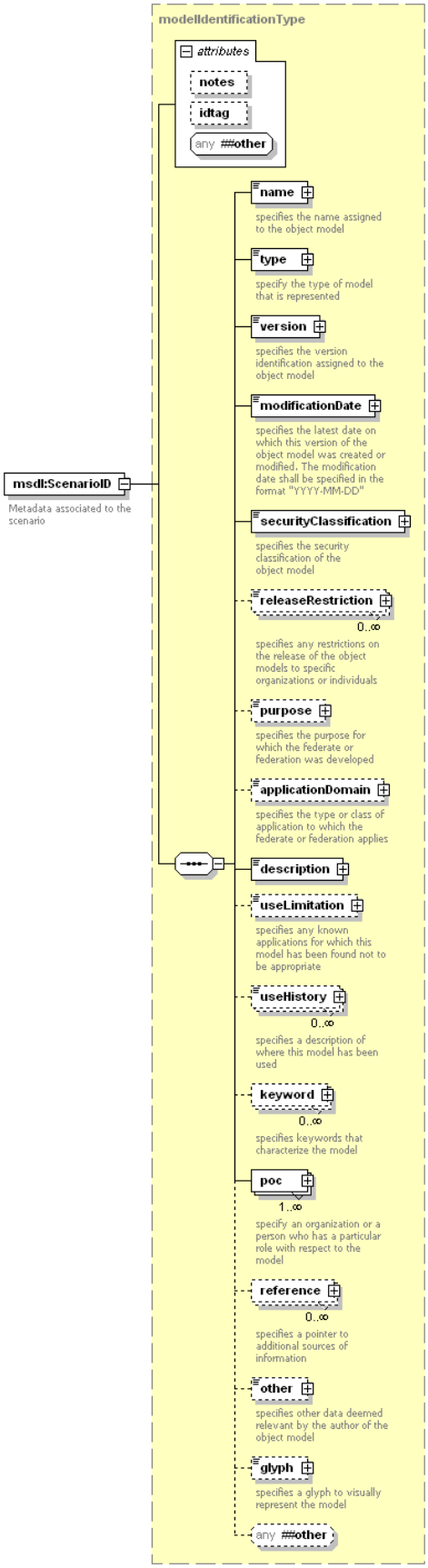


Figure 82: modelIdentificationType Type Structure

7.1.1 id:name Element

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

7.1.2 id:type Element

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

7.1.3 id:version Element

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

7.1.4 id:modificationDate Element

For every id:modelIdentificationType complext type there shall be one id:modificationDate element that follows the id:version element. The id: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 id:modificationDate shall be specified in the format “YYYY-MM-DD”, cannot be null, and contains the optional attributes id:notes of type xs:IDREFS and id:idtag of type xs:ID.

7.1.5 id:securityClassification Element

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

7.1.6 id:releaseRestriction Element

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

7.1.7 id:purpose Element

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

7.1.8 id:applicationDomain Element

For every id:modelIdentificationType complext type there shall be zero or one id:applicationDomain element that follows the id:applicationDomain element. The id:applicationDomain element specifies the type or class of application to which the military scenario applies. The domain type is id:applicationDomainTpe (union of

ApplicationDomainEnumerations and xs:string) and contains the optional attributes id:notes of type xs:IDREFS and id:idtag of type xs:ID.

7.1.9 id:description Element

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

7.1.10 id:useLimitation Elements

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

7.1.11 id:useHistory Elements

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

7.1.12 id:keyword Element

For every id:modelIdentificationType complext type there shall be zero to unbounded id:keyword elements that follow the id:useHistory element. The id:keyword element specifies keywords that characterize the military scenario. The domain type is id:keywordType and contains the optional attributes id:notes of type xs:IDREFS and id:idtag of type xs:ID.

7.1.12.1 Complex Type id:keywordType

The id:keywordType complext type specifies the keyword information used to describe the military scenario. The id:keywordType complex type , an xs:sequence compositor, contains all the elements shown in Figure 83 and described in the subsequent subsections.

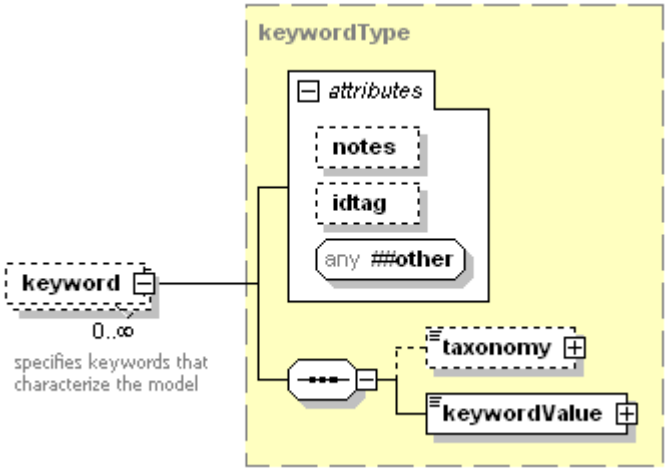


Figure 83: keyword Type Structure

7.1.12.1.1 id:taxonomy Element

For every id:keyword element there shall be zero or one id:taxonomy element. The id:taxonomy element… The domain type is String (extension of xs:string) and contains the optional attributes id:notes of type xs:IDREFS and id:idtag of type xs:ID.

7.1.12.1.2 id:keywordValue Element

For every id:taxonomy element there shall be one id:keywordValue element following the id:taxonomy element. The id:keywordValue element … The domain type is NonEmptyString (restriction of xs:string minimum length of 1) and contains the optional attributes id:notes of type xs:IDREFS and id:idtag of type xs:ID.

7.1.13 id:poc Element

For every id:modelIdentificatinType complex type there shall be one to unbounded id:poc elements following the id:keyword element. The id:poc element specifies an organization or a person who has a particular role with respect to the military scenario. The domain type is id:pocType. It contains the optional attributes id:notes of type xs:IDREFS and id:idtag of type xs:ID.

7.1.13.1 Complex Type id:pocType

The id:pocType complext type specifies the POC information for the military scenario. The id:pocType complex type, an xs:sequence compositor, contains all the elements shown in Figure 84 and described in the subsequent subsections.

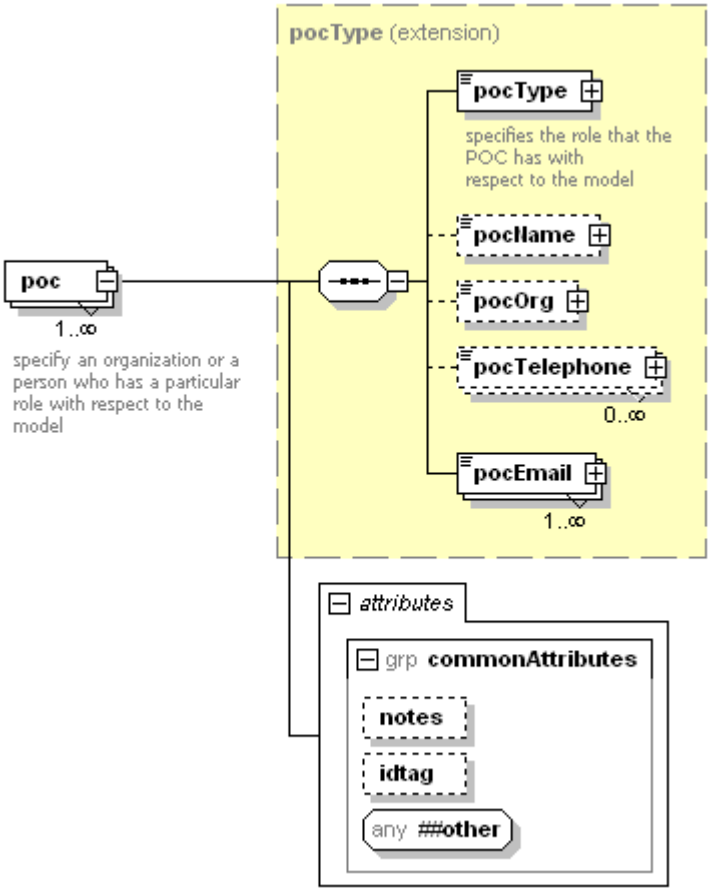


Figure 84: pocType Type Structure

7.1.13.1.1 id:pocType Element

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

7.1.13.1.2 id:pocName Element

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

7.1.13.1.3 id:pocOrg Element

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

7.1.13.1.4 id:pocTelephone Element

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

7.1.13.1.5 id:pocEmail Elements Element

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

7.1.14 id:reference Element

For every id:modelIdentificatinType complex type there shall be one to unbounded id:reference elements following the id:poc element. The id:reference element specifies the references for the military scenario. The domain type is id:referenceType.

7.1.14.1 Complex Type id:referenceType

The id:referenceType complext type specifies the reference information for the military scenario. The id:referenceType complex an xs:sequence compositor, contains all the elements shown in Figure 85 and described in the subsequent subsections.

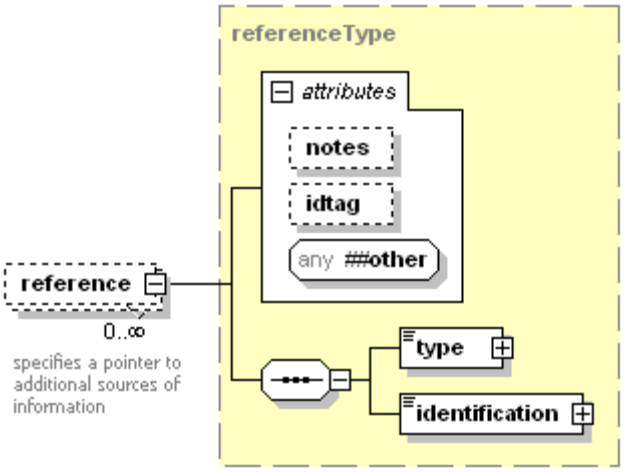


Figure 85: referenceType Type Structure

7.1.14.1.1 id:type Element

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

7.1.14.1.2 id:identification Element

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

7.1.15 id:glyph *Element*

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

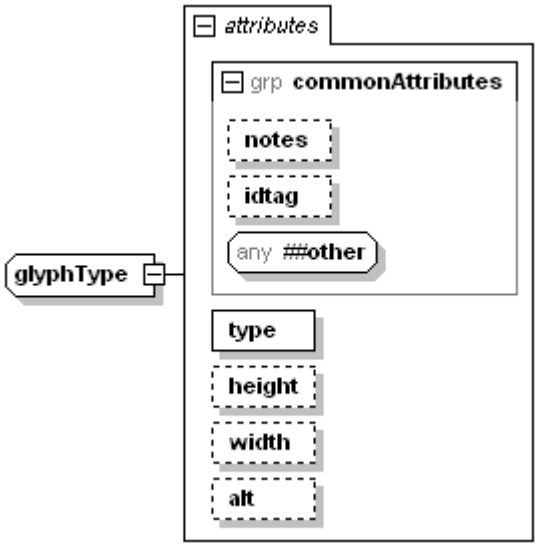


Figure 86: GlyphType Element Structure

7.1.16 id:other Element

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

7.2 Complex Type *msdl:Coordinates*

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 system specified in the Data Standards of the Options element of MSDL. For coordinates of MGRS, UTM, and GCC, the Datum must be specified in the Data Standards of the Options element in MSDL.

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 simulated environment, unless the original Datum has been specified. The ***msdl:Coordinates*** complex type, an xs:choice compositor, is comprised of one and only one of the subelement shown in Figure 87 and described in the following subsections.

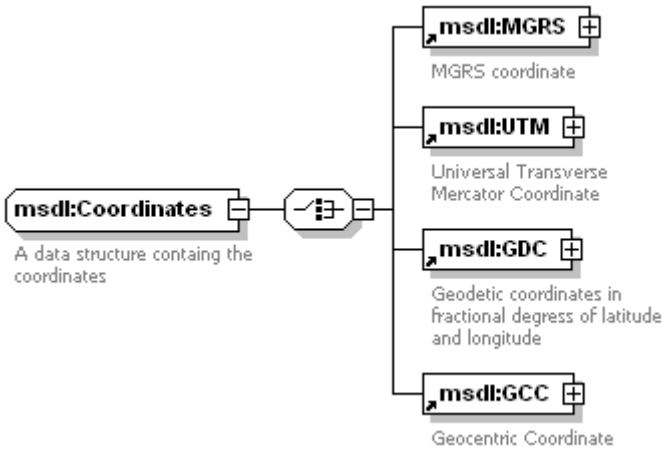


Figure 87: *msdl:Coordinates* Type Structure

7.2.1 *msdl:MGRS* Element

For each ***msdl:Coordinate*** element there shall be zero or one ***msdl:MGRS*** element. The ***msdl: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 88.

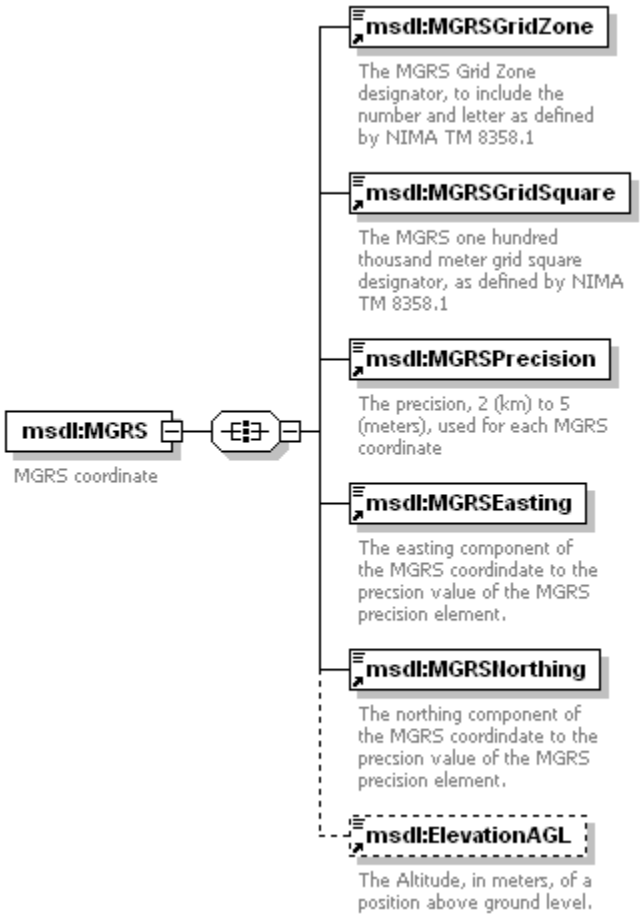


Figure 88: *msdl:MGRS* Type structure

7.2.1.1 *msdl:MGRSGridZone* Element

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

7.2.1.2 *msdl:MGRSGridSquare* Element

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

7.2.1.3 *msdl:MGRSPrecision* Element

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

7.2.1.4 *msdl:MGRSEasting* Element

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

7.2.1.5 *msdl:MGRSNorthing* Element

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

7.2.1.6 *msdl:ElevationAGL* Element

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

7.2.2 *msdl:UTM* Element

For each ***msdl:UpperRight*** element there shall be zero or one ***msdl:UTM*** element. The ***msdl:UTM*** element, an xs:all compositor, specifies the Universe Transverse Mercator Coordinate (UTM) coordinate and is made up of the child elements as shown in Figure 89.

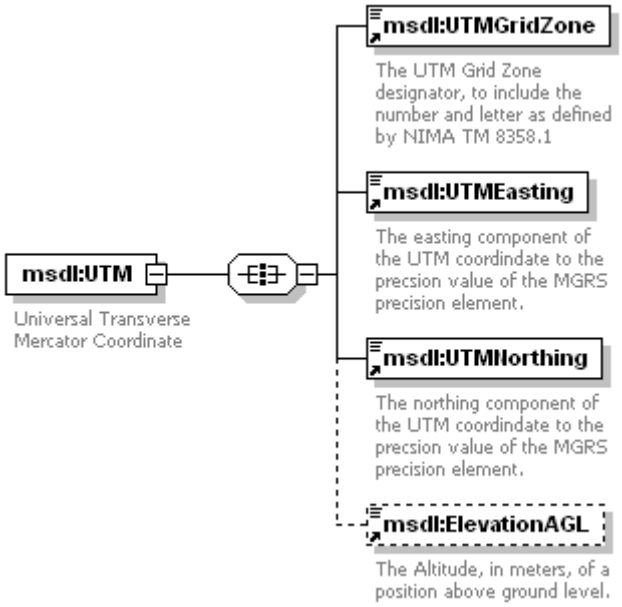


Figure 89: *msdl:UTM* Type Structure

7.2.2.1 *msdl:UTMGridZone* Element

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

7.2.2.2 *msdl:UTMEasting* Element

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

7.2.2.3 *msdl:UTMNorthing* Element

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

7.2.2.4 *msdl:ElevationAGL* Element

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

7.2.3 *msdl:GDC Element*

For each ***msdl:UpperRight*** element there shall be zero or one ***msdl:GDC*** element. The ***msdl:GDC*** element, an xs:all compositor, specifies the Geodetic Coordinate (GDC) and is made up of the child elements as shown in Figure 90.

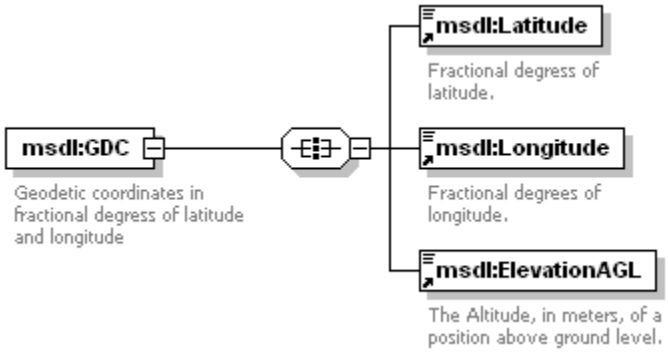


Figure 90: *msdl:GDC* Type Structure

7.2.3.1 *msdl:Latitude* Element

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

7.2.3.2 *msdl:Longitude* Element

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

7.2.3.3 *msdl:ElevationAGL* Element

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

7.2.4 *msdl:GCC* Element

For each ***msdl:UpperRight*** element there shall be zero or one ***msdl:GCC*** element. The ***msdl:GCC*** element , an xs:all compositor, specifies the Geocentric Coordinate (GCC) and is made up of the child elements as shown in Figure 91.

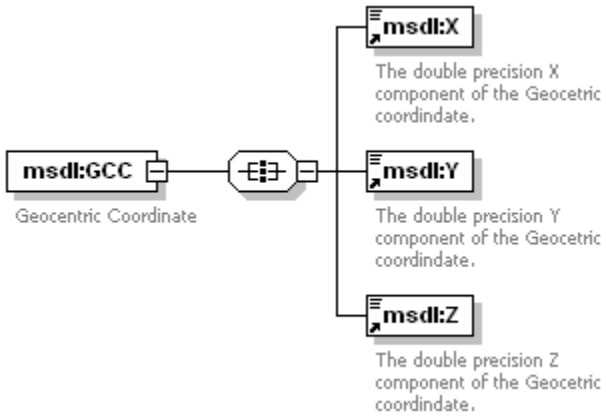


Figure 91: *msdl:GCC* Type Structure

7.2.4.1 *msdl:X* Element

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

7.2.4.2 *msdl:Y* Element

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

7.2.4.3 *msdl:Z* Element

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

7.3 Complex Type *msdl:Owner*

The ***msdl:Owner*** complext type specifies the owner's organization type and reference to the owning organization within the military scenario. The ***msdl:Owner*** complex type, an xs:sequence compositor contains all the elements shown in Figure 92 and described in the subsequent subsections.

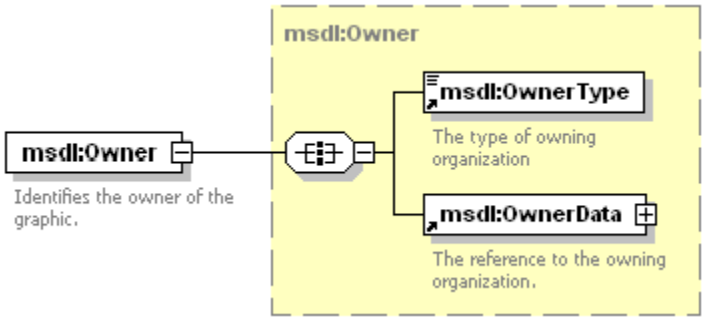


Figure 92: *msdl:AreaOfInterest* Type Structure

7.3.1 *msdl:Owner*Type Element

For every ***msdl:Owner*** complex type there shall be zero or one ***msdl:OwnerType*** element. The ***msdl:OwnerType*** element specifies the type of owning organization. The domain type is ***msdl:enumForceOwnerType.***

7.3.2 *msdl:OwnerData* Element

For each ***msdl:Owner*** complex type there shall be zero or one ***msdl:OwnerData*** element. The ***msdl: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 93.

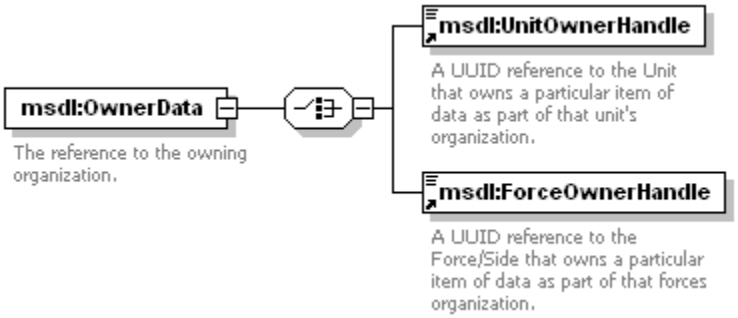


Figure 93: *msdl:OwnerData* Type Structure

7.3.2.1 *msdl:UnitOwnerHandle* Element

For each ***msdl:OwnerData*** element there shall be one ***msd:UnitOwnerHandle*** element. The ***msd: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.***

7.3.2.2 *msdl:ForceOwnerHandle* Element

For each ***msdl:OwnerData*** element there shall be one ***msdl:ForceOwnerHandle*** element. The ***msdl: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.***

7.4 *Complex* Type *msdl:RectangleArea*

The ***msdl:RectangleArea*** complext type specifies the a rectangular area within the military scenario. The ***msdl:RectangleArea*** complex type, an xs:all compositor, contains all the elements shown in Figure 94 and described in the subsequent subsections.

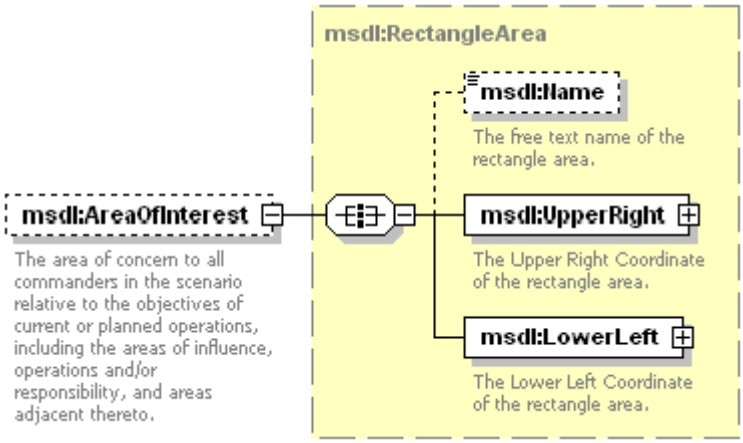


Figure 94: *msdl:AreaOfInterest* Type Structure

7.4.1 *msdl:Name* Element

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

7.4.2 *msdl:UpperRight* Element

For every ***msdl:RectangleArea*** complex type there shall be one ***msdl:UpperRight*** elements. The ***msdl:UpperRight*** elements defines the upper right coordinate of the rectangle area. The domains type is ***msdl:Coordinate***(described as part of the domain type in Section 5.5).

7.4.3 *msdl:LowerLeft*

For every ***msdl:RectangleArea*** complex type there shall be one ***msdl:LowerLeft*** element. The ***msdl:LowerLeft*** elements defines the upper right coordinate of the rectangle area. The domain type is ***msdl:Coordinate***(described as part of the domain type in Section 5.5).

7.5 Complex Type jc3iedm20:Wind

The jc3iedm20:Wind complext type specifies the wind information within the military scenario. The jc3iedm20:Wind complex type , an xs:sequence compositor, contains all the elements shown in Figure 95 and described in the subsequent subsections.

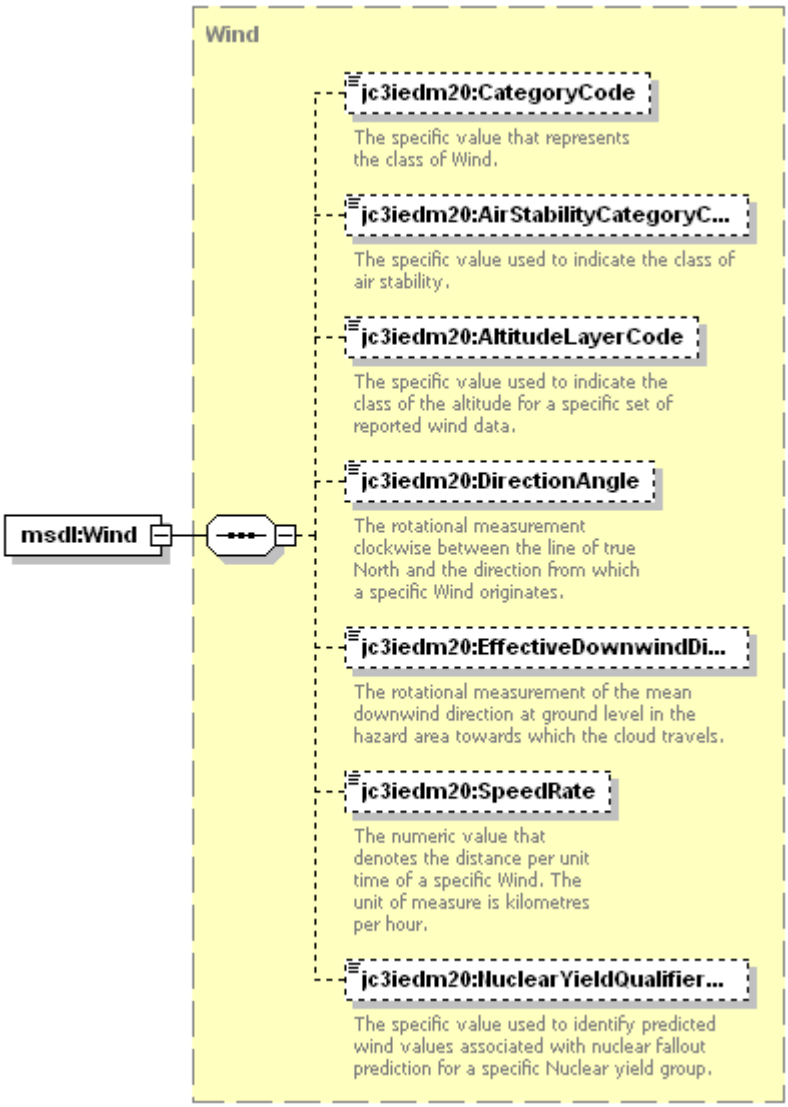


Figure 95: jc3iedm20:Wind Type Structure

7.5.1 jc3iedm20:CategoryCode Element

For every jc3iedm20:Wind complex type there shall be zero or one jc3iedm20:CategoryCode element. The specific value that represents the class of Wind. Example domain values are: Constant; Gusting; Squalls; Variable; Not known. The domain type is WindCategoryCode.

7.5.2 jc3iedm20:AirStabilityCategoryCode *Element*

For every jc3iedm20:Wind complex type there shall be zero or one jc3iedm20:AirStabilityCategoryCode element following the jc3iedm20:CategoryCode. The specific 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 WindAirStabilityCategoryCode.

7.5.3 jc3iedm20:AltitudeLayerCode Element

For every jc3iedm20:Wind complex type there shall be zero or one jc3iedm20: AltitudeLayerCode element following the jc3iedm20:AirStabilityCategoryCode. The specific value used to indicate the class of the altitude

for a specific set of reported wind data. Example domain values are: 2000 metres; 8000 metres; 14,000 metres; 30,000 metres. The domain type is WindAltitudeLayerCode.

7.5.4 jc3iedm20:DirectionAngle Element

For every jc3iedm20:Wind complex type there shall be zero or one jc3iedm20: DirectionAngle element following the jc3iedm20:AltitudeLayerCode. The rotational measurement clockwise between the line of true North and the direction from which a specific Wind originates. The domain type is AngleOptionalTypeRangeAngle7_4.

7.5.5 jc3iedm20:EffectiveDownwindDirectionAngle Element

For every jc3iedm20:Wind complex type there shall be zero or one jc3iedm20:EffectiveDownwindDirectionAngle element following the jc3iedm20: DirectionAngle. The rotational measurement of the mean downwind direction at surface level in the hazard area towards which the cloud travels. The domain type is AngleOptionalTypeRangeAngle7_4.

7.5.6 jc3iedm20:SpeedRate Element

For every jc3iedm20:Wind ***complex type*** there shall be zero or one jc3iedm20:SpeedRate element following the jc3iedm20: EffectiveDownwindDirectionAngle. The numeric value that denotes the distance per unit time of a specific Wind. The unit of measure is kilometres per hour. The domain type is RateOptionalType8_4.

7.5.7 jc3iedm20:NuclearYieldQualifierCode Element

For every jc3iedm20:Wind ***complex type*** there shall be zero or one jc3iedm20:NuclearYieldQualifierCode element following the jc3iedm20:SpeedRate. The specific value used to identify predicted wind values associated with nuclear fallout prediction for a specific Nuclear yield group. Example domain values are: ALFA; BRAVO; CHARLIE; FOXTROT; GOLF. The domain type is NuclearYieldGroupCode.

7.6 Complex Type jc3iedm20:Visibility

The jc3iedm20:Visibility complext type specifies the visibility-related information within the military scenario. The jc3iedm20:Visibility complex type, an xs:sequence compositor, contains all the elements shown in Figure 96 and described in the subsequent subsections.

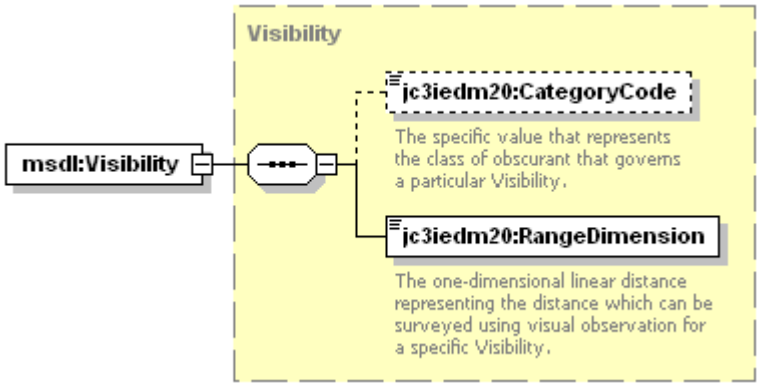


Figure 96: jc3iedm20:Visibility Type Structure

7.6.1 jc3iedm20:CategoryCode Element

For every jc3iedm20:Visibility complex type there shall be zero or one jc3iedm20:CategoryCode element. 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 VisibilityCategoryCode.

7.6.2 jc3iedm20:RangeDimension Element

For every jc3iedm20:Visibility ***complex type*** there shall be one jc3iedm20:RangeDimension element following the jc3iedm20:CategoryCode. 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 ***DimensionMandatoryType12_3***.

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

7.7 Complex Type jc3iedm20:Precipitation

The jc3iedm20:Precipitation complext type specifies the precipitation-related information within the military scenario. The jc3iedm20:Precipitation complex type, an xs:sequence compositor, contains all the elements shown in Figure 97 and described in the subsequent subsections.

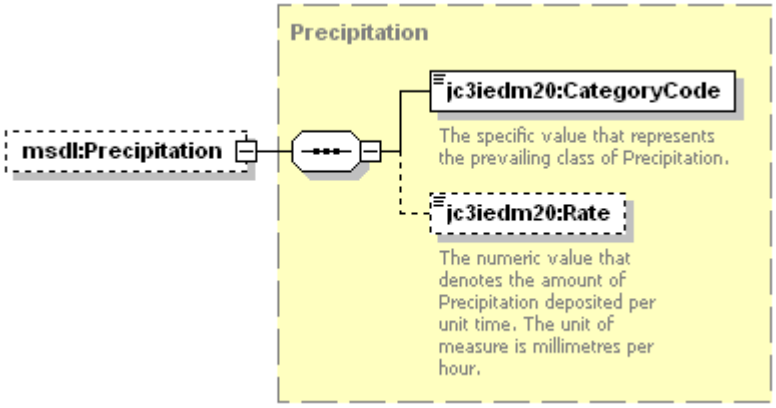


Figure 97: jc3iedm20:Precipitation Type Structure

7.7.1 jc3iedm20:CategoryCode Element

For every jc3iedm20:Precipitation complex type there shall be zero or one jc3iedm20:CategoryCode element. The specific value that represents the prevailing class of Precipitation. Example domain values are: Hail; No precipitation; Rain; Sleet; Snow. The domain type is PrecipitationCategoryCode.

7.7.2 jc3iedm20:Rate Element

For every jc3iedm20:Precipitation there shall be zero or one jc3iedm20:Rate element following the jc3iedm20:CategoryCode. The numeric value that denotes the amount of Precipitation deposited per unit of time. The unit of measure is millimetres per hour. The domain type is RateOptionalType4_1.

7.8 Complex Type jc3iedm20:Light

The jc3iedm20:Light complext type specifies the light-related information within the military scenario. The jc3iedm20:Light complex type, an xs:sequence compositor, contains all the elements shown in Figure 98 and described in the subsequent subsections.

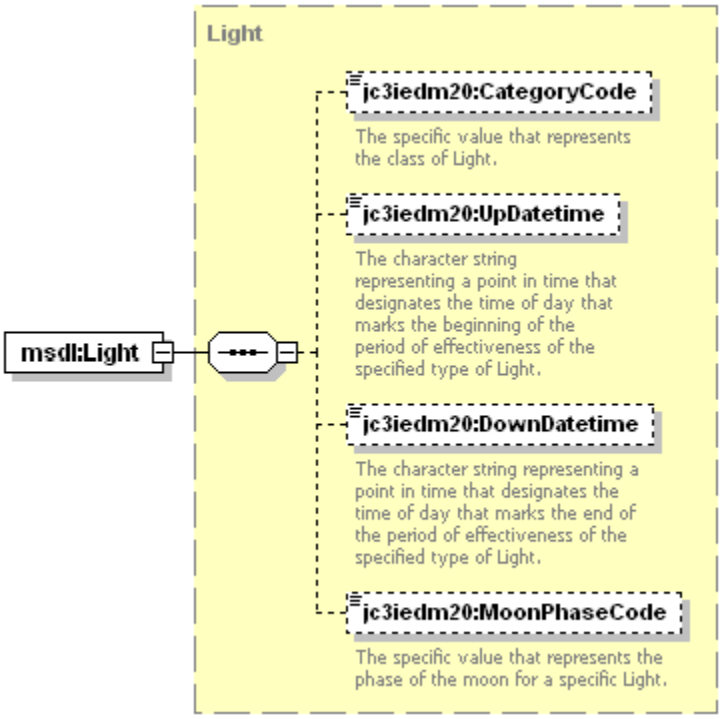


Figure 98: jc3iedm20:Light Type Structure

7.8.1 jc3iedm20:CategoryCode

For every jc3iedm20:Light complex type there shall be zero or one jc3iedm20:CategoryCode element. The specific value that represents the class of Light. The domain values are: Civil twilight; Darkness, Daylight; Moonlight; Nautical twilight. The domain type is LightCategoryCode.

7.8.2 jc3iedm20:UpDatetime Element

For every jc3iedm20:Light complex type there shall be zero or one jc3iedm20:UpDatetime element following the jc3iedm20:CategoryCode. The character string representing a point in time that designates the time of day that marks the beginning of the period of effectiveness of the specified type of Light. The domain type is DatetimeOptionalTypeFix18.

7.8.3 jc3iedm20:DownDatetime Element

For every jc3iedm20:Light complex type there shall be zero or one jc3iedm20:DownDatetime element following the jc3iedm20: UpDatetime. The character string representing a point in time that designates the time of day that marks the end of the period of effectiveness of the specified type of Light. The domain type is DatetimeOptionalTypeFix18.

7.8.4 jc3iedm20:MoonPhaseCode Element

For every jc3iedm20:Light complex type there shall be zero or one jc3iedm20:MoonPhaseCode element following the jc3iedm20:DownDatetime. The specific value that represents the phase of the moon for a specific LIGHT. The domain values are: Full moon; New moon; Waning moon; Waxing moon. The domain type is jc3iedm20:LightMoonPhaseCode.

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

7.9 Complex Type jc3iedm20:Icing

The jc3iedm20:Icing complext type specifies the icing-related information within the military scenario. The jc3iedm20:Icing complex type, an xs:sequence compositor, contains all the elements shown in Figure 99 and described in the subsequent subsections.

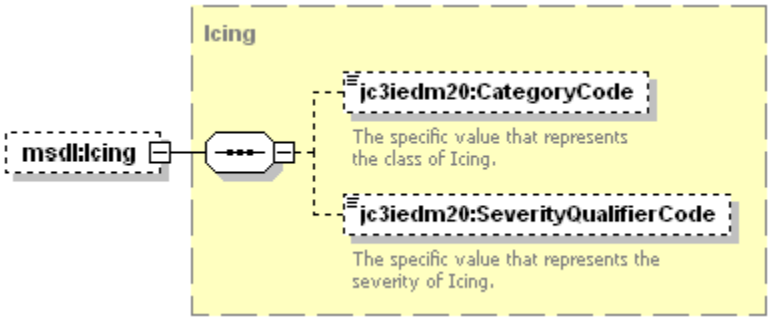


Figure 99: jc3iedm20:Icing Type Structure

7.9.1 jc3iedm20:CategoryCode Element

For every jc3iedm20:Icing complex type there shall be zero or one jc3iedm20:CategoryCode element. The specific value that represents the class of Icing. The domain values are: Clear icing; Mixed icing; Rime icing. The domain type is IcingCategoryCode.

7.9.2 jc3iedm20:SeverityQualifierCode Element

For every jc3iedm20:Icing complex type there shall be zero or one jc3iedm20:SeverityQualifierCode element following the jc3iedm20:CategoryCode. The specific value that represents the severity of Icing. The domain values are: Light; Moderate; Severe. The domain type is IcingSeverityQualifierCode.

7.10 Complex Type jc3iedm20:Cloudcover

The jc3iedm20:Cloudcover complext type specifies the cloud cover-related information within the military scenario. The jc3iedm20:Cloudcover complex type, an xs:sequence compositor, contains all the elements shown in Figure 100 and described in the subsequent subsections.

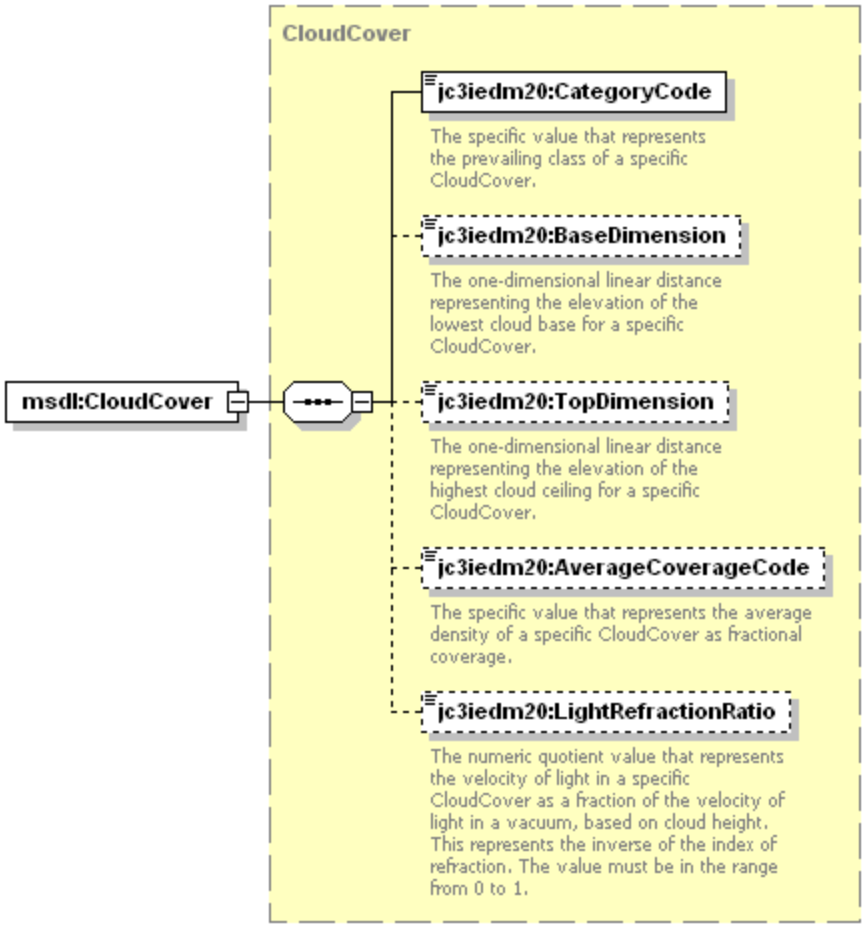


Figure 100: jc3iedm20:CloudCover Type Structure

7.10.1 jc3iedm20:CategoryCode Element

For every jc3iedm20:CloudCover complex type there shall be zero or one jc3iedm20:CategoryCode element. The specific value that represents the prevailing class of a specific jc3iedm20:CloudCover. The domain values are: Clouds; Radioactive cloud; Smoke. The domain type is CloudCoverCategoryCode.

7.10.2 jc3iedm20:BaseDimension Element

For every jc3iedm20:CloudCover complex type there shall be zero or one jc3iedm20:BaseDimension element following the jc3iedm20:CategoryCode. The one-dimensional linear distance representing the elevation of the lowest cloud base for a specific ***msdl:CloudCover***. The domain type is DimensionOptionalType12_3.

7.10.3 jc3iedm20:TopDimension Element

For every jc3iedm20:CloudCover complex type there shall be zero or one jc3iedm20:TopDimension element following the jc3iedm20:BaseDimension. The one-dimensional linear distance representing the elevation of the highest cloud ceiling for a specific ***msdl:CloudCover***. The domain type is DimensionOptionalType12_3.

7.10.4 jc3iedm20:AverageCoverageCode Element

For every jc3iedm20:CloudCover complex type there shall be zero or one jc3iedm20:AverageCoverageCode element following the jc3iedm20:TopDimension. The specific value that represents the average density of a

specific ***msdl:CloudCover*** as fractional coverage. The domain values are: 0/8; 1/8; 2/8; 3/8; 4/8; 5/8; 6/8; 7/8; 7-8/8; 8/8. The domain type is CloudCoverAverageCoverageCode.

7.10.5 jc3iedm20:LightRefractionRatio Element

For every jc3iedm20:CloudCover complex type there shall be zero or one jc3iedm20:LightRefractionRatio element following the jc3iedm20:AverageCoverageCode. The numeric quotient value that represents the velocity of light in a specific jc3iedm20: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 must be in the range from 0 to 1. The domain type is RatioOptionalTypeRangeRatio7_6.

7.11 Complex Type jc3iedm20:Atmosphere

The jc3iedm20:Atmosphere complext type specifies the atmosphere-related information within the military scenario. The jc3iedm20:Atmosphere complex type, an xs:sequence compositor, contains all the elements shown in Figure 101 and described in the subsequent subsections.

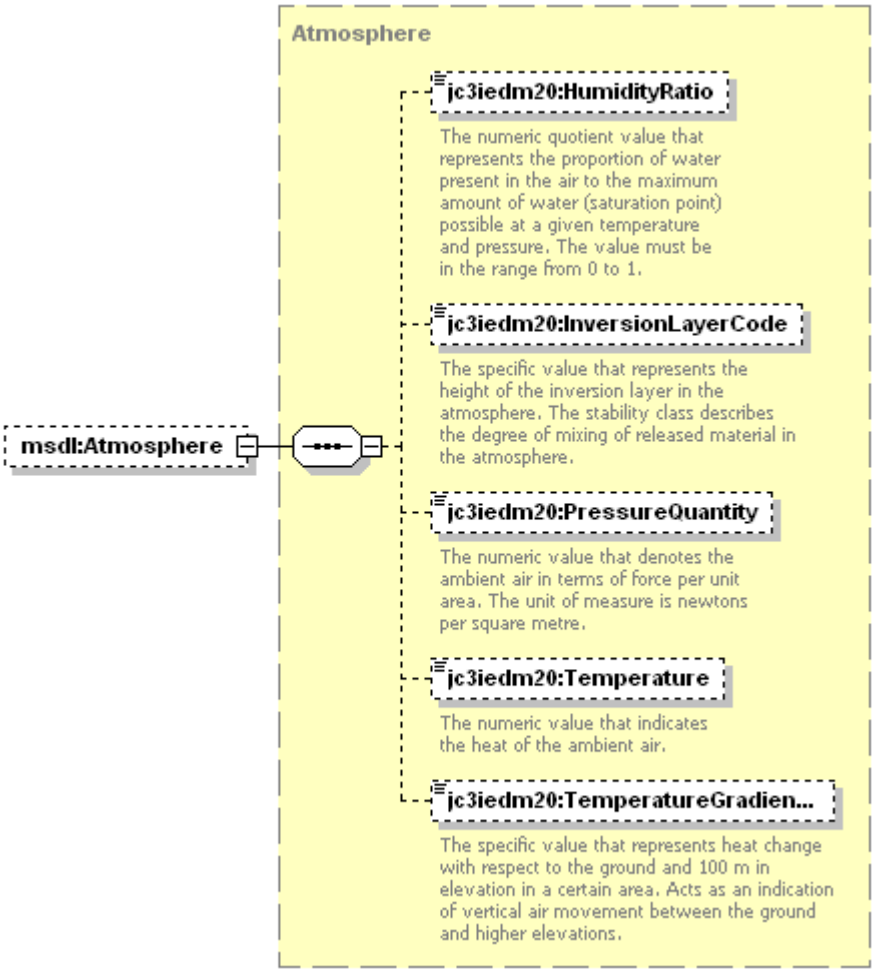


Figure 101: jc3iedm20:Atmosphere Type Structure

7.11.1 jc3iedm20:HumidityRatio Element

For every jc3iedm20:Atmosphere complex type there shall be zero or one jc3iedm20:HumidyRatio element. AtThe numeric quotient value that represents the proportion of water present in the air to the maximum

amount of water (saturation point) possible at a given temperature and pressure. The value must be in the range from 0 to 1. The domain type is RatioOptionalTypeRangeRatio6_5.

7.11.2 jc3iedm20:InversionLayerCode Element

For every jc3iedm20:Atmosphere complex type there shall be zero or one ***m:*** element following the jc3iedm20:HumidityRatio element. The specific value that represents the height of the inversion layer in the atmosphere. The stability class describes the degree of mixing of released material in the atmosphere. The domain values are: A; B; C . The domain type is AtmosphereInversionLayerCode.

7.11.3 jc3iedm20:PressureQuantity Element

For every jc3iedm20:Atmosphere complex type there shall be zero or one jc3iedm20:PressureQuantity element following the jc3iedm20:InversionLayerCode element. The numeric value that denotes the ambient air in terms of force per unit area. The unit of measure is newtons per square metre. Type domain type is ***QuantityOptionalType8_4***.

7.11.4 jc3iedm20:Temperature Element

For every jc3iedm20:Atmosphere complex type there shall be zero or one jc3iedm20:Temperature element following the jc3iedm20:PressureQuantity element. 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 TemperatureTypeRangeTemperature5_1.

7.11.5 jc3iedm20:TemperatureGradientCode *Element*

For every jc3iedm20:Atmosphere complex type there shall be zero or one jc3iedm20:TemperatureGradientCode element following the jc3iedm20:Temperature element. The specific value that represents heat change with respect to the surface and 100 m in elevation in a certain area. 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 AtmosphereTemperatureGradientCode.

8 Simple Types

8.1 Simple Type *msdl:enumAnchorPointType*

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

8.2 Simple Type *msdl:enumBaseAffiliation*

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

1947 **8.3 Simple Type *msdl:enumCombatEffectivenessType***

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

1948 **8.4 Simple Type *msdl:enumCommandRelationshipType***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:CommandRelationshipType***
facets	enumeration	ORGANIC
	enumeration	ATTACHED
	enumeration	OPCON
	enumeration	TACON
	enumeration	ADCON
	enumeration	NONE

1949 **8.5 Simple Type *msdl:enumCommunicationNetType***

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

1950 **8.6 Simple Type *msdl:enumCommunicationServiceType***

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

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

8.7 Simple Type *msdl:enumCoordinateSystemType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:CoordinateSystemType***
facets	enumeration	MGRS
	enumeration	GDC
	enumeration	UTM
	enumeration	GCC

8.8 Simple Type *msdl:enumEchelon*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	elements	***msdl:AggregateEchelon*** ***msdl:Echelon***
annotation	documentation	
	Graphic modifier that identifies Command level.	
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

8.9 Simple Type *msdl:enumEnumerationStandardType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:EnumerationStandard***
facets	enumeration	DIS
	enumeration	BSO
	enumeration	LIN
	enumeration	MIDB
	enumeration	OTHER
	enumeration	NONE

8.10 Simple Type *msdl:enumForceOwnerType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:OwnerType***
facets	enumeration	UNIT
	enumeration	FORCE_SIDE
	enumeration	NOT_SPECIFIED

1955 **8.11 Simple Type *msdl:enumFormationLocationType***

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

1956 **8.12 Simple Type *msdl:enumGroundFormationType***

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

1957 **8.13 Simple Type *msdl:enumMilitaryDomainType***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:MilitaryDomain***
facets	enumeration	ACR
	enumeration	RDA
	enumeration	TEMO

1958 **8.14 Simple Type *msdl:enumModelResolutionType***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:Resolution***
facets	enumeration	NONE

enumeration	MINIMAL
enumeration	STANDARD
enumeration	ENHANCED
enumeration	HIGH
enumeration	NOT_SPECIFIED

8.15 Simple Type *msdl:enumMOPPLevelType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:MOPPLevel***
facets	enumeration	LEVEL_0
	enumeration	LEVEl_1
	enumeration	LEVEL_2
	enumeration	LEVEL_3
	enumeration	LEVEL_4

8.16 Simple Type *msdl:enumOrientationType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:Orientation***
facets	enumeration	ORIENT_RIGHT
	enumeration	ORIENT_LEFT

8.17 Simple Type *msdl:enumOverlayType*

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

8.18 Simple Type *msdl:enumReinforcedReducedType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:ReinforcedReduced***
facets	enumeration	(+)
	enumeration	(-)
	enumeration	(±)
	enumeration	_

8.19 Simple Type *msdl:enumSupportRelationType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:SupportType***
facets	enumeration	GS
	enumeration	DS
	enumeration	RS
	enumeration	GS-R
	enumeration	NONE

8.20 Simple Type *msdl:enumSupportRoleType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:SupportRoleType***
facets	enumeration	FIRES
	enumeration	INTELLIGENCE
	enumeration	ENGINEER
	enumeration	CHEMICAL
	enumeration	NOT_SPECIFIED

8.21 Simple Type *msdl:enumSymbologyStandardType*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:SymbologyStandard***
facets	enumeration	MILSTD_2525B
	enumeration	NATO_APP-6

8.22 Simple Type *msdl:enumWeaponControlStatusType*

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

type	restriction of **xs:string**	
used by	element	***msdl:WeaponControlStatus***
facets	enumeration	WEAPONS_FREE
	enumeration	WEAPONS_TIGHT
	enumeration	WEAPONS_HOLD

8.23 Simple Type *msdl:booleanAggregateBased*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:AggregateBased***
annotation	documentation	
	The boolen value indicating the scenario is aggregate based.	

8.24 Simple Type *msdl:booleanAuxiliaryEquipment*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:AuxiliaryEquipment***
annotation	documentation	
	The graphic modifier for equipment that denotes the presence of a towed sonar array	

8.25 Simple Type *msdl:booleanDirectionOfMovementIndicator*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:DirectionOfMovementIndicator***
annotation	documentation	
	The graphic modifier for units, equipment, and installations that identifies the direction of movement or intended direction of movement.	

8.26 Simple Type *msdl:booleanFeintDummyIndicator*

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:FeintDummyIndicator***
annotation	documentation	
	The graphic modifier for units, equipment, and installations that indicates a Fiend or Dummy.	

1971 **8.27 Simple Type *msdl:booleanHeadquarterStaff***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:HeadquarterStaff***
annotation	documentation	
	The graphic modifier for units, equipment, and installations that identifies a unit as a headquarters.	

1972 **8.28 Simple Type *msdl:booleanInstallationIndicator***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:InstallationIndicator***
annotation	documentation	
	The graphic modifier for units, equipment, and installations used to show that aparticular symbol is denotes an installation.	

1973 **8.29 Simple Type *msdl:booleanIsDeaggregated***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
annotation	documentation	
	The graphic modifier for units, indicating the unit is not an aggegate (has subordinate elements specified).	

1974 **8.30 Simple Type *msdl:booleanLocationDisplay***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:LocationDisplay***
annotation	documentation	
	The graphic modifier for units, equipment, and installations that displays a symbol's location in degrees, minutes, and seconds (or in UTM or other applicable display format).	

1975 **8.31 Simple Type *msdl:booleanOutOfFormation***

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	xs:boolean	
used by	element	***msdl:OutOfFormation***
annotation	documentation	
	Identifies if the element is maneuvering indepdent of the higher unit's formation.	

1976 **8.32 Simple Type msdl:floatAltitudeDepth6_2**

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

1977 **8.33 Simple Type msdl:floatCartesianValue9_3**

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

1978 **8.34 Simple Type msdl:floatCompassDegrees3_3**

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

1979 **8.35 Simple Type msdl:floatLatitudeLongitude3_3**

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

annotation documentation

Fractional degress of longitude/latitude.

8.36 Simple Type msdl:floatSpeed6_2

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

type restriction of **xs:float**

used by element ***msdl:Speed***

facets minInclusive 0.0

maxInclusive 999999.0

annotation documentation

The field for unit or equipment speed (for display only). Kilometers per Hour for ground units, Nautical miles per Hour for Air.

8.37 Simple Type msdl:floatUTMEasting9_2

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

type restriction of **xs:float**

used by element ***msdl:UTMEasting***

facets minInclusive 0.0

annotation documentation

The easting component of the UTM coordindate to the precsion value of the MGRS precision element.

8.38 Simple Type msdl:floatUTMNorthing9_2

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

type restriction of **xs:float**

used by element ***msdl:UTMNorthing***

facets minInclusive 0.0

annotation documentation

The northing component of the UTM coordindate to the precsion value of the MGRS precision element.

8.39 Simple Type msdl:floatWidth4_1

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

type restriction of **xs:float**

used by element ***msdl:Width***

facets minInclusive 0.0

maxInclusive 1000.0

annotation documentation

Width, in meters, of a line tactical graphic

8.40 Simple Type msdl:integerCredibility1

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

type restriction of **xs:int**

used by element ***msdl:Credibility***

facets minInclusive 1

maxInclusive 6

annotation documentation

The text modifier indicator that establishes the credibility of a unit, equipment or installation. Credibility Ratings: 1-confirmed by other sources, 2-probably true, 3-possibly true, 4-doubtfully true, 5-improbable, 6-truth cannot be judged.

8.41 Simple Type msdl:integerMGRSEasting5

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

type restriction of **xs:long**

used by element ***msdl:MGRSEasting***

facets minInclusive 0

maxInclusive 99999

annotation documentation

The easting component of the MGRS coordindate to the precsion value of the MGRS precision element.

8.42 Simple Type msdl:integerMGRSNorthing5

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

type restriction of **xs:long**

used by element ***msdl:MGRSNorthing***

facets minInclusive 0

maxInclusive 99999

annotation documentation

The northing component of the MGRS coordindate to the precsion value of the MGRS precision element.

8.43 Simple Type msdl:integerMGRSPrecision1

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

type restriction of **xs:int**

used by element ***msdl:MGRSPrecision***

facets minInclusive 2

maxInclusive 5

annotation documentation

The precision, 2 (km) to 5 (meters), used for each MGRS coordinate

8.44 Simple Type msdl:integerPriorityCode1

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

type restriction of **xs:integer**

facets minInclusive 1

maxInclusive 5

annotation documentation

1= top priority, 2=urgent, 3=normal, 4=routine, 5=unknown

8.45 Simple Type msdl:integerPriorityOfEffort1

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

type restriction of **xs:integer**

facets minInclusive 0

maxInclusive 5

annotation documentation

The priority to effort; 1= top priority, 2=urgent, 3=normal, 4=routine, 5=unknown

8.46 Simple Type msdl:integerPriorityToSupport1

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

type restriction of **xs:integer**

used by element ***msdl:PriorityToSupport***

facets minInclusive 0

maxInclusive 9

annotation documentation

The Supporting Unit's priority to Support another unit from 1 to N where 1 is the top priority.

8.47 Simple Type msdl:integerQuantity9

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

type restriction of **xs:int**

used by element ***msdl:Quantity***

facets minInclusive 0

maxInclusive 999999999

annotation documentation

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

1992 **8.48 Simple Type msdl:integerSequence6**

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

type xs:integer

used by element ***msdl:FormationOrder***

annotation documentation

The sequence of an event within a phase.

1993 **8.49 Simple Type msdl:integerSpacing4**

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

type restriction of **xs:int**

used by element ***msdl:Spacing***

facets minInclusive 1

maxExclusive 9999

annotation documentation

The default Spacing in meteres between subordinates elements on echelon below.

1994 **8.50 Simple Type msdl:integerSpecialC2HQ1**

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

type restriction of **xs:string**

used by element ***msdl:SpecialC2HQ***

facets minLength 0

maxLength 9

pattern ([-z]{1})*

annotation documentation

The name of the special C2 headquarters

1995 **8.51 Simple Type msdl:patternForceSymbolID15**

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

type restriction of **xs:string**

used by elements ***msdl:ForceSymbolId*** ***msdl:SymbolId***

facets length 15

pattern [SGWIO]{1}[\-]{1}[PAGMOSTUFVXLIZ\-]{1}[\-]{1}[A-Z\-]{6}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}

annotation Documentation

The 15 character symbol is defined by Mil-Std-2525B. 2525B defines a symbol ID as a 15-character alphanumeric identifier that provides the information necessary to display or transmit a tactical symbole between MIL-STD-2525 compliant systems. The Symbol ID's 15 characters are defined below as specified in Mil-Std-2525: [ref MIL-STD-2525B 30 January 1996]

Position 1, coding scheme, indicates which overall symbology set a symbol belongs to.

Position 2, affiliation indicates the symbol's affilation. (not used – restricted with dashes – ForceSide data defines affiliation information)

Position 3, battle dimension, indicates the symbol's battle dimension.

Position 4, status, indicates the symbol's planned or present status. (not used-restricted with dashes)

Position 5 through 10, function ID, identifies a symbol's function. Each position indicates an increasing level of detail and specialization.

Position 11 and 12, symbol modifier indicator, identify indicators present on the symbol such as echelon, feint/dummy, installation, task force, headquarters staff, and equipment mobility.

Position 13 and 14, country code, identifies the country with which a symbol is associated. Country code identifiers are listed in the FIBS Pub 10 series. (not used – restricted with dashes – ForceSide data defines country code information.)

Position 15, order of battle, provides additional information about the role of a symbol in the battlespace

The 15 character Symbol identifier with fields that shall not be interpreted are restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values. (recommend the first paragraph replace this paragraph.)

1996 **8.52 Simple Type msdl:patternInstallationSymbolID15**

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

type restriction of **xs:string**

used by element ***msdl:Installation*/SymbolID**

facets length 15

pattern [S]{1}[\-]{1}[G]{1}[\-]{1}[I]{1}[A-Z\-]{5}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}

annotation documentation

The 15 character Symbol identifier with fields that shall not be interpreted restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values.

1997 **8.53 Simple Type msdl:patternMETOCSymbolID15**

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

type restriction of **xs:string**

used by element ***msdl:METOCGraphic*/SymbolId**

facets length 15

pattern W[AOS]{1}\-\-[BCGHILMOPTW\-]{1}[ABCDEFHIJLMNOPRSTX\-]{1}[ABCDFGHILMNOPQRSTUVW\-]{1}[ABCDEFGHIKLMOPQRSTUVWZ\-]{1}[ABCDEFGHILMNOPRSTVW\-]{1}[ABCEFGHILMOPQSTUVWYZ\-]{1}\-\-\-\-\-

annotation documentation

15 character METOC Symbol identifier

1998 **8.54 Simple Type msdl:patternMGRSGridSquare2**

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

type restriction of **xs:string**

used by elements ***msdl:MGRSGridSquare*** ***msdl:MGRSGridZone***

facets length 2

pattern [ABCDEFGHJKLMNPQRSTUVWXYZ]{2}

annotation documentation

The MGRS one hundred thousand meter grid square designator, as defined by NIMA TM 8358.1

1999 **8.55 Simple Type msdl:patternMGRSGridZone3**

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

type restriction of **xs:string**

facets length 3

pattern [0-9]{2}[ABCDEFGHJKLMNPQRSTUVWXYZ]{1}

annotation documentation

The MGRS Grid Zone designator, to include the number and letter as defined by NIMA TM 8358.1

2000 **8.56 Simple Type msdl:patternMOOTWSymbolID15**

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

type restriction of **xs:string**

used by element ***msdl:MOOTWGraphic*/SymbolId**

facets length 15

pattern [O]{1}[\-]{1}[VXLIZ\-]{1}[\-]{1}[A-Z\-]{6}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}

annotation documentation

The 15 character Symbol identifier with fields that shall not be interpreted restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values.

2001 **8.57 Simple Type msdl:patternSIGINT1**

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

type restriction of **xs:string**

used by element ***msdl:SIGINT***

facets length 1

pattern [MSU]{1}

annotation documentation

Enumeration type that describes the signal intelligence equipment mobility Indicators of MILSTD2525.

2002 **8.58 Simple Type msdl:patternSignatureEquipment1**

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

type restriction of **xs:string**

used by element ***msdl:SignatureEquipment***

facets pattern [!]{1}

annotation documentation

The text modifier for hostile equipment; '!' indicates detectable electronic signature.

2003 **8.59 Simple Type msdl:patternTacticalGraphicSymbolID15**

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

type restriction of **xs:string**

used by element ***msdl:TacticalGraphic*/SymbolID**

facets length 15

pattern [G]{1}[\-]{1}[PAGMOSTUFVXLIZ\-]{1}[\-]{1}[A-Z\-]{6}[A-Z\-*]{1}[A-Z\-*]{1}[\-]{2}[AECGNSX\-*]{1}

annotation documentation

The 15 character Symbol identifier with fields that shall not be interpreted restricted using dashes. These fields would be redundant to other explicit elements in the standard. Affiliation, Status, and Country Code are restricted in this manner. Affiliation and Country Code values are provided in the ForceStructure data. Status is to be interpreted as Present until such time as a separate element is created to distinguish truth values from perceived values.

2004 **8.60 Simple Type msdl:patternTimeDTG14**

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

type restriction of **xs:string**

used by element ***msdl:ScenarioTime***

facets pattern [0-9]{2}[0-9]{2}[0-9]{2}[0-9]{2}[A-Z]{1}[A-Z]{3}[0-9]{2}

annotation documentation

The DateTime Group format DDHHMMSSZMONYY.

8.61 Simple Type msdl:patternTimeDTGRelative8

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

type restriction of **xs:string**

used by elements ***msdl:DateTimeGroup*** ***msdl:DateTimeGroup1*** ***msdl:RelativeTime***

facets pattern [0-9]{2}[0-9]{2}[0-9]{2}[0-9]{2}

annotation documentation

The DateTime Group format DDHHMMSS relative to ScenarioTime.

8.62 Simple Type msdl:patternUTMGridZone3

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

type restriction of **xs:string**

used by element ***msdl:UTMGridZone***

facets length 3

pattern [0-9]{2}[ABCDEFGHJKLMNPQRSTUVWXYZ]{1}

annotation documentation

The UTM Grid Zone designator, to include the number and letter as defined by NIMA TM 8358.1

8.63 Simple Type msdl:patternUUID32

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

type restriction of **xs:string**

used by elements ***msdl:AllegianceHandle*** ***msdl:ObjectHandle***

facets pattern [0-9a-z]{8}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{12}

annotation documentation

The Universal Unique Identifier UUID of an object as defined ISO/IEC 11578:1996 Information technology - Open Systems Interconnection - Remote Procedure Call RPC.

8.64 Simple Type msdl:patternUUIDRef32

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

type restriction of **xs:string**

used by elements ***msdl:AffiliateHandle*** ***msdl:CommandingSuperiorHandle*** ***msdl:ForceOwnerHandle*** ***msdl:ForceSideHandle*** ***msdl:MostDangerousActivityHandle*** ***msdl:MostProbableActivityHandle*** ***msdl:OrganicForceSideHandle*** ***msdl:OrganicSuperiorHandle*** ***msdl:OverlayHandle*** ***msdl:PlanningUnitHandle*** ***msdl:PointSymbolHandle*** ***msdl:SupportedUnitHandle*** ***msdl:SupportingUnitHandle*** ***msdl:TacticalGraphicHandle*** ***msdl:UnitHandle*** ***msdl:UnitOwnerHandle***

facets pattern [0-9a-z]{8}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{4}\-[0-9a-z]{12}

annotation documentation

The Universal Unique Identifier UUID of an object as defined ISO/IEC 11578:1996 Information technology - Open Systems Interconnection - Remote Procedure Call RPC.

8.65 Simple Type msdl:text20

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

type restriction of **xs:string**

used by elements ***msdl:AdditionalInfo*** ***msdl:AdditionalInfo1*** ***msdl:AdditionalInfo2*** ***msdl:NBCType*** ***msdl:StaffComments***

facets minLength 0

maxLength 20

pattern ([-z]{1})*

annotation documentation

General text of length 20 characters.

8.66 Simple Type msdl:text21

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

type restriction of **xs:string**

used by elements ***msdl:HigherFormation*** ***msdl:UniqueDesignation*** **msdl:UniqueDesignation1**

facets minLength 0

maxLength 21

pattern ([-z]{1})*

annotation documentation

General text of length 21 characters.

8.67 Simple Type msdl:textBookmark255

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

type restriction of **xs:string**

used by element ***msdl:ReferenceBookmark***

facets minLength 0

maxLength 255

pattern ([-z]{1})*

annotation documentation

Bookmark text of length 255 characters.

8.68 Simple Type msdl:textDatum8

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

type restriction of **xs:string**

used by element ***msdl:Datum***

facets minLength 0

	maxLength	8
	pattern	([-z]{1})*
annotation	documentation	
	The Datum used to calculate cooridinates	

8.69 Simple Type msdl:textEquipmentType24

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

8.70 Simple Type msdl:textFrameShapeModifier1

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

8.71 Simple Type msdl:textIdentifier64

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

8.72 Simple Type msdl:textIFF5

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

8.73 Simple Type msdl:textName255

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

8.74 Simple Type msdl:textParagraph1024

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

8.75 Simple Type msdl:textReliability1

namespace	http://www.sisostds.org/Schemas/msdl/v1	
type	restriction of **xs:string**	
used by	element	***msdl:Reliability***
facets	pattern	[A-F]{1}

annotation	documentation	
	Reliability of A-completely reliable, B-usually reliable, C-fairly reliable, D-not usually reliable, E-unreliable, F-reliability cannot be judged.	

8.76 Simple Type msdl:textTitle255

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

8.77 Simple Type msdl:textURN12

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

8.78 Simple Type jc3iedm20:AffiliationGeopoliticalCode

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

8.79 Simple Type jc3iedm20:AtmosphereInversionLayerCode

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

type restriction of **xs:token**

used by element **Atmosphere/InversionLayerCode**

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.

facets

enumeration	A
enumeration	B
enumeration	C

8.80 Simple Type jc3iedm20:AtmosphereTemperatureGradientCode

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

type restriction of **xs:token**

used by	element	Atmosphere/TemperatureGradientCode
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.	
facets	enumeration	NEUTRL
	enumeration	NKN
	enumeration	STABLE
	enumeration	UNSTAB

8.81 Simple Type jc3iedm20:CloudCoverAverageCoverageCode

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

8.82 Simple Type jc3iedm20:CloudCoverCategoryCode

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

8.83 Simple Type jc3iedm20:IcingCategoryCode

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

type restriction of **xs:token**

used by element **Icing/CategoryCode**

annotation documentation

The specific value that represents the class of a particular ICING.

facets enumeration CLRICE

enumeration MIXICE

enumeration RIMICE

8.84 Simple Type jc3iedm20:IcingSeverityQualifierCode

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

type restriction of **xs:token**

used by element **Icing/SeverityQualifierCode**

annotation documentation

The specific value that represents the severity of a particular ICING.

facets enumeration LIGHT

enumeration MODER

enumeration SEVERE

8.85 Simple Type jc3iedm20:LightCategoryCode

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

type restriction of **xs:token**

used by element **Light/CategoryCode**

annotation documentation

The specific value that represents the class of LIGHT.

facets enumeration CIVIL

enumeration DARK

enumeration DAY

enumeration MOON

enumeration NAUTIC

8.86 Simple Type jc3iedm20:LightMoonPhaseCode

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

type restriction of **xs:token**

used by	element	Light/MoonPhaseCode
annotation	documentation	
	The specific value that represents the phase of the moon for a specific LIGHT.	
facets	enumeration	FUL
	enumeration	NEW
	enumeration	WAN
	enumeration	WAX

8.87 Simple Type jc3iedm20:MilitaryOrganisationTypeServiceCode

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

8.88 Simple Type jc3iedm20:NuclearYieldGroupCode

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

used by	element	**Wind/NuclearYieldQualifierCode**
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).	
facets	enumeration	ALFA
	enumeration	BRAVO
	enumeration	CHARLI
	enumeration	DELTA
	enumeration	ECHO
	enumeration	FOXTRT
	enumeration	GOLF
	enumeration	NKN
	enumeration	NOS

8.89 Simple Type jc3iedm20:ObjectItemHostilityStatusCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:token**	
used by	element	***msdl:Relationship***
annotation	documentation	
	The specific value that represents the perceived hostility status of a specific OBJECT-ITEM.	
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

8.90 Simple Type jc3iedm20:PrecipitationCategoryCode

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

type restriction of **xs:token**

used by element **Precipitation/CategoryCode**

annotation documentation

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

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

8.91 Simple Type jc3iedm20:VisibilityCategoryCode

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

type restriction of **xs:token**

used by element **Visibility/CategoryCode**

annotation documentation

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

facets
- enumeration BLWSNW
- enumeration DSTDVL
- enumeration DSTSND
- enumeration DSTSTR
- enumeration FOG
- enumeration FRZFOG
- enumeration HAZE
- enumeration NKN
- enumeration NOS

	enumeration	SMOKE
	enumeration	SNDSTR

8.92 Simple Type jc3iedm20:WindAirStabilityCategoryCode

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

8.93 Simple Type jc3iedm20:WindAltitudeLayerCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:token**	
used by	element	Wind/AltitudeLayerCode
annotation	documentation	
	The specific value used to indicate the class of the altitude for a specific set of reported wind data.	
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

8.94 Simple Type jc3iedm20:WindCategoryCode

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:token**	
used by	element	Wind/CategoryCode
annotation	documentation	
	The specific value that represents the class of WIND.	
facets	enumeration	CONST
	enumeration	GUST
	enumeration	NKN
	enumeration	SQUAL
	enumeration	TRBLEX
	enumeration	TRBLLI
	enumeration	TRBLMO
	enumeration	TRBLSE
	enumeration	VRB
	enumeration	WSHEAR

8.95 Simple Type jc3iedm20:AngleOptionalTypeRangeAngle7_4

namespace	urn:int:nato:standard:mip:jc3iedm:3.1:oo:2.0	
type	restriction of **xs:decimal**	
used by	elements	Wind/DirectionAngle Wind/EffectiveDownwindDirectionAngle
facets	minInclusive	0.0000
	maxInclusive	360.0000
	totalDigits	7
	fractionDigits	4
annotation	documentation	
	The rotational measurement between two lines and/or planes diverging from a common point and/or line. This measurement will be expressed in units of degrees.	

8.96 Simple Type jc3iedm20:DatetimeOptionalTypeFix18

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

type restriction of **xs:string**

used by elements Light/DownDatetime Light/UpDatetime

facets minLength 18

maxLength 18

annotation documentation

A designation of a specified chronological point measured using Coordinated Universal Time (UTC) ISO 8601:2000 as a standard of reference, constrained to "zero meridian" i.e. 'Zulu' time zone only. This is expressed as a composite field using a compacted ISO notation YYYYMMDDHHMMSS.SSS where YYYY represents a year, MM represents a month in values from 00 to 12, and DD represents a day in values from 00 to 31, HH represents an hour, MM represents a minute, and SS.SSS represents the number of seconds and milliseconds. (Optional)

8.97 Simple Type jc3iedm20:DimensionMandatoryType12_3

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

type restriction of **xs:decimal**

used by element Visibility/RangeDimension

facets minInclusive -999999999.999

maxInclusive 999999999.999

totalDigits 12

fractionDigits 3

annotation documentation

A non-negative one-dimensional linear distance measure. This will be expressed in metres. (Mandatory)

8.98 Simple Type jc3iedm20:DimensionOptionalType12_3

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

type restriction of **xs:decimal**

used by elements CloudCover/BaseDimension CloudCover/TopDimension

facets minInclusive -999999999.999

maxInclusive 999999999.999

totalDigits 12

fractionDigits 3

annotation documentation

A non-negative one-dimensional linear distance measure. This will be expressed in metres. (Optional)

8.99 Simple Type jc3iedm20:QuantityOptionalType8_4

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

type restriction of **xs:decimal**

used by element **Atmosphere/PressureQuantity**

facets
- minInclusive -9999.9999
- maxInclusive 9999.9999
- totalDigits 8
- fractionDigits 4

annotation documentation

A numeric value that denotes a measure of the physical property of an object. Class word quantity has a fixed unit of measure that must be specified on an attribute-by-attribute basis. Class word quantity is not to be used where class words angle, coordinate, count, dimension, and rate apply. (Optional)

8.100 Simple Type jc3iedm20:RateOptionalType4_1

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

type restriction of **xs:decimal**

used by element **Precipitation/Rate**

facets
- minInclusive -999.9
- maxInclusive 999.9
- totalDigits 4
- fractionDigits 1

annotation documentation

A numeric value that denotes a physical property of an object expressed as a proportion of a physical property with respect to a unit of time.The unit of measure for class word rate must be specified on an attribute-by-attribute basis. (Optional)

8.101 Simple Type jc3iedm20:RateOptionalType8_4

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

type restriction of **xs:decimal**

used by element **Wind/SpeedRate**

facets
- minInclusive -9999.9999
- maxInclusive 9999.9999
- totalDigits 8
- fractionDigits 4

annotation documentation

A numeric value that denotes a physical property of an object expressed as a proportion of a

physical property with respect to a unit of time.The unit of measure for class word rate must be specified on an attribute-by-attribute basis. (Optional)

8.102 Simple Type jc3iedm20:RatioOptionalTypeRangeRatio6_5

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

type restriction of **xs:decimal**

used by element Atmosphere/HumidityRatio

facets
- minInclusive 0.00000
- maxInclusive 1.00000
- totalDigits 6
- fractionDigits 5

annotation documentation

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

8.103 Simple Type jc3iedm20:RatioOptionalTypeRangeRatio7_6

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

type restriction of **xs:decimal**

used by element CloudCover/LightRefractionRatio

facets
- minInclusive 0.000000
- maxInclusive 1.000000
- totalDigits 7
- fractionDigits 6

annotation documentation

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

8.104 Simple Type jc3iedm20:TemperatureTypeRangeTemperature5_1

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

type restriction of **xs:decimal**

used by element Atmosphere/Temperature

facets
- minInclusive -273.2
- maxInclusive 9999.9
- totalDigits 5
- fractionDigits 1

annotation documentation

A measure of degree of hotness or coldness in an object or in space. This will be expressed in degrees Celsius.

2049

2050 **Annex B** MilitaryScenario.xsd

2051

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