SISO-STD-001.1-2015

Standard for
Real-time Platform Reference
Federation Object Model

Version 2.0

10 August 2015

Prepared by
Real-time Platform Reference
Federation Object Model
Product Development Group

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This is an **informative** document.
The RPR FOM v2.0 in HLA 1516-2010 modular format is the normative version of SISO-STD-001.1-2015.

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1. Module Foundation

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Foundation FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	This module contains the foundation for all other RPR FOM modules, including generic datatypes that can be considered independent from the RPR FOM purpose.
Use Limitation:	

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References

Dependency	MIM
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

1.1. Datatypes

1.1.1. Basic Datatypes

RPRunsignedInteger16BE

Size in bits: 16
Interpretation: *Integer in the range [0, 2^16-1]*
Endian: Big
Encoding: *16-bit unsigned integer.*

RPRunsignedInteger32BE

Size in bits: 32
Interpretation: *Integer in the range [0, 2^32-1]*
Endian: Big
Encoding: *32-bit unsigned integer.*

RPRunsignedInteger64BE

Size in bits: 64
Interpretation: *Integer in the range [0, 2^64-1]*
Endian: Big
Encoding: *64-bit unsigned integer.*

RPRunsignedInteger8BE

Size in bits: 8
Interpretation: *Integer in the range [0, 2^8-1]*
Endian: Big
Encoding: *8-bit unsigned integer.*

1.1.2. Enumerated Datatypes

RPRboolean

Representation: HLAoctet

Semantics: *Standard Boolean type used for 8-bit compatibility.*

Enumerator	Value
False	0
True	1

1.1.3. Array Datatypes

RTIobjectId ^{RPRnoteFoundation1}

Element Type:	HLAASCIIchar
Cardinality:	Dynamic
Encoding:	RPRnullTerminatedArray
Semantics:	*An RTI object instance identification string.*

RTIobjectIdArray

Element Type:	RTIobjectId
Cardinality:	Dynamic
Encoding:	HLAvariableArray
Semantics:	*Set of ID's of registered object instances.*

1.2. Notes

RPRnoteFoundation1

Semantics: *This is the unique ObjectName associated with each object instance. The user can define the name to be used in the registerObjectInstance RTI call. If user does not define the name then the RTI will generate a unique name for the object. RTI generated names may be fairly long, so federations wishing to conserve bandwidth may wish to implement their own object naming scheme.*

The ObjectName is provided by the RTI in the discoverObjectInstance call. The user can also obtain the ObjectName for a particular object instance using the getObjectInstanceName call.

2. Module Enumerations

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Enumerations FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	This module collects all enumerations (Enumerated data types) used in RPR FOM modules that are defined in "Enumerations for Simulation Interoperability" reference document (SISO-REF-010).
Use Limitation:	

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References

Dependency	Real-time Platform Reference Foundation FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

| **Text Document** | Reference for: Enumerations for Simulation Interoperability
SISO-REF-010-00v20-0
19 November 2013 |

Dependencies

| Foundation |

2.1. Datatypes

2.1.1. Enumerated Datatypes

AcknowledgeFlagEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Acknowledgment flags*

Enumerator	Value
CreateEntity	1
RemoveEntity	2
StartResume	3
StopFreeze	4
TransferOwnership	5

AcknowledgementProtocolEnum8

Representation: HLAoctet

Semantics: *Required reliability service*

Enumerator	Value
Acknowledged	0
Unacknowledged	1

ActionEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Action ID*

Enumerator	Value
Other	0
LocalStorageOfTheRequestedInformation	1
InformSimulationManagerOfRanOutOfAmmunitionEvent	2
InformSimulationManagerOfKilledInActionEvent	3
InformSimulationManagerOfDamageEvent	4

Enumerator	Value
InformSimulationManagerOfMobilityDisabledEvent	5
InformSimulationManagerOfFireDisabledEvent	6
InformSimulationManagerOfRanOutOfFuelEvent	7
RecallCheckpointData	8
RecallInitialParameters	9
InitiateTetherLead	10
InitiateTetherFollow	11
Untether	12
InitiateServiceStationResupply	13
InitiateTailgateResupply	14
InitiateHitchLead	15
InitiateHitchFollow	16
Unhitch	17
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QuerySiteConfiguration	29
TetheringInformation	30
MountIntent	31
AcceptSubscription	33

Enumerator	Value
Unsubscribe	34
TeleportEntity	35
ChangeAggregateState	36
RequestStartPDU	37
WakeupGetReadyForInitialization	38
InitializeInternalParameters	39
SendPlanData	40
SynchronizeInternalClocks	41
Run	42
SaveInternalParameters	43
SimulateMalfunction	44
JoinExercise	45
ResignExercise	46
TimeAdvance	47
TACCSF_LOS_Request-Type1	100
TACCSF_LOS_Request-Type2	101

ActionResultEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Request status*

Enumerator	Value
Other	0
Pending	1
Executing	2
PartiallyComplete	3
Complete	4
RequestRejected	5
RetransmitRequestNow	6

Enumerator	Value
RetransmitRequestLater	7
InvalidTimeParameters	8
SimulationTimeExceeded	9
RequestDone	10
TACCSF_LOS_Reply-Type1	100
TACCSF_LOS_Reply-Type2	101
JoinExerciseRequestRejected	201

ActiveSonarEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Acoustic system name*

Enumerator	Value
Other	0
AN_BQQ-5	1
AN_SSQ-62	2
AN_SQS-23	3
AN_SQS-26	4
AN_SQS-53	5
ALFS	6
LFA	7
AN_AQS-901	8
AN_AQS-902	9

ActiveSonarFunctionCodeEnum8

Representation: HLAoctet

Semantics: *The current function being performed by the sonar*

Enumerator	Value
Other	0
PlatformSearch_detect_track	1

Enumerator	Value
Navigation	2
MineHunting	3
WeaponSearch_detect_track_detect	4

ActiveSonarScanPatternEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Acoustic scan pattern*

Enumerator	Value
ScanPatternNotUsed	0
Conical	1
Helical	2
Raster	3
SectorSearch	4
ContinuousSearch	5

AggregateStateEnum8

Representation: HLAoctet

Semantics: *Aggregate state*

Enumerator	Value
Other	0
Aggregated	1
Disaggregated	2
FullyDisaggregated	3
PseudoDisaggregated	4
PartiallyDisaggregated	5

AmplitudeAngleModulationTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Detailed modulation types for Amplitude and Angle Modulation*

Enumerator	Value
Other	0
AmplitudeAndAngle	1

AmplitudeModulationTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Detailed modulation types for Amplitude Modulation*

Enumerator	Value
Other	0
AudioFrequencyShiftKeying	1
AmplitudeModulation	2
ContinuousWaveModulation	3
DoubleSideband	4
IndependentSideband	5
SSB_LowerSideband	6
SSB_FullCarrier	7
SSB_ReducedCarrier	8
SSB_UpperSideband	9
VestigialSideband	10

AngleModulationTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Detailed modulation types for Angle Modulation*

Enumerator	Value
Other	0
FrequencyModulation	1
FrequencyShiftKeying	2
PhaseModulation	3

AntennaPatternTypeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *The radiation pattern from an antenna.*

Enumerator	Value
OmniDirectional	0
Beam	1
SphericalHarmonic ^{RPRnoteEnumerations3}	2

ArticulatedPartsTypeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Articulated part type class*

Enumerator	Value
Other	0
Rudder	1024
LeftFlap	1056
RightFlap	1088
LeftAileron	1120
RightAileron	1152
HelicopterMainRotor	1184
HelicopterTailRotor	1216
OtherAircraftControlSurfaces	1248
PropellerNumber1	1280
PropellerNumber2	1312
PropellerNumber3	1344
PropellerNumber4	1376
LeftStabilator_StabilatorNumber1_	1408
RightStabilator_StabilatorNumber2_	1440
LeftRuddervator_RuddervatorNumber1_	1472
RightRuddervator_RuddervatorNumber2_	1504

Enumerator	Value
LeftLeadingEdgeFlap_Slat	1536
RightLeadingEdgeFlap_Slat	1568
Periscope	2048
GenericAntenna	2080
Snorkel	2112
OtherExtendableParts	2144
LandingGear	3072
TailHook	3104
SpeedBrake	3136
LeftWeaponBayDoors	3168
RightWeaponBayDoors	3200
TankOrAPChatch	3232
Wingsweep	3264
BridgeLauncher	3296
BridgeSection1	3328
BridgeSection2	3360
BridgeSection3	3392
PrimaryBlade1	3424
PrimaryBlade2	3456
PrimaryBoom	3488
PrimaryLauncherArm	3520
OtherFixedPositionParts	3552
LandingGear-Nose	3584
LandingGear-LeftMain	3616
LandingGear-RightMain	3648
LeftSide_SecondaryWeaponBayDoors	3680
RightSide_SecondaryWeaponBayDoors	3712
PrimaryTurretNumber1	4096

Enumerator	Value
PrimaryTurretNumber2	4128
PrimaryTurretNumber3	4160
PrimaryTurretNumber4	4192
PrimaryTurretNumber5	4224
PrimaryTurretNumber6	4256
PrimaryTurretNumber7	4288
PrimaryTurretNumber8	4320
PrimaryTurretNumber9	4352
PrimaryTurretNumber10	4384
PrimaryGunNumber1	4416
PrimaryGunNumber2	4448
PrimaryGunNumber3	4480
PrimaryGunNumber4	4512
PrimaryGunNumber5	4544
PrimaryGunNumber6	4576
PrimaryGunNumber7	4608
PrimaryGunNumber8	4640
PrimaryGunNumber9	4672
PrimaryGunNumber10	4704
PrimaryLauncher1	4736
PrimaryLauncher2	4768
PrimaryLauncher3	4800
PrimaryLauncher4	4832
PrimaryLauncher5	4864
PrimaryLauncher6	4896
PrimaryLauncher7	4928
PrimaryLauncher8	4960
PrimaryLauncher9	4992

Enumerator	Value
PrimaryLauncher10	5024
PrimaryDefenseSystems1	5056
PrimaryDefenseSystems2	5088
PrimaryDefenseSystems3	5120
PrimaryDefenseSystems4	5152
PrimaryDefenseSystems5	5184
PrimaryDefenseSystems6	5216
PrimaryDefenseSystems7	5248
PrimaryDefenseSystems8	5280
PrimaryDefenseSystems9	5312
PrimaryDefenseSystems10	5344
PrimaryRadar1	5376
PrimaryRadar2	5408
PrimaryRadar3	5440
PrimaryRadar4	5472
PrimaryRadar5	5504
PrimaryRadar6	5536
PrimaryRadar7	5568
PrimaryRadar8	5600
PrimaryRadar9	5632
PrimaryRadar10	5664
SecondaryTurretNumber1	5696
SecondaryTurretNumber2	5728
SecondaryTurretNumber3	5760
SecondaryTurretNumber4	5792
SecondaryTurretNumber5	5824
SecondaryTurretNumber6	5856
SecondaryTurretNumber7	5888

Enumerator	Value
SecondaryTurretNumber8	5920
SecondaryTurretNumber9	5952
SecondaryTurretNumber10	5984
SecondaryGunNumber1	6016
SecondaryGunNumber2	6048
SecondaryGunNumber3	6080
SecondaryGunNumber4	6112
SecondaryGunNumber5	6144
SecondaryGunNumber6	6176
SecondaryGunNumber7	6208
SecondaryGunNumber8	6240
SecondaryGunNumber9	6272
SecondaryGunNumber10	6304
SecondaryLauncher1	6336
SecondaryLauncher2	6368
SecondaryLauncher3	6400
SecondaryLauncher4	6432
SecondaryLauncher5	6464
SecondaryLauncher6	6496
SecondaryLauncher7	6528
SecondaryLauncher8	6560
SecondaryLauncher9	6592
SecondaryLauncher10	6624
SecondaryDefenseSystems1	6656
SecondaryDefenseSystems2	6688
SecondaryDefenseSystems3	6720
SecondaryDefenseSystems4	6752
SecondaryDefenseSystems5	6784

Enumerator	Value
SecondaryDefenseSystems6	6816
SecondaryDefenseSystems7	6848
SecondaryDefenseSystems8	6880
SecondaryDefenseSystems9	6912
SecondaryDefenseSystems10	6944
SecondaryRadar1	6976
SecondaryRadar2	7008
SecondaryRadar3	7040
SecondaryRadar4	7072
SecondaryRadar5	7104
SecondaryRadar6	7136
SecondaryRadar7	7168
SecondaryRadar8	7200
SecondaryRadar9	7232
SecondaryRadar10	7264
DeckElevator1	7296
DeckElevator2	7328
Catapult1	7360
Catapult2	7392
JetBlastDeflector1	7424
JetBlastDeflector2	7456
ArrestorWires1	7488
ArrestorWires2	7520
ArrestorWires3	7552
WingOrRotorFold	7584
FuselageFold	7616
CargoDoor	7648
CargoRamp	7680

Enumerator	Value
Air-to-AirRefuelingBoom	7712

ArticulatedTypeMetricEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Articulated part type metric*

Enumerator	Value
Position	1
PositionRate	2
Extension	3
ExtensionRate	4
X	5
XRate	6
Y	7
YRate	8
Z	9
ZRate	10
Azimuth	11
AzimuthRate	12
Elevation	13
ElevationRate	14
Rotation	15
RotationRate	16

BeamFunctionCodeEnum8

Representation: HLAoctet

Semantics: *Beam function*

Enumerator	Value
Other	0
Search	1

Enumerator	Value
HeightFinder	2
Acquisition	3
Tracking	4
AcquisitionAndTracking	5
CommandGuidance	6
Illumination	7
RangeOnlyRadar	8
MissileBeacon	9
MissileFuze	10
ActiveRadarMissileSeeker	11
Jammer	12
IFF	13
NavigationalOrWeather	14
Meteorological	15
DataTransmission	16
NavigationalDirectionalBeacon	17
Time-SharedSearch	20
Time-SharedAcquisition	21
Time-SharedTrack	22
Time-SharedCommandGuidance	23
Time-SharedIllumination	24
Time-SharedJamming	25

BreachedStatusEnum8

Representation: HLAoctet

Semantics: *Breached appearance*

Enumerator	Value
NoBreaching	0

Enumerator	Value
SlightBreaching	1
ModerateBreaching	2
Cleared	3

CamouflageEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Camouflage type*

Enumerator	Value
UniformPaintScheme	0
DesertCamouflage	1
WinterCamouflage	2
ForestCamouflage	3
GenericCamouflage	4

ChemicalContentEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Smoke chemical content*

Enumerator	Value
Other	0
Hydrochloric	1
WhitePhosphorous	2
RedPhosphorous	3

CollisionTypeEnum8

Representation: HLAoctet

Semantics: *Collision type*

Enumerator	Value
Inelastic	0
Elastic	1

CombinationModulationTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Detailed modulation types for Combination Modulation*

Enumerator	Value
Other	0
AmplitudeAnglePulse	1

ComplianceStateEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Life form compliance*

Enumerator	Value
Other	0
Detained	1
Surrender	2
UsingFists	3
VerbalAbuse1	4
VerbalAbuse2	5
VerbalAbuse3	6
PassiveResistance1	7
PassiveResistance2	8
PassiveResistance3	9
NonLethalWeapon1	10
NonLethalWeapon2	11
NonLethalWeapon3	12
NonLethalWeapon4	13
NonLethalWeapon5	14
NonLethalWeapon6	15

ConstituentPartNatureEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Relationship nature*

Enumerator	Value
Other	0
HostFireableMunition	1
MunitionCarriedAsCargo	2
FuelCarriedAsCargo	3
GunmountAttachedToHost	4
ComputerGeneratedForcesCarriedAsCargo	5
VehicleCarriedAsCargo	6
EmitterMountedOnHost	7
MobileCommandAndControlEntityCarriedAboardHost	8
EntityStationedWithRespectToHost	9
TeamMemberInFormationWith	10

ConstituentPartPositionEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Relationship position*

Enumerator	Value
Other	0
OnTopOf	1
Inside	2

ConstituentPartStationNameEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Station name*

Enumerator	Value
Other	0
AircraftWingstation	1

Enumerator	Value
ShipsForwardGunmountStarboard	2
ShipsForwardGunmountPort	3
ShipsForwardGunmountCenterline	4
ShipsAftGunmountStarboard	5
ShipsAftGunmountPort	6
ShipsAftGunmountCenterline	7
ForwardTorpedoTube	8
AftTorpedoTube	9
BombBay	10
CargoBay	11
TruckBed	12
TrailerBed	13
WellDeck	14
OnStationRangeBearing	15
OnStationXYZ	16

CryptographicSystemTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Identifies the type of cryptographic equipment*

Enumerator	Value
Other	0
KY_28	1
KY_58	2
NarrowSpectrumSecureVoice_NSVE	3
WideSpectrumSecureVoice_WSVE	4
SINCGARS_ICOM	5
KY-75	6
KY-100	7

Enumerator	Value
KY-57	8
KYV-5	9
Link11KG-40A-P_NTDS_	10
Link11BKG-40A-S	11
Link11KG-40AR	12

DamageStatusEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Damaged appearance*

Enumerator	Value
NoDamage	0
SlightDamage	1
ModerateDamage	2
Destroyed	3

DatumIdentifierEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Datum ID*

Enumerator	Value
HighFidelityHAVEQUICKRadio	3000
BlankingSectorAttributeRecord	3500
AngleDeceptionAttributeRecord	3501
FalseTargetsAttributeRecord	3502
DEPrecisionAimpointRecord	4000
DEAreaAimpointRecord	4001
DirectedEnergyDamageDescriptionRecord	4500
CryptoControl	5000
Mode5_STransponderLocation	5001
Mode5_STransponderLocationError	5002

Enumerator	Value
SquitterAirbornePositionReport	5003
SquitterAirborneVelocityReport	5004
SquitterSurfacePositionReport	5005
SquitterIdentificationReport	5006
GICB	5007
SquitterEvent-DrivenReport	5008
AntennaLocation	5009
BasicInteractive	5010
InteractiveMode4Reply	5011
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InteractiveBasicModeS	5014
IOEffect	5500
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Enumerator	Value
Alternative_Entity_Type-Domain	12120
Alternative_Entity_Type-Country	12130
Alternative_Entity_Type-Category	12140
Alternative_Entity_Type-Subcategory	12150
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Regiment_Name	14200
Battalion_Name	14300
Company_Name	14400
Platoon_Name	14500
Squad_Name	14520
Team_Name	14540
Bumper_Number	14600
Vehicle_Number	14700
Unit_Number	14800
DIS_Identity	15000
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DIS_Host_ID	15200
DIS_Entity_ID	15300
Mount_Intent	15400
Tether-Unthether_Command_ID	15500
Teleport_Entity_Data_Record	15510
DIS_Aggregate_ID	15600

Enumerator	Value
OwnershipStatus	15800
Loads	20000
Crew_Members	21000
Crew_Member_ID	21100
Health	21200
Job_Assignment	21300
Fuel	23000
Fuel_Quantity-Liters	23100
Fuel_Quantity-Gallons	23105
Ammunition	24000
Ammunition_quantity_120mm_HEAT	24001
Ammunition_quantity_120mm_SABOT	24002
Ammunition_quantity_12-7mm_M8	24003
Ammunition_quantity_12-7mm_M20	24004
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Mines-Kind	24110
Mines-Domain	24120
Mines-Country	24130
Mines-Category	24140
Mines-Subcategory	24150
Mines-Extra	24160

Enumerator	Value
Mines-Description	24300
Cargo	25000
Vehicle_Mass	26000
Supply_Quantity	27000
Armament	28000
Status	30000
ActivateEntity	30010
Subscription_State	30100
Round_trip_time_delay	30300
TADIL-J_message_count_label0	30400
TADIL-J_message_count_label1	30401
TADIL-J_message_count_label2	30402
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Enumerator	Value
TADIL-J_message-count_label19	30419
TADIL-J_message-count_label20	30420
TADIL-J_message-count_label21	30421
TADIL-J_message-count_label22	30422
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TADIL-J_message-count_label24	30424
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TADIL-J_message-count_label28	30428
TADIL-J_message-count_label29	30429
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TADIL-J_message-count_label31	30431
Position	31000
Route_Waypoint_Type	31010
MilGrid10	31100
Geocentric_Coordinates	31200
Geocentric_Coordinate_X	31210
Geocentric_Coordinate_Y	31220
Geocentric_Coordinate_Z	31230
Latitude	31300
Longitude	31400
Line_of_Sight	31500
Line_of_Sight_X	31510
Line_of_Sight_Y	31520
Line_of_Sight_Z	31530
Altitude	31600
Destination_Latitude	31700

Enumerator	Value
Destination_Longitude	31800
Destination_Altitude	31900
Orientation	32000
Hull_Heading_Angle	32100
Hull_Pitch_Angle	32200
Roll_Angle	32300
Roll_Angle_X	32500
Roll_Angle_Y	32600
Roll_Angle_Z	32700
Appearance	33000
Ambient_Lighting	33100
Lights	33101
Paint_Scheme	33200
Smoke	33300
Trailing_Effects	33400
Flaming	33500
Marking	33600
Mine_Plows_Attached	33710
Mine_Rollers_Attached	33720
Tank_Turret_Azimuth	33730
Failures_and_Malfunctions	34000
Age	34100
Kilometers	34110
Damage	35000
Cause	35050
Mobility_Kill	35100
Fire-Power_Kill	35200
Personnel_Casualties	35300

Enumerator	Value
Velocity	36000
X-velocity	36100
Y-velocity	36200
Z-velocity	36300
Speed	36400
Acceleration	37000
X-acceleration	37100
Y-acceleration	37200
Z-acceleration	37300
Engine_Status	38100
Primary_Target_Line	39000
Exercise	40000
Exercise_State	40010
Restart_Refresh	40015
AFATDS_File_Name	40020
Terrain_Database	41000
Missions	42000
Mission_ID	42100
Mission_Type	42200
Mission_Request_Time_Stamp	42300
Exercise_Description	43000
Name	43100
Entities	43200
Version	43300
Guise_Mode	43410
Simulation_Application_Active_Status	43420
Simulation_Application_Role_Record	43430
Simulation_Application_State	43440

Enumerator	Value
Visual_Output_Mode	44000
Simulation_Manager_Role	44100
Simulation_Manager_Site_ID	44110
Simulation_Manager_Application_ID	44120
Simulation_Manager_Entity_ID	44130
Simulation_Manager_Active_Status	44140
After_Active_Review_Role	44200
After_Active_Review_Site_ID	44210
After_Active_Application_ID	44220
After_Active_Review_Entity_ID	44230
After_Active_Review_Active_Status	44240
Exercise_Logger_Role	44300
Exercise_Logger_Site_ID	44310
Exercise_Logger_Application_ID	44320
Exercise_Entity_ID	44330
Exercise_Logger_Active_Status	44340
Synthetic_Environment_Manager_Role	44400
Synthetic_Environment_Manager_Site_ID	44410
Synthetic_Environment_Manager_Application_ID	44420
Synthetic_Environment_Manager_Entity_ID	44430
Synthetic_Environment_Manager_Active_Status	44440
SIMNET-DIS_Translator_Role	44500
SIMNET-DIS_Translator_Site_ID	44510
SIMNET-DIS_Translator_Application_ID	44520
SIMNET-DIS_Translator_Entity_ID	44530
SIMNET-DIS_Translator_Active_Status	44540
Application_Rate	45000
Application_Time	45005

Enumerator	Value
Application_Timestep	45010
Feedback_Time	45020
Simulation_Rate	45030
Simulation_Time	45040
Simulation_Timestep	45050
Time_Interval	45060
Time_Latency	45070
Time_Scheme	45080
Exercise_Elapsed_Time	46000
Elapsed_Time	46010
Environment	50000
Weather	51000
Weather_Condition	51010
Thermal_Condition	51100
Thermal_Visibility_FloatingPoint32	51110
Thermal_Visibility_UnsignedInteger32	51111
Time	52000
Time_String	52001
Time_of_Day-Discrete	52100
Time_of_Day-Continuous	52200
Time_Mode	52300
Time_Scene	52305
Current_Hour	52310
Current_Minute	52320
Current_Second	52330
Azimuth	52340
Maximum_Elevation	52350
Time_Zone	52360

Enumerator	Value
Time_Rate	52370
Simulation_Time_2	52380
Time_Sunrise_Enabled	52400
Sunrise_Hour	52410
Sunrise_Minute	52420
Sunrise_Second	52430
Sunrise_Azimuth	52440
Time_Sunset_Enabled	52500
Sunset_Hour	52510
Sunset_Hour_2	52511
Sunset_Minute	52520
Sunset_Second	52530
Date	52600
Date_European	52601
Date_US	52602
Month	52610
Day	52620
Year	52630
Clouds	53000
Cloud_Layer_Enable	53050
Cloud_Layer_Selection	53060
Cloud_Visibility	53100
Base_Altitude-Meters	53200
Base_Altitude-Feet	53250
Ceiling-Meters	53300
Ceiling-Feet	53350
Characteristics	53400
Concentration_Length	53410

Enumerator	Value
Transmittance	53420
Radiance	53430
Precipitation	54000
Rain	54100
Fog	55000
Visibility-Meters	55100
Visibility-Meters_UnsignedInteger32	55101
Visibility-Miles	55105
Fog_Density	55200
Base	55300
View_Layer_from_above	55401
Transition_Range	55410
Bottom-Meters	55420
Bottom-Feet	55425
Fog_Ceiling-Meters	55430
Fog_Ceiling-Feet	55435
Heavenly_Bodies	56000
Sun	56100
Sun-Visible	56105
Sun-Position	56110
Sun-Position_Elevation-Degrees	56111
Sun-Position_Azimuth	56120
Sun-Position_Azimuth-Degrees	56121
Sun-Position_Elevation	56130
Sun-Position_Intensity	56140
Moon	56200
Moon-Visible	56205
Moon-Position	56210

Enumerator	Value
Moon-Position_Azimuth	56220
Moon-Position_Azimuth-Degrees	56221
Moon-Position_Elevation	56230
Moon-Position_Elevation-Degrees	56231
Moon-Position_Intensity	56240
Horizon	56310
Horizon_Azimuth	56320
Horizon_Elevation	56330
Horizon_Heading	56340
Horizon_Intensity	56350
Humidity	57200
Visibility	57300
Winds	57400
Speed_2	57410
Wind-Speed-Knots	57411
Wind-Direction	57420
Wind-Direction-Degrees	57421
Rainsoak	57500
Tide-Speed	57610
Tide-Speed-Knots	57611
Tide-Direction	57620
Tide-Direction-Degrees	57621
Haze	58000
Haze_Visibility-Meters	58100
Haze_Visibility-Miles	58105
Haze_Density	58200
Haze_Ceiling-Meters	58430
Haze_Ceiling-Feet	58435

Enumerator	Value
Contaminants_and_Obscurants	59000
Contaminant_Obscurant_Type	59100
Persistence	59110
Chemical_Dosage	59115
Chemical_Air_Concentration	59120
Chemical_Ground_Deposition	59125
Chemical_Maximum_Ground_Deposition	59130
Chemical_Dosage_Threshold	59135
Biological_Dosage	59140
Biological_Air_Concentration	59145
Biological_Dosage_Threshold	59150
Biological_Binned_Particle_Count	59155
Radiological_Dosage	59160
Communications	60000
Channel_Type	61100
Channel_Type_2	61101
Channel_Identification	61200
Alpha_Identification	61300
Radio_Identification	61400
Land_Line_Identification	61500
Intercom_Identification	61600
Group_Network_Channel_Number	61700
Radio_Communications_Status	62100
Stationary_Radio_Transmitters_Default_Time	62200
Moving_Radio_Transmitters_Default_Time	62300
Stationary_Radio_Signals_Default_Time	62400
Moving_Radio_Signal_Default_Time	62500
Radio_Initialization_Transec_Security_Key	63101

Enumerator	Value
Radio_Initialization_Internal_Noise_Level	63102
Radio_Initialization_Squelch_Threshold	63103
Radio_Initialization_Antenna_Location	63104
Radio_Initialization_Antenna_Pattern_Type	63105
Radio_Initialization_Antenna_Pattern_Length	63106
Radio_Initialization_Beam_Definition	63107
Radio_Initialization_Transmit_Heartbeat_Time	63108
Radio_Initialization_Transmit_Distance_Threshold	63109
Radio_Channel_Initialization_Lockout_ID	63110
Radio_Channel_Initialization_Hopset_ID	63111
Radio_Channel_Initialization_Preset_Frequency	63112
Radio_Channel_Initialization_Frequency_Sync_Time	63113
Radio_Channel_Initialization_Comsec_Key	63114
Radio_Channel_Initialization_Alpha	63115
Algorithm_Parameters	70000
Dead_Reckoning_Algorithm__DRA_	71000
DRA_Location_Threshold	71100
DRA_Orientation_Threshold	71200
DRA_Time_Threshold	71300
Simulation_Management_Parameters	72000
Checkpoint_Interval	72100
Transmitter_Time_Threshold	72600
Receiver_Time_Threshold	72700
Interoperability_Mode	73000
SIMNET_Data_Collection	74000
Event_ID	75000
Source_Site_ID	75100
Source_Host_ID	75200

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Enumerator	Value
Articulated_Parts	90000
Articulated_Parts-Part_ID	90050
Articulated_Parts-Index	90070
Articulated_Parts-Position	90100
Articulated_Parts-Position_Rate	90200
Articulated_Parts-Extension	90300
Articulated_Parts-Extension_Rate	90400
Articulated_Parts-X	90500
Articulated_Parts-X-rate	90600
Articulated_Parts-Y	90700
Articulated_Parts-Y-rate	90800
Articulated_Parts-Z	90900
Articulated_Parts-Z-rate	91000
Articulated_Parts-Azimuth	91100
Articulated_Parts-Azimuth_Rate	91200
Articulated_Parts-Elevation	91300
Articulated_Parts-Elevation_Rate	91400
Articulated_Parts-Rotation	91500
Articulated_Parts-Rotation_Rate	91600
DRA_Angular_X-Velocity	100001
DRA_Angular_Y-Velocity	100002
DRA_Angular_Z-Velocity	100003
Appearance-Trailing_Effects	100004
Appearance-Hatch	100005
Appearance-Character_Set	100008
Capability-Ammunition_Supplier	100010
Capability-Miscellaneous_Supplier	100011
Capability-Repair_Provider	100012

Enumerator	Value
Articulation_Parameter	100014
Articulation_Parameter_Type	100047
Articulation_Parameter_Value	100048
Time_of_Day-Scene	100058
Latitude-North__Location_of_weather_cell_	100061
Longitude-East__Location_of_weather_cell_	100063
Tactical_Driver_Status	100068
Sonar_System_Status	100100
AccomplishedAccept	100160
Upper_latitude	100161
Latitude-South__Location_of_weather_cell_	100162
WesternLongitude	100163
Longitude-West__location_of_weather_cell_	100164
CDROMNumber_DiskIDForTerrain_	100165
DTEDDiskID	100166
Altitude_1	100167
Tactical_System_Status	100169
JTIDS_Status	100170
TADIL-J_Status	100171
DSDD_Status	100172
Weapon_System_Status	100200
Subsystem_status	100205
Number_of_interceptors_fired	100206
Number_of_interceptor_detonations	100207
Number_of_message_buffers_dropped	100208
Satellite_sensor_background__year_day_	100213
Satellite_sensor_background__hour_minute_	100214
Script_Number	100218

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Enumerator	Value
Entity_Track_Update_Data	100300
Local_Force_Training	100400
Entity_Track_Identity_Data	100500
Entity_for_Track_Event	100510
IFF__Friend-Foe__status	100520
Engagement_Data	100600
Target_Latitude	100610
Target_Longitude	100620
Area_of_Interest__Ground_Impact_Circle__Center_Latitude	100631
Area_of_Interest__Ground_Impact_Circle__Center_Longitude	100632
Area_of_Interest__Ground_Impact_Circle__Radius	100633
Area_of_Interest_Type	100634
Target_Aggregate_ID	100640
GIC_Identification_Number	100650
Estimated_Time_of_Flight_to_TBM_Impact	100660
Estimated_Intercept_Time	100661
Estimated_Time_of_Flight_to_Next_Waypoint	100662
Entity_Track_Equipment_Data	100700
Emission_EW_Data	100800
Appearance_Data	100900
Command_Order_Data	101000
Environmental_Data	101100
Significant_Event_Data	101200
Operator_Action_Data	101300
ADA_Engagement_Mode	101310
ADA_Shooting_Status	101320
ADA_Mode	101321
ADA_Radar_Status	101330

Enumerator	Value
Shoot_Command	101340
ADA_Weapon_Status	101350
ADA_Firing_Disciple	101360
Order_Status	101370
Time_Synchronization	101400
Tomahawk_Data	101500
Number_of_Detonations	102100
Number_of_Intercepts	102200
OBT_Control_MT-201	200201
Sensor_Data_MT-202	200202
Environmental_Data_MT-203	200203
Ownship_Data_MT-204	200204
Acoustic_Contact_Data_MT-205	200205
Sonobuoy_Data_MT-207	200207
Sonobuoy_Contact_Data_MT-210	200210
Helo_Control_MT-211	200211
ESM_Control_Data	200213
ESM_Contact_Data_MT-214	200214
ESM_Emitter_Data_MT-215	200215
Weapon_Definition_Data_MT-217	200216
Weapon_Preset_Data_MT-217	200217
OBT_Control_MT-301	200301
Sensor_Data_MT-302	200302
Environmental_Data_MT-303m	200303
Ownship_Data_MT-304	200304
Acoustic_Contact_Data_MT-305	200305
Sonobuoy_Data_MT-307	200307
Sonobuoy_Contact_Data_MT-310	200310

Enumerator	Value
Helo_Scenario___Equipment_Status	200311
ESM_Control_Data_MT-313	200313
ESM_Contact_Data_MT-314	200314
ESM_Emitter_Data_MT-315	200315
Weapon_Definition_Data_MT-316	200316
Weapon_Preset_Data_MT-317	200317
Pairing_Association__eMT-56_	200400
Pointer__eMT-57_	200401
Reporting_Responsibility__eMT-58_	200402
Track_Number__eMT-59_	200403
ID_for_Link-11_Reporting__eMT-60_	200404
Remote_Track__eMT-62_	200405
Link-11_Error_Rate__eMT-63_	200406
Track_Quality__eMT-64_	200407
Gridlock__eMT-65_	200408
Kill__eMT-66_	200409
Track_ID_Change___Resolution__eMT-68_	200410
Weapons_Status__eMT-69_	200411
Link-11_Operator__eMT-70_	200412
Force_Training_Transmit__eMT-71_	200413
Force_Training_Receive__eMT-72_	200414
Interceptor_Amplification__eMT-75_	200415
Consumables__eMT-78_	200416
Link-11_Local_Track_Quality__eMT-95_	200417
DLRP__eMT-19_	200418
Force_Order__eMT-52_	200419
Wilco___Cantco__eMT-53_	200420
EMC_Bearing__eMT-54_	200421

Enumerator	Value
Change_Track_Eligibility__eMT-55_	200422
Land_Mass_Reference_Point	200423
System_Reference_Point	200424
PU_Amplification	200425
Set_Drift	200426
Begin_Initialization__MT-1_	200427
Status_and_Control__MT-3_	200428
Scintillation_Change__MT-39_	200429
Link_11_ID_Control__MT-61_	200430
PU_Guard_List	200431
Winds_Aloft__MT-14_	200432
Surface_Winds__MT-15_	200433
Sea_State__MT-17_	200434
Magnetic_Variation__MT-37_	200435
Track_Eligibility__MT-29_	200436
Training_Track_Notification	200437
Tacan_Data__MT-32_	200501
Interceptor_Amplification__MT-75_	200502
Tacan_Assignment__MT-76_	200503
Autopilot_Status__MT-77_	200504
Consumables__MT-78_	200505
Downlink__MT-79_	200506
TIN_Report__MT-80_	200507
Special_Point_Control__MT-81_	200508
Control_Discretes__MT-82_	200509
Request_Target_Discretes_MT-83_	200510
Target_Discretes__MT-84_	200511
Reply_Discretes__MT-85_	200512

Enumerator	Value
Command_Maneuvers__MT-86_	200513
Target_Data__MT-87_	200514
Target_Pointer__MT-88_	200515
Intercept_Data__MT-89_	200516
Decrement_Missile_Inventory__MT-90_	200517
Link-4A_Alert__MT-91_	200518
Strike_Control__MT-92_	200519
Speed_Change__MT-25_	200521
Course_Change__MT-26_	200522
Altitude_Change__MT-27_	200523
ACLS_AN_SPN-46_Status	200524
ACLS_Aircraft_Report	200525
SPS-67_Radar_Operator_Functions	200600
SPS-55_Radar_Operator_Functions	200601
SPQ-9A_Radar_Operator_Functions	200602
SPS-49_Radar_Operator_Functions	200603
MK-23_Radar_Operator_Functions	200604
SPS-48_Radar_Operator_Functions	200605
SPS-40_Radar_Operator_Functions	200606
MK-95_Radar_Operator_Functions	200607
Kill_NoKill	200608
CMTPc	200609
CMC4AirGlobalData	200610
CMC4GlobalData	200611
LINKSIM_COMMENT_PDU	200612
NSSTOwnshipControl	200613
Other	240000
Mass_Of_The_Vehicle	240001

Enumerator	Value
Force_ID_2	240002
Entity_Type_Kind	240003
Entity_Type_Domain	240004
Entity_Type_Country	240005
Entity_Type_Category	240006
Entity_Type_Sub_Category	240007
Entity_Type_Specific	240008
Entity_Type_Extra	240009
Alternative_Entity_Type_Kind	240010
Alternative_Entity_Type_Domain	240011
Alternative_Entity_Type_Country	240012
Alternative_Entity_Type_Category	240013
Alternative_Entity_Type_Sub_Category	240014
Alternative_Entity_Type_Specific	240015
Alternative_Entity_Type_Extra	240016
Entity_Location_X	240017
Entity_Location_Y	240018
Entity_Location_Z	240019
Entity_Linear_Velocity_X	240020
Entity_Linear_Velocity_Y	240021
Entity_Linear_Velocity_Z	240022
Entity_Orientation_Psi	240023
Entity_Orientation_Theta	240024
Entity_Orientation_Phi	240025
Dead_Reckoning_Algorithm	240026
Dead_Reckoning_Linear_Acceleration_X	240027
Dead_Reckoning_Linear_Acceleration_Y	240028
Dead_Reckoning_Linear_Acceleration_Z	240029

Enumerator	Value
Dead_Reckoning_Angular_Velocity_X	240030
Dead_Reckoning_Angular_Velocity_Y	240031
Dead_Reckoning_Angular_Velocity_Z	240032
Entity_Appearance	240033
Entity_Marking_Character_Set	240034
Entity_Marking_11_Bytes	240035
Capability	240036
Number_Articulation_Parameters	240037
Articulation_Parameter_ID	240038
Articulation_Parameter_Type_2	240039
Articulation_Parameter_Value_2	240040
Type_Of_Stores	240041
Quantity_Of_Stores	240042
Fuel_Quantity	240043
Radar_System_Status	240044
Radio_Communication_System_Status	240045
Default_Time_For_Radio_Transmission_For_Stationary_Transmitters	240046
Default_Time_For_Radio_Transmission_For_Moving_Transmitters	240047
Body_Part_Damaged_Ratio	240048
Name_Of_The_Terrain_Database_File	240049
Name_Of_Local_File	240050
Aimpoint_Bearing	240051
Aimpoint_Elevation	240052
Aimpoint_Range	240053
Air_Speed	240054
Altitude_2	240055
Application_Status	240056
Auto_Iff	240057

Enumerator	Value
Beacon_Delay	240058
Bingo_Fuel_Setting	240059
Cloud_Bottom	240060
Cloud_Top	240061
Direction	240062
End_Action	240063
Frequency	240064
Freeze	240065
Heading	240066
Identification	240067
Initial_Point_Data	240068
Latitude_2	240069
Lights_2	240070
Linear	240071
Longitude_2	240072
Low_Altitude	240073
Mfd_Formats	240074
Nctr	240075
Number_Projectiles	240076
Operation_Code	240077
Pitch	240078
Profiles	240079
Quantity	240080
Radar_Modes	240081
Radar_Search_Volume	240082
Roll	240083
Rotation	240084
Scale_Factor_X	240085

Enumerator	Value
Scale_Factor_Y	240086
Shields	240087
Steerpoint	240088
Spare1	240089
Spare2	240090
Team	240091
Text	240092
Time_Of_Day	240093
Trail_Flag	240094
Trail_Size	240095
Type_Of_Projectile	240096
Type_Of_Target	240097
Type_Of_Threat	240098
Uhf_Frequency	240099
Utm_Altitude	240100
Utm_Latitude	240101
Utm_Longitude	240102
Vhf_Frequency	240103
Visibility_Range	240104
Void_Aaa_Hit	240105
Void_Collision	240106
Void_Earth_Hit	240107
Void_Friendly	240108
Void_Gun_Hit	240109
Void_Rocket_Hit	240110
Void_Sam_Hit	240111
Weapon_Data	240112
Weapon_Type	240113

Enumerator	Value
Weather_2	240114
Wind_Direction	240115
Wind_Speed	240116
Wing_Station	240117
Yaw	240118
Memory_Offset	240119
Memory_Data	240120
VASI	240121
Beacon	240122
Strobe	240123
Culture	240124
Approach	240125
Runway_End	240126
Obstruction	240127
Runway_Edge	240128
Ramp_Taxiway	240129
Laser_Bomb_Code	240130
Rack_Type	240131
HUD	240132
RoleFileName	240133
PilotName	240134
PilotDesignation	240135
Model_Type	240136
DIS_Type	240137
Class	240138
Channel	240139
Entity_Type_2	240140
Alternative_Entity_Type_2	240141

Enumerator	Value
Entity_Location	240142
Entity_Linear_Velocity	240143
Entity_Orientation	240144
Dead_Reckoning	240145
Failure_Symptom	240146
Max_Fuel	240147
Refueling_Boom_Connect	240148
Altitude_AGL	240149
Calibrated_Airspeed	240150
TACAN_Channel	240151
TACAN_Band	240152
TACAN_Mode	240153
Munition	500001
EngineFuel	500002
StorageFuel	500003
NotUsed	500004
Expendable	500005
TotalRecordSets	500006
LaunchedMunition	500007
Association	500008
Sensor	500009
MunitionReload	500010
EngineFuelReload	500011
StorageFuelReload	500012
ExpendableReload	500013

DeadReckoningAlgorithmEnum8

Representation: HLAoctet

Semantics: *Dead-reckoning algorithm*

Enumerator	Value
Other	0
Static	1
DRM_FPW	2
DRM_RPW	3
DRM_RVW	4
DRM_FVW	5
DRM_FPB	6
DRM_RPB	7
DRM_RVB	8
DRM_FVB	9

DesignatorCodeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Designator code*

Enumerator	Value
Other	0

DesignatorCodeNameEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Designator code name*

Enumerator	Value
Other	0

DetonationResultCodeEnum8

Representation: HLAoctet

Semantics: *Detonation result*

Enumerator	Value
Other	0
EntityImpact	1

Enumerator	Value
EntityProximateDetonation	2
GroundImpact	3
GroundProximateDetonation	4
Detonation	5
None	6
HE_hit_Small	7
HE_hit_Medium	8
HE_hit_Large	9
ArmorPiercingHit	10
DirtBlast_Small	11
DirtBlast_Medium	12
DirtBlast_Large	13
WaterBlast_Small	14
WaterBlast_Medium	15
WaterBlast_Large	16
AirHit	17
BuildingHit_Small	18
BuildingHit_Medium	19
BuildingHit_Large	20
MineClearingLineCharge	21
EnvironmentObjectImpact	22
EnvironmentObjectProximateDetonation	23
WaterImpact	24
AirBurst	25
Kill_with_fragment_type_1	26
Kill_with_fragment_type_2	27
Kill_with_fragment_type_3	28
Kill_with_fragment_type_1_after_fly-out_failure	29

Enumerator	Value
Kill_with_fragment_type_2_after_fly-out_failure	30
Miss_due_to_fly-out_failure	31
Miss_due_to_end-game_failure	32
Miss_due_to_fly-out_and_end-game_failure	33

EmitterFunctionEnum8

Representation: HLAoctet

Semantics: *Emitter system function*

Enumerator	Value
Other	0
MultiFunction	1
EarlyWarningSurveillance	2
HeightFinding	3
FireControl	4
AcquisitionDetection	5
Tracking	6
GuidanceIllumination	7
FiringPointLaunchPointLocation	8
Ranging	9
RadarAltimeter	10
Imaging	11
MotionDetection	12
Navigation	13
Weather_Meterological	14
Instrumentation	15
Identification_Classification__including_IFF_	16
AAA__Anti-Aircraft_Artillery__Fire_Control	17
Air_Search_Bomb	18

Enumerator	Value
Air_Intercept	19
Altimeter	20
Air_Mapping	21
Air_Traffic_Control	22
Beacon	23
Battlefield_Surveillance	24
Ground_Control_Approach	25
Ground_Control_Intercept	26
Coastal_Surveillance	27
Decoy_Mimic	28
Data_Transmission	29
Earth_Surveillance	30
Gun_Lay_Beacon	31
Ground_Mapping	32
Harbor_Surveillance	33
IFF_IdentifyFriendOrFoe_ [RPRnoteEnumerations3]	34
ILS__Instrument_Landing_System_	35
Ionospheric_Sound	36
Interrogator	37
Barrage_Jamming [RPRnoteEnumerations3]	38
Click_Jamming [RPRnoteEnumerations3]	39
DeceptiveJamming [RPRnoteEnumerations3]	40
Frequency_Swept_Jamming [RPRnoteEnumerations3]	41
Jamming	42
NoiseJamming [RPRnoteEnumerations3]	43
Pulsed_Jamming [RPRnoteEnumerations3]	44
Repeater_Jamming [RPRnoteEnumerations3]	45
Spot_Noise_Jamming [RPRnoteEnumerations3]	46

Enumerator	Value
Missile_Acquisition	47
Missile_Downlink	48
Meteorological ^{RPRnoteEnumerations3}	49
Space	50
Surface_Search	51
Shell_Tracking	52
Television	56
Unknown	57
Video_Remoting	58
Experimental_or_Training	59
Missile_Guidance	60
Missile_Homing	61
Missile_Tracking	62
JammingNoise ^{RPRnoteEnumerations3}	64
JammingDeception ^{RPRnoteEnumerations3}	65
Decoy ^{RPRnoteEnumerations3}	66
Navigation_Distance_Measuring_Equipment	71
Terrain_Following	72
Weather_Avoidance	73
Proximity_Fuse	74
Instrumentation_deprecated_ ^{RPRnoteEnumerations3}	75
Radiosonde	76
Sonobuoy	77
BathythermalSensor	78
TowedCounterMeasure	79
WeaponNonLethal	96
WeaponLethal	97

EmitterTypeEnum16 ^{RPRnoteEnumerations2}

Representation: RPRunsignedInteger16BE

Semantics: *Emitter name*

Enumerator	Value
Emitter_1L250	5
Emitter_1RL138	10
Emitter_1226_DECCA_MIL	45
Emitter_9B-1348	46
Emitter_3KM6	47
Emitter_9KR400	48
Emitter_9GR400	80
Emitter_9GR600	90
Emitter_9LV_200_TA	135
Emitter_9LV_200_TV	180
Emitter_9LV200TT	181
A310Z	225
A325A	270
A346Z	315
A353B	360
A372A	405
A372B	450
A372C	495
A377A	540
A377B	585
A380Z	630
A381Z	675
A398Z	720
A403Z	765
A409A	810

Enumerator	Value
A418A	855
A419Z	900
A429Z	945
A432Z	990
A434Z	1035
A401A	1080
AA-12_Seeker	1095
AD4A	1096
ADES	1097
Agave	1100
AGRION_15	1125
AI_MK_23	1170
AIDA_II	1215
AIM-120A	1216
Albatros_MK2	1260
WGU-16_B	1270
BoxSpring	1280
BoxSpringB	1282
ANA_SPS_502	1305
ANRITSU_Electric_AR-30A	1350
Antilope_V	1395
AN_ADM-160	1398
AN_ALE-50	1400
AN_ALQ-76	1410
AN_ALQ_99	1440
AN_ALQ-100	1485
AN_ALQ-101	1530
AN_ALQ-119	1575

Enumerator	Value
AN_ALQ-122	1585
AN_ALQ-126A	1620
AN_ALQ-128	1621
AN_ALQ-126B	1622
AN_ALQ-131	1626
AN_ALQ-135C_D	1628
AN_ALQ-144A_V_3	1630
AN_ALQ-153	1632
AN_ALQ-155	1634
AN_ALQ-161_A	1636
AN_ALQ-162	1638
AN_ALQ-164	1639
AN_ALQ-165	1640
AN_ALQ-167	1642
AN_ALQ-172_V_1	1643
AN_ALQ-172_V_2	1644
AN_ALQ-172_V_3	1645
AN_ALQ-176	1646
AN_ALQ-178	1647
AN_ALQ-184	1648
AN_ALQ-184_V_9	1649
AN_ALQ-188	1650
AN_ALQ-214	1651
AN_ALR-56	1652
AN_ALQ-221	1653
AN_ALR-69	1654
AN_ALQ-211_V_	1655
AN_ALT-16A	1656

Enumerator	Value
AN_ALT-28	1658
AN_ALT-32A	1660
AN_APD_10	1665
AN_APG-50	1700
AN_APG_53	1710
AN_APG_59	1755
AN_APG-63AB	1800
AN_APG-63C	1805
AN_APG-63_V_2	1807
AN_APG-63_V_3	1809
AN_APG_65	1845
AN_APG-66	1870
AN_APG-67	1880
AN_APG_68	1890
AN_APG_70	1935
AN_APG-73	1945
AN_APG-77	1960
AN_APG-78	1970
AN_APG-79	1971
AN_APG-80	1972
AN_APG-81	1974
AN_APG-502	1980
AN_APN-1	2025
AN_APN-22	2070
AN_APN_59	2115
AN_APN-69	2160
AN_APN-81	2205
AN_APN-117	2250

Enumerator	Value
AN_APN-118	2295
AN_APN-130	2340
AN_APN-131	2385
AN_APN-133	2430
AN_APN-134	2475
AN_APN-141_V_	2476
AN_APN-147	2520
AN_APN-150	2565
AN_APN-153	2610
AN_APN_154	2655
AN_APN-155	2700
AN_APN-159	2745
AN_APN-177	2746
AN_APN-182	2790
AN_APN-187	2835
AN_APN-190	2880
AN_APN_194	2925
AN_APN-195	2970
AN_APN-198	3015
AN_APN-200	3060
AN_APN_202	3105
AN_APN-215	3106
AN_APN-209	3120
AN_APN-217	3150
AN_APN-218	3152
AN_APN-224	3153
AN_APN-227	3154
AN_APN-230	3155

Enumerator	Value
AN_APN-232	3156
AN_APN-237A	3157
AN_APN-234	3158
AN_APN-235	3159
AN_APN-238	3160
AN_APN-222	3161
AN_APN-239	3162
AN_APN-241	3164
AN_APN-242	3166
AN_APN-243	3170
AN_APN-506	3195
AN_APQ-72	3240
AN_APQ-99	3285
AN_APQ_100	3330
AN_APQ-102	3375
AN_APQ-107	3376
AN_APQ-109	3420
AN_APQ_113	3465
AN_APQ_120	3510
AN_APQ_126	3555
AN_APQ-128	3600
AN_APQ-129	3645
AN_APQ_148	3690
AN_APQ-153	3735
AN_APQ-155	3770
AN_APQ_159	3780
AN_APQ-164	3785
AN_APQ-166	3788

Enumerator	Value
AN_APQ-180	3794
AN_APQ-181	3795
AN_APS-31	3820
AN_APS-42	3825
AN_APS_80	3870
AN_APS-88	3915
AN_APS-88A	3916
AN_APS_115	3960
AN_APS_116	4005
AN_APS-120	4050
AN_APS_121	4095
AN_APS_124	4140
AN_APS_125	4185
AN_APS_128	4230
AN_APS_130	4275
AN_APS_133	4320
AN_APS-134	4365
AN_APS_137	4410
AN_APS-138	4455
AN_APS-143__V__1	4465
AN_APS-143_V_3	4467
AN_APS-143B_V_3	4468
AN_APS-153	4475
AN_APS-150	4480
AN_APS-145	4482
AN_APS-504	4490
AN_APW_22	4500
AN_APW_23	4545

Enumerator	Value
AN_APX-6	4590
AN_APX_7	4635
AN_APX_39	4680
AN_APX-64_V_	4681
AN_APX-72	4725
AN_APX_76	4770
AN_APX_78	4815
AN_APX-100	4816
AN_APX_101	4860
AN_APX-113_AIFF	4870
AN_APY-1	4900
AN_APY_2	4905
AN_APY_3	4950
AN_APY-7	4952
AN_APY-8	4953
AN_APY-9	4954
AN_APY-10	4955
AN_ARN_21	4995
AN_ARN_52	5040
AN_ARN_84	5085
AN_ARN_118	5130
AN_ARN-153_V_	5131
AN_ARN-153	5165
AN_ARW_73	5175
AN_ASB_1	5220
AN_ASG_21	5265
AN_ASN-137	5266
AN_ASQ-108	5280

Enumerator	Value
AN_AWG_9	5310
AN_BPS-9	5355
AN_BPS_15	5400
AN_BPS-15H	5401
AN_BPS-16	5405
AN_CRM-30	5420
AN_DPW-23	5430
AN_DSQ_26_Phoenix_MH	5445
AN_DSQ_28_Harpoon_MH	5490
AN_FPN-40	5495
AN_FPN-62	5500
AN_FPS-16	5505
AN_FPS-18	5507
AN_FPS-89	5508
AN_FPS-117	5510
AN_FPS-20R	5515
AN_FPS-77	5520
AN_FPS-103	5525
AN_GPN-12	5527
AN_GPX-6	5530
AN_GPX_8	5535
AN_GRN-12	5537
AN_MPN-14	5539
AN_MPQ-10	5540
AN_MPQ-46__HPI__ILL	5545
AN_MPQ-48_55_CWAR	5550
AN_MPQ-49	5551
AN_MPQ-50__PAR__TA	5555

Enumerator	Value
AN_MPQ-51__ROR__TT	5560
AN_MPQ-53	5570
AN_MPQ-63	5571
AN_MPQ-64	5575
AN_SLQ-32	5576
AN_SLQ-32_V_4	5578
AN_SPG-34	5580
AN_SPG_50	5625
AN_SPG_51	5670
AN_SPG-51_CWI_TI	5715
AN_SPG-51_FC	5760
AN_SPG-51C_D	5761
AN_SPG_52	5805
AN_SPG-53	5850
AN_SPG_55B	5895
AN_SPG_60	5940
AN_SPG_62	5985
AN_SPN-11	6025
AN_SPN_35	6030
AN_SPN-41	6050
AN_SPN_43	6075
AN_SPN-43A	6076
AN_SPN-46	6085
AN_SPQ-2	6120
AN_SPQ_9	6165
AN_SPQ-9B	6166
AN_SPQ-34	6190
AN_SPS-4	6210

Enumerator	Value
AN_SPS-5	6255
AN_SPS-5C	6300
AN_SPS-6	6345
AN_SPS_10	6390
AN_SPS_21	6435
AN_SPS-28	6480
AN_SPS-37	6525
AN_SPS-39A	6570
AN_SPS_40	6615
AN_SPS-41	6660
AN_SPS_48	6705
AN_SPS-48C	6750
AN_SPS-48E	6752
AN_SPS_49	6795
AN_SPS-49_V_1	6796
AN_SPS-49_V_2	6797
AN_SPS-49_V_3	6798
AN_SPS-49_V_4	6799
AN_SPS-49_V_5	6800
AN_SPS-49_V_6	6801
AN_SPS-49_V_7	6802
AN_SPS-49_V_8	6803
AN_SPS-49A_V_1	6804
AN_SPS_52	6840
AN_SPS_53	6885
AN_SPS_55	6930
AN_SPS-52C	6945
AN_SPS-55CS	6970

Enumerator	Value
AN_SPS-55_SS	6975
AN_SPS-58	7020
AN_SPS-58C	7025
AN_SPS_59	7065
AN_SPS_64	7110
AN_SPS_65	7155
AN_SPS-66	7175
AN_SPS-67	7200
AN_SPS-73_I_	7201
AN_SPS-69	7210
AN_SPS-73	7215
AN_SPS-88	7225
AN_SPY_1	7245
AN_SPY-1A	7250
AN_SPY-1B	7252
AN_SPY-1B_V_	7253
AN_SPY-1D	7260
AN_SPY-1D_V_	7261
AN_SPY-1F	7265
AN_TLQ-32ARMDecoy	7269
AN_TPN-17	7270
AN_TPN-24	7275
AN_TPQ-18	7280
AN_TPQ-36	7295
AN_TPQ-37	7300
AN_TPQ-38_V8_	7301
AN_TPQ-47	7303
AN_TPS-43	7305

Enumerator	Value
AN_TPS-43E	7310
AN_TPS-59	7315
AN_TPS-63	7320
AN_TPS-70__V__1	7322
AN_TPS-75	7325
AN_TPX-46_V_7	7330
AN_TPY-2	7333
AN_ULQ-6A	7335
AN_UPN_25	7380
AN_UPS_1	7425
AN_UPS-2	7426
AN_UPX_1	7470
AN_UPX_5	7515
AN_UPX_11	7560
AN_UPX_12	7605
AN_UPX_17	7650
AN_UPX_23	7695
AN_VPS_2	7740
APAR	7765
Aparna	7770
Apelco_AD_7_7	7785
APG_71	7830
APN_148	7875
APN_227	7920
APQ113 RPRnoteEnumerations3	7965
APQ120 RPRnoteEnumerations3	8010
APQ148 RPRnoteEnumerations3	8055
APS_504_V3	8100

Enumerator	Value
AR3D	8105
PlesseyAR-5	8112
AR_320	8115
AR327	8120
AR_M31	8145
ARI_5954	8190
ARI_5955	8235
ARI_5979	8280
ARGSN-31	8281
ARINC_564_BNDX_KING_RDR_1E	8325
ARINC_700_BNDX_KING_RDR_1E	8370
ARK-1	8375
ARSR-3	8380
ARSR-18	8390
AS_2_Kipper	8415
AS_2_Kipper_MH	8460
AS_4_Kitchen	8505
AS_4_Kitchen_MH	8550
AS_5_Kelt_MH	8595
AS_6_Kingfish_MH	8640
AS_7_Kerry	8685
AS_7_Kerry_MG	8730
AS_15_KENT_altimeter	8735
Aspide_AAM_SAM_ILL	8760
ASR-4	8772
ASR_O	8775
ASR-5	8780
ASR-7	8782

Enumerator	Value
ASR-8	8785
ASR-9	8790
RaytheonASR-10SS	8812
AT_2_Swatter_MG	8820
ATCR-33	8840
ATCR_33_K_M	8845
Atlas_Elektronk_TRS_N	8865
Atlas-9600M	8867
ATLAS-9740VTS	8870
AVG_65	8910
AVH_7	8955
Aviaconversia	8990
AviaconversiaIII	8995
AVQ_20	9000
AVQ-21	9005
AVQ30X	9045
AVQ-50__RCA_	9075
AVQ_70	9090
AWS_5	9135
AWS_6	9180
AWS-6B_300	9185
B597Z	9200
B636Z	9205
BackBoard	9215
Back_Net_A_B	9225
Back_Trap	9270
BAESystemsRT-1805_APN	9280
BALTYK	9310

Enumerator	Value
Ball_End	9315
Ball_Gun	9360
Band_Stand	9405
Bar_Lock	9450
Bass_Tilt	9495
Badger	9505
Beacon	9540
Bean_Sticks	9585
Bee_Hind	9630
Bell_Crown_A	9640
Bell_Crown_B	9642
BellSquat	9643
BIG_BACK	9645
BigBirdA_B_C	9659
Big_Bird	9660
BigBirdDMod	9661
Big_Bulge	9675
Big_Bulge_A	9720
Big_Bulge_B	9765
SNAR-10	9780
Big_Mesh	9810
Big_Net	9855
Bill_Board	9885
Bill_Fold	9900
Blowpipe_MG	9905
Blue_Fox	9930
Blue_Vixen	9935
Blue_Silk	9945

Enumerator	Value
Blue_Parrot	9990
Blue_Orchid	10035
BM_DJG-8715	10057
Boat_Sail	10080
Bofors_Electronic_9LV_331	10125
Bofors_Ericsson_Sea_Giraffe_50_HC	10170
Bowl_Mesh	10215
Box_Brick	10260
Box_Tail	10305
BM_KG8601_8605_8606	10315
BPS_11A	10350
BPS_14	10395
BPS_15A	10440
BR-15_Tokyo_KEIKI	10485
BRIDGEMASTE	10510
Bread_Bin	10530
BT_271	10575
BX_732	10620
Buran-D	10642
Buzz_Stand	10665
C_5A_Multi_Mode_Radar	10710
Caiman	10755
Cake_Stand	10800
Calypso_C61	10845
Calypso_Ii	10890
Cardion_Coastal	10895
Castor_Ii	10935
Castor_2J_TT__Crotale_NG_	10940

Enumerator	Value
Cat_House	10980
CDR-431	10985
CH_SS-N-6	10995
Chair_Back_TT	11000
Chair_Back_ILL	11010
LEMZ96L6	11020
Cheese_Brick	11025
Clam_Pipe	11070
Clamshell	11115
CoastalGiraffe	11125
Colibri	11137
Collins_WXR-700X	11160
Collins_DN_101	11205
Contraves_Sea_Hunter_MK_4	11250
Corn_Can	11260
CR-105_RMCA	11270
Cross_Bird	11295
Cross_Dome	11340
Cross_Legs	11385
Cross_Out	11430
Cross_Slot	11475
Cross_Sword	11520
Cross_Up	11565
Cross_Sword_FC	11610
Crotale_Acquisition_TA	11655
Crotale_NG_TA	11660
Crotale_TT	11665
Crotale_MGMissile_System	11700

Enumerator	Value
CS-10-TA	11715
CSF-Varan	11725
CSS-N-4MH	11735
CSS_C_3C_CAS_1M1_M2_MH	11745
CSS_C_2B_HY_1A_MH	11790
CWS_2	11835
Cylinder_Head	11880
Cymbeline	11902
Cyrano_II	11925
Cyrano_IV	11970
Cyrano_IV-M	11975
DA-01_00	12010
DA_05_00	12015
Dawn	12060
Dead_Duck	12105
DECCA-20V90_9	12110
DECCA-20V90S	12111
DECCA_45	12150
DECCA_50	12195
DECCA71	12196
DECCA_110	12240
DECCA_170	12285
DECCAHF2	12292
DECCA_202	12330
DECCA_D202	12375
DECCA_303	12420
DECCA_535	12430
DECCA_626	12465

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Enumerator	Value
DECCA_629	12510
DECCA_914	12555
DECCA_916	12600
DECCA_926	12610
DECCA1070A	12615
DECCA_1226_Commercial	12645
DECCA1290	12655
DECCA_1626	12690
DECCA2070	12691
DECCA_2459	12735
DECCA_AWS_1	12780
DECCA_AWS_2	12782
DECCA_AWS_4	12785
DECCA_AWS-4__2_	12787
DECCAMAR	12800
DECCA_RM_326	12805
DECCA_RM_416	12825
DECCA_RM_914	12870
DECCA_RM_1690	12915
DECCA_Super_101_MK_3	12960
DISS_1	13005
DISS-7	13006
DISS-013	13007
Rapier_TTDN_181	13050
Rapier_2000_TT	13055
Dog_Ear	13095
Dog_House	13140
DM3	13141

Enumerator	Value
DM-3B	13142
DM-5	13143
Don_2	13185
Don_A_B_2_Kay	13230
Donets	13275
Down_Beat	13320
DRAA_2A	13365
DRAA_2B	13410
DRAC_39	13455
DragonEye	13477
DRBC_30B	13500
DRBC_31A	13545
DRBC-32	13585
DRBC_32A	13590
DRBC_32D	13635
DRBC_33A	13680
DRBI_10	13725
DRBI_23	13770
DRBJ_11B	13815
DRBN_30	13860
DRBN_32	13905
DRBR_51	13950
DRBV_20B	13995
DRBV_22	14040
DRBV_26C	14085
DRBV_30	14130
DRBV_50	14175
DRBV_51	14220

Enumerator	Value
DRBV_51A	14265
DRBV_51B	14310
DRBV_51C	14355
Drop_Kick	14400
DRUA_31	14445
Drum_Tilt	14490
Drum_Tilt_A	14535
Drum_Tilt_B	14545
Dumbo	14580
EKCOE390	14590
ECR-90	14600
Egg_Cup_A_B	14625
EKCOE120	14660
EKCO_190	14670
EL_L-8222	14710
EL_M_2001B	14715
EL_M-2022	14725
EL_M-2200	14750
EL_M_2207	14760
EL_M2216_V_	14770
ELT-361	14776
ELT-572	14785
ELTA_EL_M_2221_GM_STGR	14805
EL_M-2228S_3D	14806
EL_M-2705	14807
ELTA_SIS	14810
EL_M-2238	14811
EMD_2900	14850

Enumerator	Value
End_Tray	14895
ESR1	14900
ET-316	14905
ExocetType	14935
Exocet_1	14940
Exocet_1_MH	14985
Exocet_2	15030
Eye_Bowl	15075
Eye_Shield	15120
F332Z	15140
FalconClawTI	15155
FalconClawTT	15156
FALCON	15160
FALCON-G	15161
Fan_Song_A	15165
Fan_Song_B_F_TA	15200
Fan_Song_B_F_TT	15210
Fan_Song_C_E_TA	15220
Fan_Song_C_E_TT	15230
Fan_Song_C_E_MG	15240
Fan_Song_B_FF_MG	15255
Fan_Tail	15300
FB-7Radar	15305
FCR-1401	15310
Fin_Curve	15345
Fire_Can	15390
Fire_Dish	15435
Fire_Dome_TA	15470

Enumerator	Value
Fire_Dome_TT	15475
Fire_Dome_TI	15480
Fire_Iron	15525
Fire_Wheel	15570
Fish_Bowl	15615
Flap_Lid	15660
Flap_Truck	15705
Flap_Wheel	15750
Flash_Dance	15795
Flat_Face_A_B_C_D	15840
FlatFaceE	15842
Flat_Screen	15885
Flat_Spin	15930
Flat_Twin	15975
FL-400	15980
Fledermaus	16020
FLYCATCHER	16030
Fly_Screen	16065
Fly_Screen_A_B	16110
Fly_Trap_B	16155
Fog_Lamp_MG	16200
Fog_Lamp_TT	16245
Foil_Two	16290
FootBall	16300
Fox_Hunter	16335
FOX_FIREFox_Fire_AL	16380
FOX_FIRE_ILL	16390
FR-151A	16400

Enumerator	Value
FR-1505_DA	16410
FR-2000	16420
Furuno-2855W	16421
Front_Dome	16425
Front_Door	16470
Front_Piece	16515
Furuno	16560
Furuno1721	16561
Furuno1730	16580
Furuno1932	16590
Furuno_701	16605
Furuno1940	16606
Furuno_711_2	16650
Furuno240	16690
Furuno_2400	16695
Furuno8051	16730
G030A_APD-31_	16735
GA_01_00	16740
Gage	16785
Gardenia	16800
Garpin	16830
GateGuard	16833
Garpun-Bal-E	16835
GEM_BX_132	16875
MPDR-12	16880
Gepard_TT	16884
GERAN-F	16888
GIRAFFE	16900

Enumerator	Value
Gin_Sling_TA	16915
Gin_Sling	16920
Gin_Sling_MG	16925
GoldenBar	16931
GoldenBat	16932
GoldenDome	16935
GoldenHeart	16940
GPN-22	16945
GRN-9	16950
GraveStone	16960
Green_Stain	16965
Grid_Bow	17010
GRILL_PAN_TT	17025
GT-4	17031
Guardsman	17055
GUN_DISH__ZSU-23_4_	17070
Hair_Net	17100
Half_Plate_A	17145
Half_Plate_B	17190
HARD	17220
Harpoon	17225
Hawk_Screech	17235
Head_Light_A	17280
Head_Lights	17325
Head_Lights_C	17370
Head_Lights_MG_A	17415
Head_Lights_MG_B	17460
Head_Lights_TT	17505

Enumerator	Value
Head_Net	17550
HeartAcheB	17572
Hen_Egg	17595
Hen_House	17640
Hen_Nest	17685
Hen_Roost	17730
High_Brick	17775
High_Fix	17820
HighGuard	17842
High_Lark_TI	17865
High_Lark_1	17910
High_Lark_2	17955
High_Lark_4	18000
High_Lune	18045
High_Pole_A_B	18090
High_Scoop	18135
HIGH_SCREEN	18150
High_Sieve	18180
HG-9550	18190
HN-503	18200
Home_Talk	18225
Horn_Spoon	18270
HOT_BRICK	18280
Hot_Flash	18315
IHS-6	18318
Hot_Shot_TA	18320
Hot_Shot_TT	18325
Hot_Shot_MG	18330

Enumerator	Value
IFF_MK_XII_AIMS_UPX_29	18360
IFF_MK_XV	18405
IFFINT	18406
JackKnife	18407
IFFTRSP	18408
Javelin_MG	18410
Jay_Bird	18450
JL-7	18454
JL-10B	18455
JLP-40	18458
JRC-NMD-401	18460
Jupiter	18495
Jupiter_II	18540
JY-8	18550
JY-9	18555
JY-9Modified	18556
JY-11EW	18557
JY-14	18560
K376Z	18585
Kelvin_Hughes_2A	18630
Kelvin_Hughes_14_9	18675
Kelvin_Hughes_type_1006	18720
Kelvin_Hughes_type_1007	18765
KHFamily	18780
KH-902M	18785
KHOROM-K	18786
KH1700	18795
KingPin	18797

Enumerator	Value
KG-300	18805
Kite_Screech	18810
Kite_Screech_A	18855
Kite_Screech_B	18900
Kivach	18945
KLJ-1	18948
KLJ-3_Type1473_	18950
Knife_Rest	18990
Knife_Rest_B	19035
KNIFE_REST_C	19037
KJ-2000	19040
KR-75	19050
KSA_SRN	19080
KSA_TSR	19125
Land_Fall	19170
Land_Roll_MG	19215
Land_Roll_TA	19260
Land_Roll_TT	19305
LAZUR	19306
LC-150	19310
Leningraf	19350
Light_Bulb	19395
LMT_NRAI-6A	19400
LN_55	19440
Ln_66	19485
Long_Bow	19530
Long_Brick	19575
Long_Bull	19620

Enumerator	Value
Long_Eye	19665
Long_Head	19710
Long_Talk	19755
Long_Track	19800
Long_Trough	19845
Look_Two	19890
LORAN	19935
Low_Blow_TA	19950
Low_Blow_TT	19955
Low_Blow_MG	19960
Low_Sieve	19980
Low_Trough	20025
TRS-2050	20040
LW_08	20070
M-1983_FCR	20090
M22-40	20115
M44	20160
M401Z	20205
M585Z	20250
M588Z	20295
MA_1_IFF_Portion	20340
MARELD	20360
MA_Type_909_	20385
MARCS-152	20420
Marconi_1810	20430
Marconi_Canada_HC_75	20475
Marconi_S_713	20495
Marconi_S_1802	20520

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Enumerator	Value
Marconi_S_247	20530
Marconi_S_810	20565
Marconi_SA_10	20585
Marconi_type_967	20610
Marconi_type_968	20655
Marconi_type_992	20700
Marconi_signaal_type_1022	20745
Marconi_signaal_type_910	20790
Marconi_signaal_type_911	20835
Marconi_signaal_type_992R	20880
MELCO-3	20915
NorthropGrummanMESA	20920
Mesh_Brick	20925
Mirage_ILL	20950
MK_15_CIWS	20970
MK-23	21015
MK_23_TAS	21060
MK_25	21105
Mk-25Mod-3	21110
MK-35_M2	21150
MK_92	21195
MK-92_CAS	21240
MK-92_STIR	21285
MK_95	21330
MKS-818	21332
MLA-1	21340
MM_APS_705	21375
MM_SPG_74	21420

Enumerator	Value
MM_SPG_75	21465
MM_SPN_703	21490
MM_SPS_702	21510
MM_SPS_768	21555
MM_SPS_774	21600
Model-17C	21625
Moon_4	21645
MoonPie	21646
MMRS	21650
Model360	21655
Model378	21660
Model-970	21661
Model974	21665
MPDR_18_X	21690
MR-1600	21700
MT-305X	21710
Muff_Cob	21735
Mushroom	21780
Mushroom_1	21825
Mushroom_2	21870
N920Z	21880
Nanjing_B	21890
Nanjing_C	21895
Nayada	21915
Neptun	21960
NIKE_TT	21980
NJ-81E	21983
NRJ-6A	21985

Enumerator	Value
NutCan	21992
NRBA_50	22005
NRBA_51	22050
NRBF_20A	22095
NRJ-5	22110
Nysa_B	22140
O524A	22185
O580B	22230
O625Z	22275
O626Z	22320
OceanMaster	22335
Odd_Group	22345
Odd_Lot	22365
Odd_Pair	22410
OddRods	22411
Oka	22455
OKEAN	22500
OKEANA	22505
OKINXE_12C	22545
OMEGA	22590
Omera_ORB32	22635
OMUL	22640
One_Eye	22680
OP-28	22690
OPS-16B	22725
OPS-18	22730
OPS-28	22740
OR-2	22770

Enumerator	Value
ORB-31S	22810
ORB_32	22815
Orion_Rtn_10X	22860
OtomatMK1	22900
Otomat_MK_II_Teseo	22905
Owl_Screech	22950
P360Z	22955
PA-1660	22960
PaintBox	22977
Palm_Frond	22995
ModifiedPaintBox	22998
Palm_Frond_AB	23040
Pat_Hand_TT	23085
Pat_Hand_MG	23095
Patty_Cake	23130
Pawn_Cake	23175
PBR_4_Rubin	23220
Pea_Sticks	23265
Peel_Cone	23310
Peel_Group	23355
Peel_Group_A	23400
Peel_Group_B	23445
PeelGroupMG	23450
Peel_Pair	23490
Phalanx	23525
Philips_9LV_200	23535
Philips_9LV_331	23580
Philips_LV_223	23625

Enumerator	Value
Philips_Sea_Giraffe_50_HC	23670
Pin_Jib	23690
PlankShad	23710
Plank_Shave	23715
Plank_Shave_A	23760
Plank_Shave_B	23805
Plate_Steer	23850
Plessey_AWS_1	23895
PlesseyAWS-2	23925
Plessey_AWS_4	23940
Plessey_AWS_6	23985
Plessey_RJ	23990
Plessey_type_996	24030
Plinth_Net	24075
Pluto	24095
POHJANPALO	24100
POLLUX	24120
Pop_Group	24165
Pop_Group_MG	24210
Pop_Group_TA	24255
Pop_Group_TT	24300
Pork_Trough	24345
PositiveME	24385
Post_Bow	24390
Post_Lamp	24435
Pot_Drum	24480
Pot_Head	24525
PotShot	24535

Enumerator	Value
PraetorianCountermeasuresSuite	24540
PRIMUS_40_WXD	24570
PRIMUS_300SL	24615
Primus700	24618
Primus_3000	24620
PRORA	24630
PRORAPA-1660	24635
PS-05A	24650
PS_46_A	24660
PS_70_R	24705
PS-860	24707
PS-870	24709
PS-890	24710
Puff_Ball	24750
PVS-200	24760
R-76	24770
R41XXX	24775
RAC-30	24780
Racal_1229	24795
Racal_AC_2690_BT	24840
Racal_Decca_1216	24885
Racal-DECCA20V90_9	24890
Racal_Decca_360	24930
Racal_Decca_AC_1290	24975
Racal_Decca_TM_1229	25020
Racal_Decca_TM_1626	25065
Racal_DRBN_34A	25110
Radar_24	25155

Enumerator	Value
RAN_7S	25200
RAN_10S	25205
RAN_11_LX	25245
Rapier_TA	25260
Rapier_2000_TA	25265
Rapier_MG	25270
Rashmi	25275
Rasit	25276
RAT-31S	25280
RATAC__LCT_	25285
Rattler	25287
RAWS	25288
RAWL-02	25289
Raytheon_1220	25290
Raytheon_1302	25300
Raytheon_1500	25335
Raytheon_1645	25380
Raytheon_1650	25425
Raytheon_1900	25470
Raytheon_2502	25515
Raytheon_TM_1650_6X	25560
Raytheon_TM_1660_12S	25605
RAY-1220XR	25630
RAY-1401	25635
Ray_2900	25650
Raypath	25695
RBE2	25735
RCT-180	25739

Enumerator	Value
RDM	25740
RDY	25760
RDN_72	25785
RDR_1A	25830
RDR_1E	25835
RDR_4A	25840
RDR-160XD	25850
RDR_1200	25875
RDR_1400	25885
RDR_1400_C	25890
RDR_1500	25895
RiceCake	25896
Remora	25900
RiceBowl	25910
Rice_Lamp	25920
Rice_Pad	25965
Rice_Screen	26010
DECCARM1070A	26011
RM370BT	26015
RockwellCollinsFMR-200X	26020
ROLAND_BN	26055
ROLAND_MG	26100
ROLAND_TA	26145
ROLAND_TT	26190
Round_Ball	26235
Round_House	26280
Round_House_B	26325
RS-02_50	26327

Enumerator	Value
RT-02_50	26330
RTN-1A	26350
RumSling	26360
RV2	26370
RV3	26415
RV5	26460
RV10	26505
RV-15M	26506
RV17	26550
RV18	26595
RV-21	26596
RV-377	26610
RV_UM	26640
RXN_2-60	26660
S-1810CD	26670
Salamandre	26673
S1850M	26675
SA_2_Guideline	26685
SA_3_Goa	26730
SA_8_Gecko_DT	26775
SA-12_TELAR_ILL	26795
SA_N_7_Gadfly_TI	26820
SA_N_11_Cads_1_UN	26865
SaccadeMH	26900
Salt_Pot_A_B	26910
SAP-14	26920
SAP-518	26925
SAP-518M	26926

Enumerator	Value
SATURNE_II	26955
Scan_Can	27000
Scan_Fix	27045
Scan_Odd	27090
Scan_Three	27135
SCANTER_CSR_	27140
SCORADS	27141
SCOREBOARD	27150
Scoup_Plate	27180
SCR-584	27190
Sea_Archer_2	27225
Sea_Hunter_4_MG	27270
Sea_Hunter_4_TA	27315
Sea_Hunter_4_TT	27360
Sea_Gull	27405
Sea_Net	27450
SeaSparrow	27451
Sea_Spray	27495
Sea_Tiger	27540
SeaTigerM	27550
Searchwater	27570
Searchwater2000	27575
Selenia_Orion_7	27585
Selenia_type_912	27630
Selennia_RAN_12_L_X	27675
Selennia_RTN_10X	27720
Selinia_ARP_1645	27765
SG	27800

Enumerator	Value
SGR_102_00	27810
SGR_103_02	27855
SGR-104	27870
Sheet_Bend	27900
Sheet_Curve	27945
Ship_Globe	27990
Ship_Wheel	28035
SGR_114	28080
Shore_Walk_A	28125
Short_Horn	28170
Shot_Dome	28215
Side_Globe_JN	28260
Side_Net	28280
Side_Walk_A	28305
Signaal_DA_02	28350
Signaal_DA_05	28395
Signaal_DA_08	28440
Signaal_LW_08	28485
Signaal_LWOR	28530
Signaal_M45	28575
Signaal_MW_08	28620
Signaal_SMART	28665
Signaal_STING	28710
Signaal_STIR	28755
Signaal_WM_20_2	28800
Signaal_WM_25	28845
Signaal_WM_27	28890
Signaal_WM_28	28935

Enumerator	Value
Signaal_ZW_01	28980
Signaal_ZW_06	29025
Ski_Pole	29070
Skin_Head	29115
Skip_Spin	29160
SkyguardB	29180
SKYGUARD_TA	29185
SKYGUARD_TT	29190
Skymaster	29200
Sky_Watch	29205
SkyRanger	29210
SKYSHADOW	29215
SKYSHIELD_TA	29220
SL	29250
SL_ALQ-234	29270
Slap_Shot_E	29295
Slim_Net	29340
Slot_Back_A	29385
Slot_Back_ILL	29400
Slot_Back_B	29430
SlotBackIV	29431
SlotBackBTopaz	29432
SlotBackVI	29435
Slot_Rest	29440
SMA_3_RM	29475
SMA_3_RM_20	29520
SMA_3RM_20A_SMG	29565
SMA_BPS_704	29610

Enumerator	Value
SMA_SPIN_749__V__2	29655
SMA_SPN_703	29700
SMA_SPN_751	29745
SMA_SPOS_748	29790
SMA_SPQ_2	29835
SMA_SPQ_2D	29880
SMA_SPQ_701	29925
SMA_SPS_702_UPX	29970
SMA_ST_2_OTOMAT_II_MH	30015
SR-47A	30016
SMA_718_Beacon	30060
SMART-L	30070
SmogLamp	30075
SNAP_SHOT	30080
Snoop_Drift	30105
SnoopHalf	30140
Snoop_Head	30150
Snoop_Pair	30195
Snoop_Plate	30240
SnoopPing	30255
Snoop_Slab	30285
Snoop_Tray	30330
Snoop_Tray_1	30375
Snoop_Tray_2	30420
Snoop_Watch	30465
Snow_Drift	30470
SPB-7	30475
SO-1	30510

Enumerator	Value
SO-12	30520
SO_A_Communist	30555
SO-69	30580
Sock_Eye	30600
SOM_64	30645
Sorbsiya	30660
SPADA_TT	30670
Sparrow__AIM_RIM-7__ILL	30690
SPERRYRASCAR	30691
Sperry_M-3	30700
SPG_53F	30735
SPG_70__RTN_10X_	30780
SPG_74__RTN_20X_	30825
SPG_75__RTN_30X_	30870
SPG_76__RTN_30X_	30915
Spin_Scan_A	30960
Spin_Scan_B	31005
Spin_Trough	31050
Splash_Drop	31095
SPN-2	31096
SPN-4	31097
SPN-30	31100
SPN_35A	31140
SPN_41	31185
SPN_42	31230
SPN_43A	31275
SPN_43B	31320
SPN_44	31365

Enumerator	Value
SPN_46	31410
SPN_703	31455
SPN_728__V__1	31500
SPN_748	31545
SPN_750	31590
SPO-8	31592
Sponge_Cake	31635
Spoon_Rest	31680
SpoonRestA	31681
SpoonRestB	31682
SpoonRestD	31684
SPQ_712__RAN_12_L_X_	31725
SPS_6C	31770
SPS_10F	31815
SPS_12	31860
SPS_58 [RPRnoteEnumerations3]	31905
SPS_64 [RPRnoteEnumerations3]	31950
SPS-161	31960
SPS_768__RAN_EL_	31995
SPS_774__RAN_10S_	32040
SPY_790	32085
Square_Head	32130
Square_Pair	32175
Square_Slot	32220
Square_Tie	32265
Squash_Dome	32310
Squat_Eye	32330
Squint_Eye	32355

Enumerator	Value
SR47B-G	32375
SRN_6	32400
SRN_15	32445
SRN_745	32490
SRO_1	32535
SRO_2	32580
SS_C_2B_Samlet_MG	32625
SS_N_2A_B_CSSC	32670
SS_N_2A_B_CSSC_2A_3A2_MH	32715
SS_N_2C_Seeker	32760
SS_N_2C_D_Styx	32805
SS_N_2C_D_Styx_C_D_MH	32850
SS_N_3_SSC_SS_C_18_BN	32895
SS_N_3B_Sepal_AL	32940
SS_N_3B_Sepal_MH	32985
SS_N_9_Siren	33030
SS_N_9_Siren_AL	33075
SS_N_9_Siren_MH	33120
SS_N_12_Sandbox_AL	33165
SS_N_12_Sandbox_MH	33210
SS_N_19_Shipwreck	33255
SS_N_19_Shipwreck_AL	33300
SS_N_19_Shipwreck_MH	33345
SS_N_21_AL	33390
SS_N_22_Sunburn	33435
SS_N_22_Sunburn_MH	33480
SS-N-27SizzlerMH	33485
Stone_Cake	33525

Enumerator	Value
STR_41	33570
Straight_Flush_TA	33590
Straight_Flush_TT	33595
Straight_Flush_ILL	33600
Strike_Out	33615
Strut_Curve	33660
Strut_Pair	33705
Strut_Pair_1	33750
Strut_Pair_2	33795
Sun_Visor	33840
Superfledermaus	33860
Supersearcher	33870
Swift_Rod_1	33885
Swift_Rod_2	33930
T1166	33975
T1171	34020
T1202	34040
T6004	34065
T6031	34110
T8067	34155
T8068	34200
T8124	34245
T8408	34290
T8911	34335
T8937	34380
T8944	34425
T8987	34470
TACAN_SURF	34505

Enumerator	Value
Tall_King	34515
Tall_Mike	34560
Tall_Path	34605
Team_Work	34625
T1135	34626
TANCAN_SURF	34627
THAAD_GBR	34640
THD_225	34650
THD_1940	34670
THD-1955Palmier	34680
THD_5500	34695
Thin_Path	34740
Thin_Skin	34785
Thompson_CSF_TA-10	34795
Thompson_CSF_TH_D_1040_Neptune	34830
Thompson_CSF_Calypso	34875
Thompson_CSF_CASTOR	34920
Thompson_CSF_Castor_II	34965
Thompson_CSF_DRBC_32A	35010
Thompson_CSF_DRBJ_11_D_E	35055
Thompson_CSF_DRBV_15A	35100
Thompson_CSF_DRBV_15C	35145
Thompson_CSF_DRBV_22D	35190
Thompson_CSF_DRBV_23B	35235
Thompson_CSF_DRUA_33	35280
Thompson_CSF_Mars_DRBV_21A	35325
Thompson_CSF_Sea_Tiger	35370
Thompson_CSF_Triton	35415

Enumerator	Value
Thompson_CSF_Vega_with_DRBC_32E	35460
TRS-2105	35480
HT-223	35485
TRS-2100	35490
Tie_Rods	35505
Tin_Shield	35550
Tin_Trap	35570
TIRSPONDER	35580
Toad_Stool_1	35595
Toad_Stool_2	35640
Toad_Stool_3	35685
Toad_Stool_4	35730
Toad_Stool_5	35775
TokenB	35785
Tomb_Stone	35800
Tonson	35810
Top_Bow	35820
Top_Dome	35865
Top_Knot	35910
Top_Mesh	35955
Top_Pair	36000
Top_Plate	36045
TopPlateB	36046
Top_Sail	36090
TYPE-208	36120
Top_Steer	36135
Top_Trough	36180
Scrum_Half_TA	36220

Enumerator	Value
TorScrum_Half_TT	36225
Scrum_Half_MG	36230
Track_Dish	36270
TORSO_M	36315
TQN-2	36320
Trap_Door	36360
TRISPONDE	36380
TritonG	36390
TRS_3033	36405
TRS3405	36420
TRS3410	36425
TRS3415	36430
TRS-N	36450
TSE_5000	36495
TSR_333	36540
TubBrick	36563
Tube_Arm	36585
Twin_Eyes	36630
Twin_Pill	36675
Twin_Scan	36720
Twin_Scan_Ro	36765
Two_Spot	36810
Type222	36843
Type226	36846
TYPE_262	36855
TYPE_275	36900
TYPE_293	36945
Type341	36946

Enumerator	Value
TYPE_343_SUN_VISOR_B	36990
TYPE_347B	37035
Type347G	37038
Type352	37040
Type354	37045
Type363	37048
Type-404A_CH_	37050
Type405	37052
Type753	37075
Type_756	37080
TYPE_903	37125
TYPE_909_TI	37170
TYPE_909_TT	37215
TYPE_910	37260
TYPE-931_CH_	37265
TYPE_965	37305
TYPE_967	37350
TYPE_968	37395
TYPE_974	37440
TYPE_975	37485
TYPE_978	37530
Type981	37534
TYPE_992	37575
TYPE_993	37620
TYPE_994	37665
TYPE_1006_1_	37710
TYPE_1006_2_	37755
TYPE_1022	37800

Enumerator	Value
UK_MK_10	37845
UPS-220C	37850
UPX_1_10	37890
UPX_27	37935
URN_20	37980
URN_25	38025
VOLEX_III_IV	38045
W1028	38060
W8818	38070
W8838	38115
W8852	38120
WallRust	38150
WAS-74S	38160
Wasp_Head	38205
WATCHDOG	38210
Watch_Guard	38250
Watchman	38260
Western_Electric_MK_10	38295
WestinghouseADR-4LRSR	38320
Westinghouse_Electric_SPG_50	38340
Westinghouse_Electric_W_120	38385
Westinghouse_SPS_29C	38430
Westinghouse_SPS_37	38475
Wet_Eye	38520
WetEye2	38525
Wet_Eye_Mod	38565
WGU-41_B	38570
WGU-44_B	38572

Enumerator	Value
Whiff	38610
Whiff_Brick	38655
Whiff_Fire	38700
WHITE_HOUSE	38715
Wild_Card	38745
Witch_Eight	38790
Witch_Five	38835
WM2X_Series	38880
WM2X_Series_CAS	38925
WSR-74C	38950
WSR-74S	38955
WXR-700C	38960
Wood_Gage	38970
Yard_Rake	39015
Yew_Loop	39060
YLC-4	39073
Yo-Yo	39105
ZooPark1	39125
ZD-12	39131
ZW-06	39150
AN_ALQ-136_V_1	39200
AN_ALQ-136_V_2	39201
AN_ALQ-136_V_3	39202
AN_ALQ-136_V_4	39203
AN_ALQ-136_V_5	39204
AN_ALQ-162_V_2	39210
AN_ALQ-162_V_3	39211
AN_ALQ-162_V_4	39212

Enumerator	Value
Zhuk-M	45300

EncodingTypeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Radio signal encoding type*

Enumerator	Value
Encoding_8-bit_mu-law	1
CVSD_per_MIL-STD-188-113	2
ADPCM_per_CCITT_G721	3
Encoding_16-bit_linear_PCM	4
Encoding_8-bit_linear_PCM	5
VQ__Vector_Quantization_ RPRnoteEnumerations3	6
unavailableForUse	7
GSMFull-Rate_ETSI06_10_	8
GSMHalf-Rate_ETSI06_20_	9
SpeexNarrowBand	10
Encoding_16-bitLinearPCM2_sComplement_LittleEndian	100
unavailableForUse2	255

EnvironmentDataCoordinateSystemEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Environment data coordinate system*

Enumerator	Value
RightHandedCartesian_localTopographicProjection_East_North_Up_	0
LeftHandedCartesian_localTopographicProjection_East_North_Down_	1
Latitude_Longitude_Height	2
Latitude_Longitude_Depth	3

EnvironmentDataRepresentationEnum16

Representation: [RPRunsignedInteger16BE](#)

Semantics: *Environment data representation type*

Enumerator	Value
EnvironmentDataType0	0
EnvironmentDataType1	1
EnvironmentDataType2	2

EnvironmentDataSampleTypeEnum16

Representation: [RPRunsignedInteger16BE](#)

Semantics: *Environment data sample type*

Enumerator	Value
EnvironmentDataSampleTypeUnknown	0

EnvironmentGridTypeEnum8

Representation: HLAoctet

Semantics: *Environment data grid type*

Enumerator	Value
ConstantGrid	0
UpdatedGrid	1

EnvironmentModelTypeEnum8 ^{RPRnoteEnumerations1}

Representation: HLAoctet

Semantics: *Environment process model type*

Enumerator	Value
EnvironmentModelUnknown	0

EnvironmentRecordTypeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Environment record type*

Enumerator	Value
COMBICStateRecordType	256
FlareStateRecordType	259
BoundingSphereRecordType	65536
UniformGeometryRecordType	327680
PointRecord1Type	655360
LineRecord1Type	786432
SphereRecord1Type	851968
EllipsoidRecord1Type	1048576
ConeRecord1Type	3145728
RectangularVolRecord1Type	5242880
RectangularVolRecord3Type	83886080
PointRecord2Type	167772160
LineRecord2Type	201326592
SphereRecord2Type	218103808
EllipsoidRecord2Type	268435456
ConeRecord2Type	805306368
RectangularVolRecord2Type	1342177280
GaussianPlumeRecordType	1610612736
GaussianPuffRecordType	1879048192

EventTypeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Event type*

Enumerator	Value
Other	0
RanOutOfAmmunition	2

Enumerator	Value
KilledInAction	3
Damage	4
MobilityDisabled	5
FireDisabled	6
RanOutOfFuel	7
EntityInitialization	8
RequestForIndirectFireOrCASMission	9
IndirectFireOrCASMission	10
MinefieldEntry	11
MinefieldDetonation	12
VehicleMasterPowerOn	13
VehicleMasterPowerOff	14
AggregateStateChangeRequested	15
PreventCollision_Detonation	16
OwnershipReport	17

ForceIdentifierEnum8

Representation: HLAoctet

Semantics: *Force ID*

Enumerator	Value
Other	0
Friendly	1
Opposing	2
Neutral	3
Friendly_2	4
Opposing_2	5
Neutral_2	6
Friendly_3	7

Enumerator	Value
Opposing_3	8
Neutral_3	9
Friendly_4	10
Opposing_4	11
Neutral_4	12
Friendly_5	13
Opposing_5	14
Neutral_5	15
Friendly_6	16
Opposing_6	17
Neutral_6	18
Friendly_7	19
Opposing_7	20
Neutral_7	21
Friendly_8	22
Opposing_8	23
Neutral_8	24
Friendly_9	25
Opposing_9	26
Neutral_9	27
Friendly_10	28
Opposing_10	29
Neutral_10	30

FormationEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Formation*

Enumerator	Value
Other	0
Assembly	1
Vee	2
Wedge	3
Line	4
Column	5

FuseTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Fuse (detonator)*

Enumerator	Value
Other	0
IntelligentInfluence	10
Sensor	20
SelfDestruct	30
UltraQuick	40
Body	50
DeepIntrusion	60
Multifunction	100
PointDetonation_PD	200
BaseDetonation_BD	300
Contact	1000
ContactInstantImpact	1100
ContactDelayed	1200
Contact10msDelay	1201
Contact20msDelay	1202
Contact50msDelay	1205
Contact60msDelay	1206

Enumerator	Value
Contact100msDelay	1210
Contact125msDelay	1212
Contact250msDelay	1225
ContactElectronicObliqueContact	1300
ContactGraze	1400
ContactCrush	1500
ContactHydrostatic	1600
ContactMechanical	1700
ContactChemical	1800
ContactPiezoelectric	1900
ContactPointInitiating	1910
ContactPointInitiatingBaseDetonating	1920
ContactBaseDetonating	1930
ContactBallisticCapAndBase	1940
ContactBase	1950
ContactNose	1960
ContactFittedInStandoffProbe	1970
ContactNonAligned	1980
Timed	2000
TimedProgrammable	2100
TimedBurnout	2200
TimedPyrotechnic	2300
TimedElectronic	2400
TimedBaseDelay	2500
TimedReinforcedNoseImpactDelay	2600
TimedShortDelayImpact	2700
Timed10msDelay	2701
Timed20msDelay	2702

Enumerator	Value
Timed50msDelay	2705
Timed60msDelay	2706
Timed100msDelay	2710
Timed125msDelay	2712
Timed250msDelay	2725
TimedNoseMountedVariableDelay	2800
TimedLongDelaySide	2900
TimedSelectableDelay	2910
TimedImpact	2920
TimedSequence	2930
Proximity	3000
ProximityActiveLaser	3100
ProximityMagneticMagpolarity	3200
ProximityActiveDopplerRadar	3300
ProximityRadioFrequencyRF	3400
ProximityProgrammable	3500
ProximityProgrammablePrefragmented	3600
ProximityInfrared	3700
Command	4000
CommandElectronicRemotelySet	4100
Altitude	5000
AltitudeRadioAltimeter	5100
AltitudeAirBurst	5200
Depth	6000
Acoustic	7000
Pressure	8000
PressureDelay	8010
Inert	8100

Enumerator	Value
Dummy	8110
Practice	8120
PlugRepresenting	8130
Training	8150
Pyrotechnic	9000
PyrotechnicDelay	9010
ElectroOptical	9100
ElectroMechanical	9110
ElectroMechanicalNose	9120
Strikerless	9200
StrikerlessNoseImpact	9210
StrikerlessCompressionIgnition	9220
CompressionIgnition	9300
CompressionIgnitionStrikerlessNoseImpact	9310
Percussion	9400
PercussionInstantaneous	9410
Electronic	9500
ElectronicInternallyMounted	9510
ElectronicRangeSetting	9520
ElectronicProgrammed	9530
Mechanical	9600
MechanicalNose	9610
MechanicalTail	9620

HatchStateEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Hatch state*

Enumerator	Value
NotApplicable	0
PrimaryHatchIsClosed	1
PrimaryHatchIsPopped	2
PrimaryHatchIsPoppedAndPersonIsVisibleUnderHatch	3
PrimaryHatchIsOpen	4
PrimaryHatchIsOpenAndPersonIsVisible	5

IffAlternateMode4Enum8

Representation: HLAoctet

Semantics: *IFF alternate mode 4*

Enumerator	Value
Other	0
Valid	1
Invalid	2
NoResponse	3
UnableToVerify	4

IffApplicableModesEnum8

Representation: HLAoctet

Semantics: *IFF applicable modes*

Enumerator	Value
Other	0
AllModes	1

IffOperationalParameter1Enum8

Representation: HLAoctet

Semantics: *IFF operational parameter 1*

Enumerator	Value
Other	0

IffOperationalParameter2Enum8

Representation: HLAoctet

Semantics: *IFF operational parameter 2*

Enumerator	Value
Other	0

IffSystemModeEnum8

Representation: HLAoctet

Semantics: *IFF system mode*

Enumerator	Value
NoStatement	0
Off	1
Standby	2
Normal	3
Emergency	4
LowOrLowSensitivity	5

IffSystemNameEnum16

Representation: RPRunsignedInteger16BE

Semantics: *IFF system name*

Enumerator	Value
Other	0
MarkX	1
MarkXII	2
ATCRBS	3
Soviet	4
ModeS	5
MarkX-XII-ATCRBS	6
Mark-X-XII-ATCRBS-ModeS	7

Enumerator	Value
ARI5954	8
ARI5983	9
GenericRRB	10
GenericMarkXIIA	11
GenericMode5	12
GenericMarkXIIACombinedInterrogator_Transponder_CIT_	13
GenericMarkXIICombinedInterrogator_Transponder_CIT_	14
GenericTCASI_ACASITransceiver	15
GenericTCASII_ACASIITransceiver	16
GenericMarkX_A_	17
GenericMarkX_SIF_	18

IffSystemTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *IFF system type*

Enumerator	Value
Other	0
MarkTransponder	1
MarkInterrogator	2
SovietTransponder	3
SovietInterrogator	4
RRBTransponder	5
MarkXIIAInterrogator	6
Mode5Interrogator	7
ModeSInterrogator	8
MarkXIIATransponder	9
Mode5Transponder	10
ModeSTransponder	11

Enumerator	Value
MarkXIIACombinedInterrogator_Transponder_CIT_	12
MarkXIICombinedInterrogator_Transponder_CIT_	13
TCAS_ACASTransceiver	14

MajorRFModulationTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Major classification of the modulation type.*

Enumerator	Value
Other	0
Amplitude	1
AmplitudeAndAngle	2
Angle	3
Combination	4
Pulse	5
Unmodulated	6
CarrierPhaseShiftModulation_CPSM_	7

MarkingEncodingEnum8

Representation: HLAoctet

Semantics: *Marking character set*

Enumerator	Value
Other	0
ASCII	1
ArmyMarkingCCTT	2
DigitChevron	3

MinefieldFusingEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Minefield fuse type*

Enumerator	Value
NoFuse	0
Other	1
Pressure	2
Magnetic	3
TiltRod	4
Command	5
TripWire	6

MinefieldLaneEnum8

Representation: HLAoctet

Semantics: *Minefield lane status*

Enumerator	Value
MinefieldHasActiveLane	0
MinefieldHasAnInactiveLane	1

MinefieldPaintSchemeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Minefield paint scheme*

Enumerator	Value
Other	0
Standard	1
CamouflageDesert	2
CamouflageJungle	3
CamouflageSnow	4
CamouflageGravel	5
CamouflagePavement	6
CamouflageSand	7
NaturalWood	8
Clear	9

Enumerator	Value
Red	10
Blue	11
Green	12
Olive	13
White	14
Tan	15
Black	16
Yellow	17
Brown	18

MinefieldProtocolEnum8

Representation: HLAoctet

Semantics: *Minefield communication protocol mode*

Enumerator	Value
HeartbeatMode	0
QRPMode	1

MinefieldSensorTypeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Minefield sensor type*

Enumerator	Value
Other	0
UnaidedEyeActivelySearching	4096
UnaidedEyeNotActivelySearching	4097
Binoculars	4098
ImageIntensifier	4099
HMMWVOccupantActivelySearching	4100
HMMWVOccupantNotActivelySearching	4101
TruckOccupantActivelySearching	4102

Enumerator	Value
TruckOccupantNotActivelySearching	4103
TrackedVehicleOccupantClosedHatchActivelySearching	4104
TrackedVehicleOccupantClosedHatchNotActivelySearching	4105
TrackedVehicleOccupantOpenHatchActivelySearching	4106
TrackedVehicleOccupantOpenHatchNotActivelySearching	4107
FLIR_Generic3_5	8192
FLIR_Generic8_12	8193
FLIR_ASTAMIDS_I	8194
FLIR_ASTAMIDS_II	8195
FLIR_GSTAMIDS3_5	8196
FLIR_GSTAMIDS8_12	8197
FLIR_HSTAMIDS3_5	8198
FLIR_HSTAMIDS8_12	8199
FLIR_COBRA3_5	8200
FLIR_COBRA8_12	8201
RADAR_Generic	12288
RADAR_Generic_GPR	12289
RADAR_GSTAMIDS_I	12290
RADAR_GSTAMIDS_II	12291
RADAR_HSTAMIDS_I	12292
RADAR_HSTAMIDS_II	12293
Magnetic_Generic	16384
Magnetic_ANPSS_11	16385
Magnetic_ANPSS_12	16386
Magnetic_GSTAMIDS	16389
Laser_Generic	20480
Laser_ASTAMIDS	20481
SONAR_Generic	24576

Enumerator	Value
Physical_GenericProbe	28672
Physical_ProbeMetalContent	28673
Physical_ProbeNoMetalContent	28674
Multispectral_Generic	32768

MinefieldStatusEnum8

Representation: HLAoctet

Semantics: *Minefield status*

Enumerator	Value
Active	0
Inactive	1

MinefieldTypeEnum8

Representation: HLAoctet

Semantics: *Minefield type*

Enumerator	Value
MixedAntiPersonnelAntiTank	0
PureAntiPersonnel	1
PureAntiTank	2

NomenclatureEnum16

Representation: RPRunsignedInteger16BE

Semantics: *The nomenclature for a specific radio system.*

Enumerator	Value
Other	0
AN_ARN-118	1
AN_ARN-139	2
GenericGroundFixedTransmitter	3
GenericGroundMobileTransmitter	4

NomenclatureVersionEnum8

Representation: HLAoctet

Semantics: *The naming convention applied to the radio system by the manufacturer/controlling agency.*

Enumerator	Value
Other	0
JointElectronicsTypeDesignationSystem_JETDS_Non-specificSeries	1
ManufacturerDesignation	2
NationalDesignation	3
JETDSARCSet1	11
JETDSARCSet2	12
JETDSARCSet3	13
JETDSARCSet4	14
JETDSBRCSet1	15
JETDSBRCSet2	16
JETDSBRCSet3	17
JETDSBRCSet4	18
JETDSCRCSet1	19
JETDSCRCSet2	20
JETDSCRCSet3	21
JETDSCRCSet4	22
JETDSDRCSet1	23
JETDSDRCSet2	24
JETDSDRCSet3	25
JETDSDRCSet4	26
JETDSFRCSet1	27
JETDSFRCSet2	28
JETDSFRCSet3	29
JETDSFRCSet4	30
JETDSGRCSet1	31

Enumerator	Value
JETDSGRCSet2	32
JETDSGRCSet3	33
JETDSGRCSet4	34
JETDSKRCSet1	35
JETDSKRCSet2	36
JETDSKRCSet3	37
JETDSKRCSet4	38
JETDSMRCSet1	39
JETDSMRCSet2	40
JETDSMRCSet3	41
JETDSMRCSet4	42
JETDSPRCSet1	43
JETDSPRCSet2	44
JETDSPRCSet3	45
JETDSPRCSet4	46
JETDSSRCSet1	47
JETDSSRCSet2	48
JETDSSRCSet3	49
JETDSSRCSet4	50
JETDSTRCSet1	51
JETDSTRCSet2	52
JETDSTRCSet3	53
JETDSTRCSet4	54
JETDSVRCSet1	55
JETDSVRCSet2	56
JETDSVRCSet3	57
JETDSVRCSet4	58
JETDSWRCSet1	59

Enumerator	Value
JETDSWRCSet2	60
JETDSWRCSet3	61
JETDSWRCSet4	62
JETDSZRCSet1	63
JETDSZRCSet2	64
JETDSZRCSet3	65
JETDSZRCSet4	66

OpacityCodeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Density of environmentals*

Enumerator	Value
Clear	0
Hazy	1
Dense	2
VeryDense	3
Opaque	4

ParameterTypeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Parameter type*

Enumerator	Value
ArticulatedPart	0
AttachedPart	1
Separation	2
EntityType	3
EntityAssociation	4

PropulsionPlantEnum8

Representation: HLAoctet

Semantics: *Propulsion plant configuration*

Enumerator	Value
Other	0
Diesel_Electric	1
Diesel	2
Battery	3
TurbineReduction	4
Steam	6
GasTurbine	7

PulseModulationTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Detailed modulation types for Pulse Modulation*

Enumerator	Value
Other	0
Pulse	1
XBandTACANPulse	2
YBandTACANPulse	3

RadioInputSourceEnum8

Representation: HLAoctet

Semantics: *Radio input source*

Enumerator	Value
Other	0
Pilot	1
Copilot	2
FirstOfficer	3

Enumerator	Value
Driver	4
Loader	5
Gunner	6
Commander	7
DigitalDataDevice	8
Intercom	9
AudioJammer	10
DataJammer	11
GPSJammer	12
GPSMeaconer	13

ReceiverOperationalStatusEnum16

Representation: RPRunsignedInteger16BE

Semantics: *The operational state of a radio receiver.*

Enumerator	Value
Off	0
OnButNotReceiving	1
OnAndReceiving	2

ReferenceSystemEnum8

Representation: HLAoctet

Semantics: *The reference coordinate system used*

Enumerator	Value
WorldCoordinates	1
EntityCoordinates	2

RepairResultEnum8

Representation: HLAoctet

Semantics: *Result of repair*

Enumerator	Value
Other	0
RepairEnded	1
InvalidRepair	2
RepairInterrupted	3
ServiceCanceledByTheSupplier	4

RepairTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *System repaired*

Enumerator	Value
NoRepairsPerformed	0
AllRequestedRepairsPerformed	1
MotorOrEngine	10
Starter	20
Alternator	30
Generator	40
Battery	50
EngineCoolantLeak	60
FuelFilter	70
TransmissionOilLeak	80
EngineOilLeak	90
Pumps	100
Filters	110
Transmission	120
Brakes	130
SuspensionSystem	140
OilFilter	150
Hull	1000

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Enumerator	Value
Airframe	1010
TruckBody	1020
TankBody	1030
TrailerBody	1040
Turret	1050
Propeller	1500
EnvironmentalFilters	1520
Wheels	1540
Tire	1550
Track	1560
GunElevationDrive	2000
GunStabilizationSystem	2010
GunnersPrimarySight_GPS_	2020
CommandersExtensionToTheGPS	2030
LoadingMechanism	2040
GunnersAuxiliarySight	2050
GunnersControlPanel	2060
GunnersControlAssemblyHandle_Handles	2070
CommandersControlHandles_Assembly	2090
CommandersWeaponStation	2100
CommandersIndependentThermalViewer_CITV_	2110
GeneralWeapons	2120
FuelTransferPump	4000
FuelLines	4010
Gauges	4020
GeneralFuelSystem	4030
ElectronicWarfareSystems	4500
DetectionSystems	4600

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Enumerator	Value
ElectronicWarfareRadioFrequency	4610
ElectronicWarfareMicrowave	4620
ElectronicWarfareInfrared	4630
ElectronicWarfareLaser	4640
RangeFinders	4700
Range-OnlyRadar	4710
LaserRangeFinder	4720
ElectronicSystems	4800
ElectronicSystemsRadioFrequency	4810
ElectronicSystemsMicrowave	4820
ElectronicSystemsInfrared	4830
ElectronicSystemsLaser	4840
Radios	5000
CommunicationSystems	5010
Intercoms	5100
Encoders	5200
EncryptionDevices	5250
Decoders	5300
DecryptionDevices	5350
Computers	5500
NavigationAndControlSystems	6000
FireControlSystems	6500
AirSupply	8000
LifeSupportFilters	8010
LifeSupportWaterSupply	8020
RefrigerationSystem	8030
ChemicalBiologicalAndRadiologicalProtection	8040
WaterWashDownSystems	8050

Enumerator	Value
DecontaminationSystems	8060
HydraulicSystemWaterSupply	9000
CoolingSystem	9010
Winches	9020
Catapults	9030
Cranes	9040
Launchers	9050
LifeBoats	10000
LandingCraft	10010
EjectionSeats	10020

RequestStatusEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Request status*

Enumerator	Value
Other	0
Pending	1
Executing	2
PartiallyComplete	3
Complete	4
RequestRejected	5
RetransmitRequestNow	6
RetransmitRequestLater	7
InvalidTimeParameters	8
SimulationTimeExceeded	9
RequestDone	10
TACCSF_LOS_Reply-Type1	100
TACCSF_LOS_Reply-Type2	101

Enumerator	Value
Join_Exercise_Request_Rejected	201

ResponseFlagEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Response flag*

Enumerator	Value
Other	0
AbleToComply	1
UnableToComply	2
PendingOperatorAction	3

RFModulationSystemTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *The radio system type associated with this transmitter.*

Enumerator	Value
Other	0
Generic	1
HQ	2
HQII	3
HQIIA	4
SINCGARS	5
CCTT_SINCGARS	6
EPLRS_EnhancedPositionLocationReportingSystem_	7
JTIDS_MIDS	8
Link11	9
Link11B	10
L-BandSATCOM	11
EnhancedSINCGARS7_3	12
NavigationAid	13

ServiceTypeEnum8

Representation: HLAoctet

Semantics: *Service type*

Enumerator	Value
Other	0
Resupply	1
Repair	2

SpreadSpectrumEnum16

Representation: RPRunsignedInteger16BE

Semantics: *The type of spread spectrum characteristics employed by a transmitter.*

Enumerator	Value
None	0
SINCGARSFrequencyHop	1

StanceCodeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Life form state*

Enumerator	Value
NotApplicable	0
UprightStandingStill	1
UprightWalking	2
UprightRunning	3
Kneeling	4
Prone	5
Crawling	6
Swimming	7
Parachuting	8
Jumping	9

Enumerator	Value
Sitting	10
Squatting	11
Crouching	12
Wading	13
Surrender	14
Detained	15

StationEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Attached part station*

Enumerator	Value
Nothing_Empty	0
Fuselage_Station1	512
Fuselage_Station2	513
Fuselage_Station3	514
Fuselage_Station4	515
Fuselage_Station5	516
Fuselage_Station6	517
Fuselage_Station7	518
Fuselage_Station8	519
Fuselage_Station9	520
Fuselage_Station10	521
Fuselage_Station11	522
Fuselage_Station12	523
Fuselage_Station13	524
Fuselage_Station14	525
Fuselage_Station15	526
Fuselage_Station16	527

Enumerator	Value
Fuselage_Station17	528
Fuselage_Station18	529
Fuselage_Station19	530
Fuselage_Station20	531
Fuselage_Station21	532
Fuselage_Station22	533
Fuselage_Station23	534
Fuselage_Station24	535
Fuselage_Station25	536
Fuselage_Station26	537
Fuselage_Station27	538
Fuselage_Station28	539
Fuselage_Station29	540
Fuselage_Station30	541
Fuselage_Station31	542
Fuselage_Station32	543
Fuselage_Station33	544
Fuselage_Station34	545
Fuselage_Station35	546
Fuselage_Station36	547
Fuselage_Station37	548
Fuselage_Station38	549
Fuselage_Station39	550
Fuselage_Station40	551
Fuselage_Station41	552
Fuselage_Station42	553
Fuselage_Station43	554
Fuselage_Station44	555

Enumerator	Value
Fuselage_Station45	556
Fuselage_Station46	557
Fuselage_Station47	558
Fuselage_Station48	559
Fuselage_Station49	560
Fuselage_Station50	561
Fuselage_Station51	562
Fuselage_Station52	563
Fuselage_Station53	564
Fuselage_Station54	565
Fuselage_Station55	566
Fuselage_Station56	567
Fuselage_Station57	568
Fuselage_Station58	569
Fuselage_Station59	570
Fuselage_Station60	571
Fuselage_Station61	572
Fuselage_Station62	573
Fuselage_Station63	574
Fuselage_Station64	575
Fuselage_Station65	576
Fuselage_Station66	577
Fuselage_Station67	578
Fuselage_Station68	579
Fuselage_Station69	580
Fuselage_Station70	581
Fuselage_Station71	582
Fuselage_Station72	583

Enumerator	Value
Fuselage_Station73	584
Fuselage_Station74	585
Fuselage_Station75	586
Fuselage_Station76	587
Fuselage_Station77	588
Fuselage_Station78	589
Fuselage_Station79	590
Fuselage_Station80	591
Fuselage_Station81	592
Fuselage_Station82	593
Fuselage_Station83	594
Fuselage_Station84	595
Fuselage_Station85	596
Fuselage_Station86	597
Fuselage_Station87	598
Fuselage_Station88	599
Fuselage_Station89	600
Fuselage_Station90	601
Fuselage_Station91	602
Fuselage_Station92	603
Fuselage_Station93	604
Fuselage_Station94	605
Fuselage_Station95	606
Fuselage_Station96	607
Fuselage_Station97	608
Fuselage_Station98	609
Fuselage_Station99	610
Fuselage_Station100	611

Enumerator	Value
Fuselage_Station101	612
Fuselage_Station102	613
Fuselage_Station103	614
Fuselage_Station104	615
Fuselage_Station105	616
Fuselage_Station106	617
Fuselage_Station107	618
Fuselage_Station108	619
Fuselage_Station109	620
Fuselage_Station110	621
Fuselage_Station111	622
Fuselage_Station112	623
Fuselage_Station113	624
Fuselage_Station114	625
Fuselage_Station115	626
Fuselage_Station116	627
Fuselage_Station117	628
Fuselage_Station118	629
Fuselage_Station119	630
Fuselage_Station120	631
Fuselage_Station121	632
Fuselage_Station122	633
Fuselage_Station123	634
Fuselage_Station124	635
Fuselage_Station125	636
Fuselage_Station126	637
Fuselage_Station127	638
Fuselage_Station128	639

Enumerator	Value
LeftWingStation1	640
LeftWingStation2	641
LeftWingStation3	642
LeftWingStation4	643
LeftWingStation5	644
LeftWingStation6	645
LeftWingStation7	646
LeftWingStation8	647
LeftWingStation9	648
LeftWingStation10	649
LeftWingStation11	650
LeftWingStation12	651
LeftWingStation13	652
LeftWingStation14	653
LeftWingStation15	654
LeftWingStation16	655
LeftWingStation17	656
LeftWingStation18	657
LeftWingStation19	658
LeftWingStation20	659
LeftWingStation21	660
LeftWingStation22	661
LeftWingStation23	662
LeftWingStation24	663
LeftWingStation25	664
LeftWingStation26	665
LeftWingStation27	666
LeftWingStation28	667

Enumerator	Value
LeftWingStation29	668
LeftWingStation30	669
LeftWingStation31	670
LeftWingStation32	671
LeftWingStation33	672
LeftWingStation34	673
LeftWingStation35	674
LeftWingStation36	675
LeftWingStation37	676
LeftWingStation38	677
LeftWingStation39	678
LeftWingStation40	679
LeftWingStation41	680
LeftWingStation42	681
LeftWingStation43	682
LeftWingStation44	683
LeftWingStation45	684
LeftWingStation46	685
LeftWingStation47	686
LeftWingStation48	687
LeftWingStation49	688
LeftWingStation50	689
LeftWingStation51	690
LeftWingStation52	691
LeftWingStation53	692
LeftWingStation54	693
LeftWingStation55	694
LeftWingStation56	695

Enumerator	Value
LeftWingStation57	696
LeftWingStation58	697
LeftWingStation59	698
LeftWingStation60	699
LeftWingStation61	700
LeftWingStation62	701
LeftWingStation63	702
LeftWingStation64	703
LeftWingStation65	704
LeftWingStation66	705
LeftWingStation67	706
LeftWingStation68	707
LeftWingStation69	708
LeftWingStation70	709
LeftWingStation71	710
LeftWingStation72	711
LeftWingStation73	712
LeftWingStation74	713
LeftWingStation75	714
LeftWingStation76	715
LeftWingStation77	716
LeftWingStation78	717
LeftWingStation79	718
LeftWingStation80	719
LeftWingStation81	720
LeftWingStation82	721
LeftWingStation83	722
LeftWingStation84	723

Enumerator	Value
LeftWingStation85	724
LeftWingStation86	725
LeftWingStation87	726
LeftWingStation88	727
LeftWingStation89	728
LeftWingStation90	729
LeftWingStation91	730
LeftWingStation92	731
LeftWingStation93	732
LeftWingStation94	733
LeftWingStation95	734
LeftWingStation96	735
LeftWingStation97	736
LeftWingStation98	737
LeftWingStation99	738
LeftWingStation100	739
LeftWingStation101	740
LeftWingStation102	741
LeftWingStation103	742
LeftWingStation104	743
LeftWingStation105	744
LeftWingStation106	745
LeftWingStation107	746
LeftWingStation108	747
LeftWingStation109	748
LeftWingStation110	749
LeftWingStation111	750
LeftWingStation112	751

Enumerator	Value
LeftWingStation113	752
LeftWingStation114	753
LeftWingStation115	754
LeftWingStation116	755
LeftWingStation117	756
LeftWingStation118	757
LeftWingStation119	758
LeftWingStation120	759
LeftWingStation121	760
LeftWingStation122	761
LeftWingStation123	762
LeftWingStation124	763
LeftWingStation125	764
LeftWingStation126	765
LeftWingStation127	766
LeftWingStation128	767
RightWingStation1	768
RightWingStation2	769
RightWingStation3	770
RightWingStation4	771
RightWingStation5	772
RightWingStation6	773
RightWingStation7	774
RightWingStation8	775
RightWingStation9	776
RightWingStation10	777
RightWingStation11	778
RightWingStation12	779

Enumerator	Value
RightWingStation13	780
RightWingStation14	781
RightWingStation15	782
RightWingStation16	783
RightWingStation17	784
RightWingStation18	785
RightWingStation19	786
RightWingStation20	787
RightWingStation21	788
RightWingStation22	789
RightWingStation23	790
RightWingStation24	791
RightWingStation25	792
RightWingStation26	793
RightWingStation27	794
RightWingStation28	795
RightWingStation29	796
RightWingStation30	797
RightWingStation31	798
RightWingStation32	799
RightWingStation33	800
RightWingStation34	801
RightWingStation35	802
RightWingStation36	803
RightWingStation37	804
RightWingStation38	805
RightWingStation39	806
RightWingStation40	807

Enumerator	Value
RightWingStation41	808
RightWingStation42	809
RightWingStation43	810
RightWingStation44	811
RightWingStation45	812
RightWingStation46	813
RightWingStation47	814
RightWingStation48	815
RightWingStation49	816
RightWingStation50	817
RightWingStation51	818
RightWingStation52	819
RightWingStation53	820
RightWingStation54	821
RightWingStation55	822
RightWingStation56	823
RightWingStation57	824
RightWingStation58	825
RightWingStation59	826
RightWingStation60	827
RightWingStation61	828
RightWingStation62	829
RightWingStation63	830
RightWingStation64	831
RightWingStation65	832
RightWingStation66	833
RightWingStation67	834
RightWingStation68	835

Enumerator	Value
RightWingStation69	836
RightWingStation70	837
RightWingStation71	838
RightWingStation72	839
RightWingStation73	840
RightWingStation74	841
RightWingStation75	842
RightWingStation76	843
RightWingStation77	844
RightWingStation78	845
RightWingStation79	846
RightWingStation80	847
RightWingStation81	848
RightWingStation82	849
RightWingStation83	850
RightWingStation84	851
RightWingStation85	852
RightWingStation86	853
RightWingStation87	854
RightWingStation88	855
RightWingStation89	856
RightWingStation90	857
RightWingStation91	858
RightWingStation92	859
RightWingStation93	860
RightWingStation94	861
RightWingStation95	862
RightWingStation96	863

Enumerator	Value
RightWingStation97	864
RightWingStation98	865
RightWingStation99	866
RightWingStation100	867
RightWingStation101	868
RightWingStation102	869
RightWingStation103	870
RightWingStation104	871
RightWingStation105	872
RightWingStation106	873
RightWingStation107	874
RightWingStation108	875
RightWingStation109	876
RightWingStation110	877
RightWingStation111	878
RightWingStation112	879
RightWingStation113	880
RightWingStation114	881
RightWingStation115	882
RightWingStation116	883
RightWingStation117	884
RightWingStation118	885
RightWingStation119	886
RightWingStation120	887
RightWingStation121	888
RightWingStation122	889
RightWingStation123	890
RightWingStation124	891

Enumerator	Value
RightWingStation125	892
RightWingStation126	893
RightWingStation127	894
RightWingStation128	895
M16A42_rifle	896
M249_SAW	897
M60_Machine_gun	898
M203_Grenade_Launcher	899
M136_AT4	900
M47_Dragon	901
AAWS_M_Javelin	902
M18A1_Claymore_Mine	903
MK19_Grenade_Launcher	904
M2_Machine_Gun	905
Other_attached_parts	906

StopFreezeReasonEnum8

Representation: HLAoctet

Semantics: *Reason to stop*

Enumerator	Value
Other	0
Recess	1
Termination	2
SystemFailure	3
SecurityViolation	4
EntityReconstitution	5
StopForReset	6
StopForRestart	7

Enumerator	Value
AbortTrainingResumeTacOps	8

TacticalDataLinkTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *The type of tactical data link used to transmit a signal*

Enumerator	Value
Other	0
PADIL	1
NATOLink-1	2
ATDL-1	3
Link11B_TADILB_	4
SituationalAwarenessDataLink_SADL_	5
Link16LegacyFormat_JTIDS_TADIL-J_	6
Link16LegacyFormat_JTIDS_FDL_TADIL-J_	7
Link11A_TADILA_	8
IJMS	9
Link4A_TADILC_	10
Link4C	11
TIBS	12
ATL	13
ConstantSource	14
Abbreviated_Command_and_Control	15
MILSTAR	16
ATHS	17
OTHGOLD	18
TACELINT	19
WeaponsDataLink_AWW-13_	20
AbbreviatedCommandAndControl RPRnoteEnumerations3	21

Enumerator	Value
EnhancedPositionLocationReportingSystem_EPLRS_	22
PositionLocationReportingSystem_PLRS_	23
SINCGARS	24
HaveQuickI	25
HaveQuickII	26
HaveQuickIIA_Saturn_	27
Intra-FlightDataLink1	28
Intra-FlightDataLink2	29
ImprovedDataModem_IDM_	30
AirForceApplicationProgramDevelopment_AFAPD_	31
CooperativeEngagementCapability_CEC_	32
ForwardAreaAirDefense_FAAD_DataLink_FDL_	33
GroundBasedDataLink_GBDL_	34
IntraVehicularInfoSystem_IVIS_	35
MarineTacticalSystem_MTS_	36
TacticalFireDirectionSystem_TACFIRE_	37
IntegratedBroadcastService_IBS_	38
AirborneInformationTransfer_ABIT_	39
AdvancedTacticalAirborneReconnaissanceSystem_ATARS_DataLink	40
BattleGroupPassiveHorizonExtensionSystem_BGPHES_DataLink	41
CommonHighBandwidthDataLink_CHBDL_	42
GuardrailInteroperableDataLink_IDL_	43
GuardrailCommonSensorSystemOne_CSS1_DataLink	44
GuardrailCommonSensorSystemTwo_CSS2_DataLink	45
GuardrailCSS2Multi-RoleDataLink_MRDL_	46
GuardrailCSS2DirectAirToSatelliteRelay_DASR_DataLink	47
LineOfSight_LOS_DataLinkImplementation_LOSTether_	48
LightweightCDL_LWCDL_	49

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Enumerator	Value
L-52M_SR-71_	50
RivetReach_RivetOwlDataLink	51
SeniorSpan	52
SeniorSpur	53
SeniorStretch_	54
SeniorYearInteroperableDataLink_IDL_	55
SpaceCDL	56
TR-1ModeMISTAirborneDataLink	57
Ku-bandSATCOMDataLinkImplementation_UAV_	58
MissionEquipmentControlDataLink_MECDL_	59
RadarDataTransmittingSetDataLink	60
SurveillanceAndControlDataLink_SCDL_	61
TacticalUAVVideo	62
UHFSATCOMDataLinkImplementation_UAV_	63
TacticalCommonDataLink_TCDL_	64
LowLevelAirPictureInterface_LLAPI_	65
WeaponsDataLink_AGM-130_	66
AutomaticIdentificationSystem_AIS_	67
WeaponsDataLink_AIM-120_	68
GC3	99
Link16StandardizedFormat_JTIDS_MIDS_TADILJ_	100
Link16EnhancedDataRate_EDRJTIDS_MIDS_TADIL-J_	101
JTIDS_MIDSNetDataLoad_TIMS_TOMS_	102
Link22	103
AFIWCIADSCommunicationsLinks	104
F-22Intra-FlightDataLink_IFDL_	105
L-BandSATCOM	106
TSAFCommunicationsLink	107

Enumerator	Value
EnhancedSINCGARS7_3	108
F-35MultifunctionAdvancedDataLink_MADL_	109
CursorOnTarget	110

TrailingEffectsCodeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Size of trailing effect*

Enumerator	Value
NoTrail	0
SmallTrail	1
MediumTrail	2
LargeTrail	3

TransferTypeEnum8

Representation: HLAoctet

Semantics: *Transfer type*

Enumerator	Value
Other	0
EntityPush	1
EntityPull	2
EntitySwap	3
EnvironmentalProcessPush	4
EnvironmentalProcessPull	5
NotUsed	6
CancelTransfer	7
ManualPullTransfer-Entity	8
ManualPullTransfer-EnvironmentalProcess	9
RemoveEntity	10

TransmitterOperationalStatusEnum8

Representation: HLAoctet

Semantics: *The current operational state of a radio transmitter.*

Enumerator	Value
Off	0
OnButNotTransmitting	1
OnAndTransmitting	2

UnmodulatedTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Detailed modulation types for an unmodulated carrier*

Enumerator	Value
Other	0
ContinuousWaveEmission	1

UserProtocolEnum32

Representation: RPRunsignedInteger32BE

Semantics: *The ID of the user protocol used to transmit a radio signal.*

Enumerator	Value
CCSIL	1
A2ATD_SINCGARS_ERF	5
A2ATD_CAC2	6
Battle_Command	20
AFIWCIADSTrackReport	30
AFIWCIADSCommC2Message	31
AFIWCIADSGroundControlInterceptor_GCI_Command	32
AFIWCVoiceTextMessage	35
ModSAF_Text_Radio	177
CCTT_SINCGARS_ERF-LOCKOUT	200

Enumerator	Value
CCTT_SINCGARS_ERF-HOPSET	201
CCTT_SINCGARS_OTAR	202
CCTT_SINCGARS_DATA	203
ModSAF_FWA_Forward_Air_Controller	546
ModSAF_Threat_ADA_C3	832
F-16_MTC_AFAPD	1000
F-16_MTC_IDL	1100
AutomaticIdentificationSystem_AIS_	1371
ModSAF_Artillery_Fire_Control	4570
AGTS	5361
GC3	6000
WNCP_data	6010
Spoken_text_message	6020
Longbow_IDM_message	6661
Comanche_IDM_message	6662
Longbow_Airborne_TACFIRE_Message	6663
Longbow_Ground_TACFIRE_Message	6664
LongbowAFAPDMessage	6665
Longbow_ERF_message	6666

VisibleSideLocationEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Minefield lane marker visible side*

Enumerator	Value
LeftSideVisible	0
RightSideVisible	1
BothSideVisible	2

WarheadTypeEnum16

Representation: RPRunsignedInteger16BE

Semantics: *Warhead*

Enumerator	Value
Other	0
CargoVariableSubmunitions	10
FuelAirExplosive	20
GlassBeads	30
Warhead_1um	31
Warhead_5um	32
Warhead_10um	33
HighExplosive	1000
HE_Plastic	1100
HE_Incendiary	1200
HE_Fragmentation	1300
HE_Antitank	1400
HE_Bomblets	1500
HE_ShapedCharge	1600
HE_ContinuousRod	1610
HE_TungstenBall	1615
HE_BlastFragmentation	1620
HE_SteerableDartswithHE	1625
HE_Darts	1630
HE_Flechettes	1635
HE_DirectedFragmentation	1640
HE_SemiArmorPiercing	1645
HE_ShapedChargeFragmentation	1650
HE_SemiArmorPiercingFragmentation	1655
HE_HollowCharge	1660

Enumerator	Value
HE_DoubleHollowCharge	1665
HE_GeneralPurpose	1670
HE_BlastPenetrator	1675
HE_RodPenetrator	1680
HE_Antipersonnel	1685
Smoke	2000
Illumination	3000
Practice	4000
Kinetic	5000
Mines	6000
Nuclear	7000
NuclearIMT	7010
ChemicalGeneral	8000
ChemicalBlisterAgent	8100
HD_Mustard	8110
ThickenedHD_Mustard	8115
DustyHD_Mustard	8120
ChemicalBloodAgent	8200
AC_HCN	8210
CK_CNCI	8215
CG_Phosgene	8220
ChemicalNerveAgent	8300
VX	8310
ThickenedVX	8315
DustyVX	8320
GA_Tabun	8325
ThickenedGA_Tabun	8330
DustyGA_Tabun	8335

Enumerator	Value
GB_Sarin	8340
ThickenedGB_Sarin	8345
DustyGB_Sarin	8350
GD_Soman	8355
ThickenedGD_Soman	8360
DustyGD_Soman	8365
GF	8370
ThickenedGF	8375
DustyGF	8380
Biological	9000
BiologicalVirus	9100
BiologicalBacteria	9200
BiologicalRickettsia	9300
BiologicalGeneticallyModifiedMicroOrganisms	9400
BiologicalToxin	9500

WeaponStateEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Weapon position*

Enumerator	Value
NoWeapon	0
Stowed	1
Deployed	2
FiringPosition	3

2.2. Notes

RPRnoteEnumerations1

Semantics: *Values for this enumeration shall be defined prior to a simulation exercise.*

RPRnoteEnumerations2

Semantics: *Each emitter has up to three different names: a National Nomenclature name, a NATO Reporting name, and a Commercial Designation name. The emitter names have been generated from the names in the enumeration document (SISO-REF-010) according to the following rules:*
a) The emitter name is the National Nomenclature name if there is one. If not then the emitter name is the NATO Reporting Name, if there is one. If not then then the emitter name is the Commercial Designation name.
b) All spaces have been replaced by underscores.
c) If the emitter name starts with a digit, then prepend "Emitter_".
d) Round brackets characters "(" and ")" have been replaced with "_".

RPRnoteEnumerations3

Semantics: *Deprecated in SISO-REF-010.*

3. Module Base

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Base FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	This module provides a common base for RPR based FOM Modules. It contains common datatypes and the BaseEntity and EmbeddedSystem object class definitions.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	Real-time Platform Reference Enumerations FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Enumerations
Foundation

3.1. Object Classes
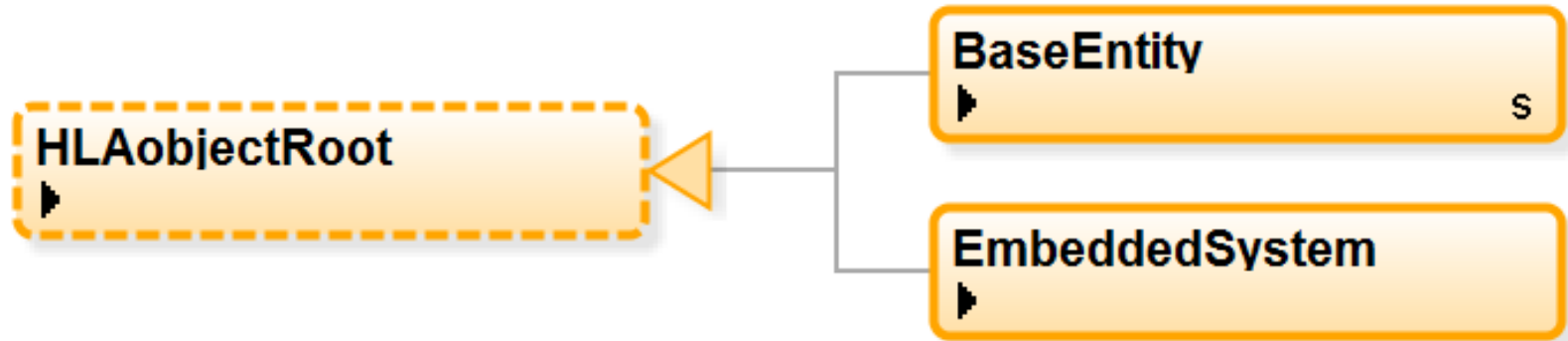
3.1.1. BaseEntity [RPRnoteBase1]

Full Name: HLAobjectRoot.BaseEntity

Sharing: Subscribe

Semantics: *A base class of aggregate and discrete scenario domain participants. The BaseEntity class is characterized by being located at a particular location in space and independently movable, if capable of movement at all. It specifically excludes elements normally considered to be a component of another element. The BaseEntity class is intended to be a container for common attributes for entities of this type. Since it lacks sufficient class specific attributes that are required for simulation purposes, federates cannot publish objects of this class. Certain simulation management federates, e.g. viewers, may subscribe to this class. Simulation federates will normally subscribe to one of the subclasses, to gain the extra information required to properly simulate the entity.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EntityType	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					
EntityIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					
IsPartOf	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					
Spatial	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

3.1.2. **EmbeddedSystem**

Full Name: HLAobjectRoot.EmbeddedSystem

Sharing:

Semantics: *A base class used to associate components such as sensor and emitting systems with their parent entity object.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EntityIdentifier	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					

3.2. Datatypes

3.2.1. Simple Datatypes

AccelerationMeterPerSecondSquaredFloat32

Representation: HLAfloat32BE

Units: meter per second squared (m/(s^2))

Resolution: NA

Accuracy: NA

Semantics: Linear acceleration vector composed of SI base units. Based on the Linear Acceleration Vector record as specified in IEEE 1278.1-1995 section 5.2.33b.

AngleDegreeFloat32

Representation: HLAfloat32BE

Units: degree (deg)

Resolution: NA

Accuracy: NA

Semantics: Angle, based on unit degree (of arc), unit symbol °.

AngleRadianFloat32

Representation: HLAfloat32BE

Units: radian (rad)

Resolution: NA

Accuracy: NA

Semantics: Angle, based on SI derived unit radian, unit symbol rad.

AngularVelocityRadianPerSecondFloat32

Representation: HLAfloat32BE

Units: radian per second (rad/s)

Resolution: NA

Accuracy: perfect

Semantics: Angular velocity vector composed of SI base units. Based on the Angular Velocity Vector record as specified in IEEE 1278.1-1995 section 5.2.2.

ClockTimeHourInteger32

Representation: HLAinteger32BE

Units: hour

Resolution: 1

Accuracy: perfect

Semantics: Time past on the clock in full hours since a specified point in time.

DepthMeterFloat32

Representation: HLAfloat32BE

Units: meter (m)

Resolution: NA

Accuracy: NA

Semantics: Depth, based on SI base unit meter, unit symbol m.

Float32

Representation: HLAfloat32BE

Units: NA

Resolution: NA

Accuracy: NA

Semantics: Single-precision floating point number.

Float64

Representation: HLAfloat64BE

Units: NA

Resolution: NA

Accuracy: NA

Semantics: Double-precision floating point number.

FrequencyHertzFloat32

Representation: HLAfloat32BE
Units: hertz (Hz)
Resolution: NA
Accuracy: NA
Semantics: Frequency, based on SI derived unit hertz, unit symbol Hz.

Integer16

Representation: HLAinteger16BE
Units: NA
Resolution: 1
Accuracy: perfect
Semantics: Integer in the range [-2^15, 2^15-1].

Integer32

Representation: HLAinteger32BE
Units: NA
Resolution: 1
Accuracy: perfect
Semantics: Integer in the range [-2^31, 2^31-1].

InterrogationsPerSecondFloat32

Representation: HLAfloat32BE
Units: interrogations/second
Resolution: NA
Accuracy: perfect
Semantics: Number of interrogations per second.

LengthMeterFloat32

Representation: HLAfloat32BE
Units: meter (m)

Resolution: NA

Accuracy: NA

Semantics: Length, based on SI base unit meter, unit symbol m.

MassKilogramFloat32

Representation: HLAfloat32BE

Units: kilogram (kg)

Resolution: NA

Accuracy: NA

Semantics: Mass, based on SI base unit kilogram, unit symbol kg.

MeterFloat32

Representation: HLAfloat32BE

Units: meter (m)

Resolution: NA

Accuracy: perfect

Semantics: Datatype based on SI base unit meter, unit symbol m.

MeterFloat64

Representation: HLAfloat64BE

Units: meter (m)

Resolution: NA

Accuracy: perfect

Semantics: Datatype based on SI base unit meter, unit symbol m.

Octet

Representation: HLAoctet

Units: NA

Resolution: 1

Accuracy: perfect

Semantics: Uninterpreted 8-bit value.

PercentFloat32

Representation: HLAfloat32BE

Units: percent (%)

Resolution: NA

Accuracy: NA

Semantics: Percentage

PercentUnsignedInteger32

Representation: RPRunsignedInteger32BE

Units: percent (%)

Resolution: 1

Accuracy: perfect

Semantics: Percentage

PowerRatioDecibelMilliwattFloat32

Representation: HLAfloat32BE

Units: decibel milliwatt (dBm)

Resolution: NA

Accuracy: perfect

Semantics: Power ratio in decibels (dB) of a measured power referenced to 1 milliwatt (mW).

RevolutionsPerMinuteInteger16

Representation: HLAinteger16BE

Units: revolutions per minute (RPM)

Resolution: 1

Accuracy: NA

Semantics: Frequency of rotation, expressed in revolutions per minute.

TemperatureDegreeCelsiusFloat32

Representation: HLAfloat32BE

Units: degree Celsius (C)

Resolution: NA

Accuracy: NA

Semantics: Temperature, based on SI derived unit degree Celsius, unit symbol °C.

TimeMicrosecondFloat32

Representation: HLAfloat32BE

Units: microsecond

Resolution: NA

Accuracy: NA

Semantics: Time, based on SI base unit second, expressed in microsecond, unit symbol s.

TimeMillisecondUnsignedInteger32

Representation: RPRunsignedInteger32BE

Units: millisecond (ms)

Resolution: NA

Accuracy: NA

Semantics: Time, based on SI base unit second, expressed in millisecond, unit symbol ms.

TimeSecondInteger32

Representation: HLAinteger32BE

Units: second (s)

Resolution: 1

Accuracy: perfect

Semantics: Time, based on SI base unit second, unit symbol s.

TimestampUnsignedInteger32

Representation: RPRunsignedInteger32BE

Units: $3600/(2^{31})$ second

Resolution: 1

Accuracy: perfect

Semantics: The time past the hour, scaled so that value 0 represents the start of the hour and value 2^31 - 1 represents one time unit before the start of the next hour, thereby resulting in each time unit representing exactly 3600/(2^31) s, which is approximately 1.67638063 microsecond.

UnsignedInteger16

Representation: RPRunsignedInteger16BE

Units: NA

Resolution: 1

Accuracy: perfect

Semantics: Integer in the range [0, 2^16-1].

UnsignedInteger32

Representation: RPRunsignedInteger32BE

Units: NA

Resolution: 1

Accuracy: perfect

Semantics: Integer in the range [0, 2^32-1].

UnsignedInteger64

Representation: RPRunsignedInteger64BE

Units: NA

Resolution: 1

Accuracy: perfect

Semantics: Integer in the range [0, 2^64-1].

UnsignedInteger8

Representation: RPRunsignedInteger8BE

Units: NA

Resolution: 1

Accuracy: perfect

Semantics: Integer in the range [0, 2^8-1].

VelocityMeterPerSecondFloat32

Representation: HLAfloat32BE
Units: meter per second (m/s)
Resolution: NA
Accuracy: perfect
Semantics: Speed/Velocity in meter per second.

WavelengthMicronFloat32

Representation: HLAfloat32BE
Units: micron
Resolution: NA
Accuracy: perfect
Semantics: Wavelength expressed in micrometer.

3.2.2. Array Datatypes

RPRUserDefinedTag

Element Type:	HLAASCIIchar
Cardinality:	[8..2147483647]
Encoding:	RPRnullTerminatedArray
Semantics:	*The array shall be at least 8 bytes (octets) in size, which shall contain the time according to the DIS time stamp field format (IEEE 1278.1-1995 section 5.2.31) converted into hexadecimal American Standard Code for Information Interchange (ASCII) character representation (0-9 and A-F), with leading zeros included. The ordering of the characters shall be in accordance with section 5.1.1 of IEEE 1278.1-1995, that is most significant octet first, with the most significant bits first (i.e. the character for bits 4-7 precedes the character for bits 0-3). This encoding is equivalent to the result of the 'C'-statement "sprintf(UserTag, "%08X", DIStimestamp)," where 'DIStimestamp' is represented in native format.*
	More user-supplied information may be included, starting from the 9th character, as specified in the federation agreements.

ArticulatedParameterStructLengthlessArray

Element Type:	ArticulatedParameterStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Dynamic array of ArticulatedParameterStruct elements, may also contain no elements. The array is encoded without array length, containing only the elements.*

ClockTimeStructLengthlessArray

Element Type:	ClockTimeStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Dynamic array of ClockTimeStruct elements, may also contain no elements. The array is encoded without array length, containing only the elements.*

EntityTypeStructLengthlessArray

Element Type:	EntityTypeStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Dynamic array of EntityTypeStruct elements, may also contain no elements. The array is encoded without array length, containing only the elements.*

Float32Array1Plus

Element Type:	Float32
Cardinality:	[1..2147483647]
Encoding:	HLAvariableArray
Semantics:	*Generic dynamic array of Float32 elements, containing at least one element.*

Integer16Array1Plus

Element Type:	Integer16
Cardinality:	[1..2147483647]
Encoding:	HLAvariableArray
Semantics:	*Generic dynamic array of Integer16 elements, containing at least one element.*

OctetArray

Element Type:	Octet
Cardinality:	Dynamic
Encoding:	HLAvariableArray
Semantics:	*Generic dynamic array of Octet elements, may also contain no elements.*

OctetArray1Plus

Element Type:	Octet
Cardinality:	[1..2147483647]

Encoding: HLAvariableArray

Semantics: *Generic dynamic array of Octet elements, containing at least one element.*

OctetArray2

Element Type:	Octet
Cardinality:	2
Encoding:	HLAfixedArray
Semantics:	*Generic array of two Octet elements.*

OctetArray3

Element Type:	Octet
Cardinality:	3
Encoding:	HLAfixedArray
Semantics:	*Generic array of three Octet elements.*

OctetArray4

Element Type:	Octet
Cardinality:	4
Encoding:	HLAfixedArray
Semantics:	*Generic array of four Octet elements.*

OctetArray7

Element Type:	Octet
Cardinality:	7
Encoding:	HLAfixedArray
Semantics:	*Generic array of seven Octet elements.*

OctetArray8

Element Type:	Octet
Cardinality:	8
Encoding:	HLAfixedArray
Semantics:	*Generic array of eight Octet elements.*

OctetPadding32Array

Element Type:	Octet
Cardinality:	Dynamic
Encoding:	RPRpaddingTo32Array
Semantics:	*Generic dynamic array of meaningless Octet elements, to align the subsequent data structure to the next 32 bit octet boundary value (OBV). The array is encoded without array length, containing zero to three elements.*

OctetPadding64Array

Element Type:	Octet
Cardinality:	Dynamic
Encoding:	RPRpaddingTo64Array
Semantics:	*Generic dynamic array of meaningless Octet elements, to align the subsequent data structure to the next 64 bit octet boundary value (OBV). The array is encoded without array length, containing zero to seven elements.*

OrientationStructLengthlessArray

Element Type:	OrientationStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Dynamic array of OrientationStruct elements, may also contain no elements. The array is encoded without array length, containing only the elements.*

UnsignedInteger16Array1Plus

Element Type:	UnsignedInteger16
Cardinality:	[1..2147483647]
Encoding:	HLAvariableArray
Semantics:	*Generic dynamic array of UnsignedInteger16 elements, containing at least one element.*

UnsignedInteger32LengthlessArray

Element Type:	UnsignedInteger32
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Generic dynamic array of UnsignedInteger32 elements, may also contain no elements. The array is encoded without array length, containing only the elements.*

UnsignedInteger64Array1Plus

Element Type:	UnsignedInteger64
Cardinality:	[1..2147483647]
Encoding:	HLAvariableArray
Semantics:	*Generic dynamic array of UnsignedInteger64 elements, containing at least one element.*

UnsignedInteger8LengthlessArray

Element Type:	UnsignedInteger8
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Generic dynamic array of UnsignedInteger8 elements, may also contain no elements. The array is encoded without array length, containing only the elements.*

WorldLocationStructLengthlessArray

Element Type:	WorldLocationStruct
Cardinality:	Dynamic

Encoding: RPRlengthlessArray

Semantics: *Dynamic array of WorldLocationStruct elements, may also contain no elements. The array is encoded without array length, containing only the elements.*

3.2.3. Fixed Record Datatypes

AccelerationVectorStruct

Encoding: HLAfixedRecord

Semantics: *The magnitude of the change in linear velocity over time.*

Name	Type	Semantic
XAcceleration	AccelerationMeterPerSecondSquaredFloat32	*Acceleration component along the X axis.*
YAcceleration	AccelerationMeterPerSecondSquaredFloat32	*Acceleration component along the Y axis.*
ZAcceleration	AccelerationMeterPerSecondSquaredFloat32	*Acceleration component along the Z axis.*

AngularVelocityVectorStruct

Encoding: HLAfixedRecord

Semantics: *The rate at which the orientation is changing over time, in body coordinates.*

Name	Type	Semantic
XAngularVelocity	AngularVelocityRadianPerSecondFloat32	*Acceleration component about the X axis.*
YAngularVelocity	AngularVelocityRadianPerSecondFloat32	*Acceleration component about the Y axis.*
ZAngularVelocity	AngularVelocityRadianPerSecondFloat32	*Acceleration component about the Z axis.*

ArticulatedParameterStruct

Encoding: HLAfixedRecord

Semantics: *Structure to specify a movable or attached part of an entity. Based on the Articulation Parameter record as specified in IEEE 1278.1-1995 section 5.2.5.*

Note that usage of this datatype for the PhyscialEntity object class attribute ArticulatedParametersArray and MunitionDetonation interaction class parameter ArticulatedPartData shall be in accordance with IEEE 1278.1-1995 Annex A.

Name	Type	Semantic
ArticulatedParameterChange	Octet	*Indicator of a change to the part. This field shall be set to zero for each exercise and sequentially incremented by one for each change in articulation parameters. In the case where all possible values are exhausted, the numbers shall be reused beginning at zero.*

Name	Type	Semantic
PartAttachedTo	UnsignedInteger16	*Identification of the articulated part to which this articulation parameter is attached. This field shall contain the value zero if the articulated part is attached directly to the entity.*
ParameterValue	ParameterValueVariantStruct	*Details of the parameter: whether it is an articulated or an attached part, and its type and value.*

ArticulatedPartsStruct RPRnoteBase7

Encoding: HLAfixedRecord

Semantics: *Structure to represent the state of a movable part of an entity.*

Name	Type	Semantic
Class	ArticulatedPartsTypeEnum32	*The type class uniquely identifies a particular articulated part on a given entity type. Guidance for uniquely assigning type classes to an entity's articulated parts is given in section 4.8 of the enumeration document (SISO-REF-010).*
TypeMetric	ArticulatedTypeMetricEnum32	*The type metric uniquely identifies the transformation to be applied to the articulated part.*
Value	Float32	*Value of the transformation to be applied to the articulated part.*

AttachedPartsStruct

Encoding: HLAfixedRecord

Semantics: *Structure to represent removable parts that may be attached to an entity.*

Name	Type	Semantic
Station	StationEnum32	*Identification of the location (or station) to which the part is attached.*
StoreType	EntityTypeStruct	*The entity type of the attached part.*

ClockTimeStruct

Encoding: HLAfixedRecord

Semantics: *Specification of the point in time of an occurrence. Based on the Clock Time record as specified in IEEE 1278.1-1995 section 5.2.8.*

Name	Type	Semantic
Hours	ClockTimeHourInteger32	*The number of hours since 0000 hours, January 1, 1970 UTC.*
TimePastTheHour	TimestampUnsignedInteger32	*The time past the hour indicated in the Hours field.*

ConstituentPartRelationshipStruct

Encoding: HLAfixedRecord

Semantics: *The relationship of the constituent part object to its host object. Based on the Relationship record as specified in IEEE 1278.1a-1998 section 5.2.56.*

Name	Type	Semantic
Nature	ConstituentPartNatureEnum16	*The nature or purpose for the joining of the constituent part object to the host object.*
Position	ConstituentPartPositionEnum16	*The position of the constituent part object with respect to the host object.*

DimensionStruct

Encoding: HLAfixedRecord

Semantics: *Bounding box in X,Y,Z axis.*

Name	Type	Semantic
XAxisLength	MeterFloat32	*Length in meters along X axis.*
YAxisLength	MeterFloat32	*Length in meters along Y axis.*
ZAxisLength	MeterFloat32	*Length in meters along Z axis.*

EntityIdentifierStruct

Encoding: HLAfixedRecord

Semantics: *Unique, exercise-wide identification of the entity, or a symbolic group address referencing multiple entities or a simulation application. Based on the Entity Identifier record as specified in IEEE 1278.1-1995 section 5.2.14.*

Name	Type	Semantic
FederateIdentifier	FederateIdentifierStruct	*Simulation application (federate) identifier.*

Name	Type	Semantic
EntityNumber	UnsignedInteger16	*Each entity in a given simulation application shall be given an entity identifier number unique to all other entities in that application. This identifier number is valid for the duration of the exercise; however, entity identifier numbers may be reused when all possible numbers have been exhausted. No entity shall have an entity identifier number of NO_ENTITY (0), ALL_ENTITIES (0xFFFF), or RQST_ASSIGN_ID (0xFFFE). The entity identifier number need not be registered or retained for future exercises. An entity identifier number equal to zero with valid site and application identification shall address a simulation application. An entity identifier number equal to ALL_ENTITIES shall mean all entities within the specified site and application. An entity identifier number equal to RQST_ASSIGN_ID allows the receiver of the CreateEntity interaction to define the entity identifier number of the new entity. The new entity will specify its entity identifier number in the Acknowledge interaction.*

EntityTypeStruct RPRnoteBase5

Encoding: HLAfixedRecord

Semantics: *Type of entity. Based on the Entity Type record as specified in IEEE 1278.1-1995 section 5.2.16.*

Name	Type	Semantic
EntityKind	Octet	*Kind of entity.*
Domain	Octet	*Domain in which the entity operates.*
CountryCode	UnsignedInteger16	*Country to which the design of the entity is attributed.*
Category	Octet	*Main category that describes the entity.*
Subcategory	Octet	*Subcategory to which an entity belongs based on the Category field.*
Specific	Octet	*Specific information about an entity based on the Subcategory field.*
Extra	Octet	*Extra information required to describe a particular entity.*

EventIdentifierStruct

Encoding: HLAfixedRecord

Semantics: *Identification of an event. Based on the Event Identifier record as specified in IEEE 1278.1-1995 section 5.2.18.*

Name	Type	Semantic
EventCount	UnsignedInteger16	*The event number. Uniquely assigned by the simulation application (federate) that initiates the sequence of events. It shall be set to one for each exercise and incremented by one for each event. In the case where all possible values are exhausted, the numbers may be reused beginning again at one.*
IssuingObjectIdentifier	RTIobjectId	*Identification of the object issuing the event.*

FederateIdentifierStruct

Encoding: HLAfixedRecord

Semantics: *Unique identification of the simulation application (federate) in an exercise, or a symbolic group address referencing multiple simulation applications. Based on the Simulation Address record as specified in IEEE 1278.1-1995 section 5.2.14.1.*

Name	Type	Semantic
SiteID	UnsignedInteger16	*Each site shall be assigned a unique site identification. No individual site shall be assigned an identification number containing NO_SITE (0) or ALL_SITES (0xFFFF). An identification number equal to ALL_SITES (0xFFFF) shall mean all sites; this may be used to initialize or start all sites. The mechanism by which Site Identification numbers are assigned is part of federation agreements.*
ApplicationID	UnsignedInteger16	*Each simulation application (federate) at a site shall be assigned an identification number unique within that site. No simulation application shall be assigned an identification number containing NO_APPLIC (0) or ALL_APPLIC (0xFFFF). An application identification number equal to ALL_APPLIC (0xFFFF) shall mean all applications; this may be used to start all applications within a site. One or more simulation applications may reside in a single host computer. The mechanism by which application identification numbers are assigned is part of federation agreements.*

IsPartOfStruct

Encoding: HLAfixedRecord

Semantics: *Defines the spatial relationship between two objects.*

Name	Type	Semantic
HostEntityIdentifier	EntityIdentifierStruct	*The identifier of the entity of which the object is a constituent part.*
HostRTIObjectIdentifier	RTIobjectId	*The RTI instance identifier of the object of which this object is a constituent part.*
Relationship	ConstituentPartRelationshipStruct	*The relationship of the constituent part object to its host object.*
NamedLocation	NamedLocationStruct	*The discrete positional relationship of the constituent part object with respect to its host object.*

LinearSegmentStruct [RPRnoteBase20]

Encoding: HLAfixedRecord

Semantics: *Specifies linear object segment characteristics.*

Name	Type	Semantic
SegmentNumber	UnsignedInteger32	*Identifies the individual segment.*
PercentComplete	PercentUnsignedInteger32	*Specifies the percent completion of the segment.*
Location	WorldLocationStruct	*Specifies the location of the segment.*
Orientation	OrientationStruct	*Specifies the orientation of the segment.*
Length	UnsignedInteger16	*Specifies the length of the segment, in meters, extending in the positive X direction.*
Width	UnsignedInteger16	*Specifies the total width of the segment, in meters; one-half of the width shall extend in the positive Y direction, and one-half of the width shall extend in the negative Y direction.*
Height	UnsignedInteger16	*Specifies the height of the segment, in meters, above ground.*
Depth	UnsignedInteger16	*Specifies the depth of the segment, in meters, below ground level.*
DamagedState	DamageStatusEnum32	*Specifies the damaged appearance of the segment.*
Deactivated	RPRboolean	*Specifies whether or not the segment has been deactivated (it has ceased to exist in the synthetic environment).*
Flaming	RPRboolean	*Specifies whether or not the segment is aflame.*
ObjectPreDistributed	RPRboolean	*Specifies whether or not the segment was created before the start of the exercise.*

Name	Type	Semantic
Smoking	RPRboolean	*Specifies whether or not the segment is smoking (creating a smoke plume).*

NamedLocationStruct

Encoding: HLAfixedRecord

Semantics: *The discrete positional relationship of the constituent part object with respect to its host object. Based on the specifications in IEEE 1278.1a-1998 of the IsPartOf PDU 'Location of Part' (paragraph 5.3.9.4e) and 'Named Location' (paragraph 5.3.9.4f) fields.*

Name	Type	Semantic
StationNumber	Integer16	*The number of the particular station at which the constituent part is attached.*
StationName	StationNameLocationVariantStruct	*The name of the station where the constituent part is located.*

OrientationStruct

Encoding: HLAfixedRecord

Semantics: *The orientation of an object in the world coordinate system, as specified in IEEE Std 1278.1-1995 section 1.3.2.*

Name	Type	Semantic
Psi	AngleRadianFloat32	*Rotation about the Z axis.*
Theta	AngleRadianFloat32	*Rotation about the Y axis.*
Phi	AngleRadianFloat32	*Rotation about the X axis.*

RelativePositionStruct

Encoding: HLAfixedRecord

Semantics: *Relative position in right-handed Cartesian coordinates.*

Name	Type	Semantic
BodyXDistance	MeterFloat32	*The distance from the reference location along the X axis.*
BodyYDistance	MeterFloat32	*The distance from the reference location along the Y axis.*
BodyZDistance	MeterFloat32	*The distance from the reference location along the Z axis.*

RelativeRangeBearingStruct

Encoding: HLAfixedRecord

Semantics: *Relative position in polar coordinates.*

Name	Type	Semantic
Range	LengthMeterFloat32	*The range from the reference location.*
Bearing	AngleRadianFloat32	*The bearing from the reference location.*

SpatialFPStruct ^{RPRnoteBase15}

Encoding: HLAfixedRecord

Semantics: *Spatial structure for Dead Reckoning Algorithm FPW (2) and FPB (6).*

Name	Type	Semantic
WorldLocation	WorldLocationStruct	*Location of the object.*
IsFrozen ^{RPRnoteBase19}	RPRboolean	*Whether the object is frozen or not.*
Orientation	OrientationStruct	*The angles of rotation around the coordinate axes between the object's attitude and the reference coordinate system axes (calculated as the Tait-Bryan Euler angles specifying the successive rotations needed to transform from the world coordinate system to the entity coordinate system).*
VelocityVector	VelocityVectorStruct	*The rate at which an object's position is changing over time.*

SpatialFVStruct ^{RPRnoteBase15}

Encoding: HLAfixedRecord

Semantics: *Spatial structure for Dead Reckoning Algorithm FVW (5) and RVB (9).*

Name	Type	Semantic
WorldLocation	WorldLocationStruct	*Location of the object.*
IsFrozen ^{RPRnoteBase19}	RPRboolean	*Whether the object is frozen or not.*
Orientation	OrientationStruct	*The angles of rotation around the coordinate axes between the object's attitude and the reference coordinate system axes (calculated as the Tait-Bryan Euler angles specifying the successive rotations needed to transform from the world coordinate system to the entity coordinate system).*

RelativeRangeBearingStruct

Encoding: HLAfixedRecord

Semantics: *Relative position in polar coordinates.*

Name	Type	Semantic
Range	LengthMeterFloat32	*The range from the reference location.*
Bearing	AngleRadianFloat32	*The bearing from the reference location.*

SpatialFPStruct [RPRnoteBase15]

Encoding: HLAfixedRecord

Semantics: *Spatial structure for Dead Reckoning Algorithm FPW (2) and FPB (6).*

Name	Type	Semantic
WorldLocation	WorldLocationStruct	*Location of the object.*
IsFrozen [RPRnoteBase19]	RPRboolean	*Whether the object is frozen or not.*
Orientation	OrientationStruct	*The angles of rotation around the coordinate axes between the object's attitude and the reference coordinate system axes (calculated as the Tait-Bryan Euler angles specifying the successive rotations needed to transform from the world coordinate system to the entity coordinate system).*
VelocityVector	VelocityVectorStruct	*The rate at which an object's position is changing over time.*

SpatialFVStruct [RPRnoteBase15]

Encoding: HLAfixedRecord

Semantics: *Spatial structure for Dead Reckoning Algorithm FVW (5) and RVB (9).*

Name	Type	Semantic
WorldLocation	WorldLocationStruct	*Location of the object.*
IsFrozen [RPRnoteBase19]	RPRboolean	*Whether the object is frozen or not.*
Orientation	OrientationStruct	*The angles of rotation around the coordinate axes between the object's attitude and the reference coordinate system axes (calculated as the Tait-Bryan Euler angles specifying the successive rotations needed to transform from the world coordinate system to the entity coordinate system).*

Name	Type	Semantic
VelocityVector	VelocityVectorStruct	*The rate at which an object's position is changing over time.*
AccelerationVector	AccelerationVectorStruct	*The magnitude of the change in linear velocity of an object over time.*

SpatialRPStruct ^{RPRnoteBase15}

Encoding: HLAfixedRecord

Semantics: *Spatial structure for Dead Reckoning Algorithm RPW (3) and RPB (7).*

Name	Type	Semantic
WorldLocation	WorldLocationStruct	*Location of the object.*
IsFrozen ^{RPRnoteBase19}	RPRboolean	*Whether the object is frozen or not.*
Orientation	OrientationStruct	*The angles of rotation around the coordinate axes between the object's attitude and the reference coordinate system axes (calculated as the Tait-Bryan Euler angles specifying the successive rotations needed to transform from the world coordinate system to the entity coordinate system).*
VelocityVector	VelocityVectorStruct	*The rate at which an object's position is changing over time.*
AngularVelocity	AngularVelocityVectorStruct	*The rate at which an object's orientation is changing over time.*

SpatialRVStruct ^{RPRnoteBase15}

Encoding: HLAfixedRecord

Semantics: *Spatial structure for Dead Reckoning Algorithm RVW (4) and RVB (8).*

Name	Type	Semantic
WorldLocation	WorldLocationStruct	*Location of the object.*
IsFrozen ^{RPRnoteBase19}	RPRboolean	*Whether the object is frozen or not.*
Orientation	OrientationStruct	*The angles of rotation around the coordinate axes between the object's attitude and the reference coordinate system axes (calculated as the Tait-Bryan Euler angles specifying the successive rotations needed to transform from the world coordinate system to the entity coordinate system).*

Name	Type	Semantic
VelocityVector	VelocityVectorStruct	The rate at which an object's position is changing over time.
AccelerationVector	AccelerationVectorStruct	The magnitude of the change in linear velocity of an object over time.
AngularVelocity	AngularVelocityVectorStruct	The rate at which an object's orientation is changing over time.

SpatialStaticStruct RPRnoteBase15

Encoding: HLAfixedRecord

Semantics: *Spatial structure for Dead Reckoning Algorithm Static (1).*

Name	Type	Semantic
WorldLocation	WorldLocationStruct	Location of the object.
IsFrozen RPRnoteBase19	RPRboolean	Whether the object is frozen or not.
Orientation	OrientationStruct	The angles of rotation around the coordinate axes between the object's attitude and the reference coordinate system axes (calculated as the Tait-Bryan Euler angles specifying the successive rotations needed to transform from the world coordinate system to the entity coordinate system).

VariableDatumStruct RPRnoteBase16 RPRnoteBase17

Encoding: HLAfixedRecord

Semantics: *These fields shall specify the types of variable datum, their length, and their value.*

Name	Type	Semantic
DatumID	DatumIdentifierEnum32	The fixed datum id represented by a 32-bit enumeration
DatumLength	UnsignedInteger32	This field shall specify the length of the variable datum in bits.
DatumValue	UnsignedInteger64Array1Plus	Value of the variable datum defined by the Variable Datum ID and Variable Datum length. This field shall be padded at the end to make the length a multiple of 64-bits.

VelocityVectorStruct

Encoding: HLAfixedRecord

Semantics: *The rate at which the position is changing over time.*

Name	Type	Semantic
XVelocity	VelocityMeterPerSecondFloat32	*Velocity component along the X axis.*
YVelocity	VelocityMeterPerSecondFloat32	*Velocity component along the Y axis.*
ZVelocity	VelocityMeterPerSecondFloat32	*Velocity component along the Z axis.*

WorldLocationStruct

Encoding: HLAfixedRecord

Semantics: *The location of an object in the world coordinate system, as specified in IEEE Std 1278.1-1995 section 1.3.2.*

Name	Type	Semantic
X	MeterFloat64	*Distance from the origin along the X axis.*
Y	MeterFloat64	*Distance from the origin along the Y axis.*
Z	MeterFloat64	*Distance from the origin along the Z axis.*

3.2.4. Variant Record Datatypes

ParameterValueVariantStruct

Encoding: HLAvariantRecord

Discriminant name: ArticulatedParameterType

Discriminant type: ParameterTypeEnum32

Semantics: *Variant record specifying the type of articulation parameter (articulated or attached part), and its type and value.*

Name	Enumerator	Type	Semantics
ArticulatedParts	ArticulatedPart	ArticulatedPartsStruct	*Alternative for an articulated part.*
AttachedParts	AttachedPart	AttachedPartsStruct	*Alternative for an attached part.*

SpatialVariantStruct

Encoding: HLAvariantRecord

Discriminant name: DeadReckoningAlgorithm

Discriminant type: DeadReckoningAlgorithmEnum8

Semantics: *Variant Record for a single spatial attribute.*

Name	Enumerator	Type	Semantics
SpatialStatic	Static	SpatialStaticStruct	*Variant for representing a static object.*
SpatialFPW	DRM_FPW	SpatialFPStruct	*Variant for representing an object with a constant velocity (or low acceleration) linear motion in world coordinates.*
SpatialRPW	DRM_RPW	SpatialRPStruct	*Variant for representing an object with a constant velocity (or low acceleration) linear motion, including rotation information, in world coordinates.*
SpatialRVW	DRM_RVW	SpatialRVStruct	*Variant for representing an object with high speed or maneuvering at any speed, including rotation information, in world coordinates.*

Name	Enumerator	Type	Semantics
SpatialFVW	DRM_FVW	SpatialFVStruct	*Variant for representing an object with high speed or maneuvering at any speed in world coordinates.*
SpatialFPB	DRM_FPB	SpatialFPStruct	*Variant for representing an object with a constant velocity (or low acceleration) linear motion in body axis coordinates.*
SpatialRPB	DRM_RPB	SpatialRPStruct	*Variant for representing an object with a constant velocity (or low acceleration) linear motion, including rotation information, in body axis coordinates.*
SpatialRVB	DRM_RVB	SpatialRVStruct	*Variant for representing an object with high speed or maneuvering at any speed, including rotation information, in body axis coordinates.*
SpatialFVB	DRM_FVB	SpatialFVStruct	*Variant for representing an object with high speed or maneuvering at any speed in body axis coordinates.*

StationNameLocationVariantStruct [RPRnoteBase6]

Encoding: HLAvariantRecord

Discriminant name: StationName

Discriminant type: ConstituentPartStationNameEnum16

Semantics: *The station name at which the constituent part is located. In case of 'On Station', the alternative specifies its location relative to the host object.*

Name	Enumerator	Type	Semantics
RelativeLocation	OnStationXYZ	RelativePositionStruct	*The location of the constituent part object relative to the host object entity coordinate system.*
RelativeRangeAndBearing	OnStationRangeBearing	RelativeRangeBearingStruct	*The location of the constituent part object relative to the host object in polar coordinates.*

3.3. *User Supplied Tags*

Update/Reflect

Datatype: RPRUserDefinedTag

Semantics: *User-supplied tag provided with each update/reflect of object instance attribute values. Contains at least the DIS timestamp in the first 8 characters.*

Send/Receive

Datatype: RPRUserDefinedTag

Semantics: *User-supplied tag provided with each send/receive of an interaction. Contains at least the DIS timestamp in the first 8 characters.*

Delete/Remove

Datatype: NA

Semantics: *NA*

Divestiture Request

Datatype: NA

Semantics: *NA*

Divestiture Completion

Datatype: NA

Semantics: *NA*

Acquisition Request

Datatype: NA

Semantics: *NA*

Request Update

Datatype: NA

Semantics: *NA*

3.4. Notes

RPRnoteBase1

Semantics: *Federates shall send the time at which the data is valid in the user defined tag with every attribute values update and interaction. The time shall be in the first 8 bytes (octets) of the user defined tag, using the DIS timestamp field format (see section 5.2.31 of IEEE 1278.1-1995) converted into hexadecimal ASCII character representation (0-9 and A-F). The ordering of the characters shall be in accordance with section 5.1.1 of IEEE 1278.1-1995, that is most significant octet first, with the most significant bits first (i.e. the character for bits 4-7 precedes the character for bits 0-3).*

All federates shall transmit this field, even if they do not use it themselves, so that other federates can use its value to compensate for network transport delays.

RPRnoteBase2

Semantics: *Not optional*

RPRnoteBase3

Semantics: *Default value: all zeros*

RPRnoteBase4

Semantics: *This must reference a valid Object instance.*

RPRnoteBase5

Semantics: *All fields in the entity type struct are enumerations. The values for the individual fields are to be derived from the federation agreements, which could refer to SISO-REF-010. The values used in this structure should comply with the requirements specified in section 5.2.16 of IEEE 1278.1-1995 (for platform and environmental entities) and section 5.2.39 of IEEE 1278.1a-1998 (for aggregate entities).*

RPRnoteBase6

Semantics: *This note applies when this datatype is used within the BaseEntity.IsPartOf attribute.*
The following StationName enumerations - On station RNG/BRG (15) and On station - x,y,z (16), are
optional to transmit along with associated RelativeLocation or RelativeRangeAndBearing information. If
these enumeration values (15) and (16) are received, they shall be ignored. The RelativeSpatial attribute
shall be used in all cases. (Note: Although the RelativeLocation field uses the same WorldLocation
contained in the RelativeSpatial attribute, in both these cases, the values do not represent a location in
world coordinates, but, rather, the relative location of a part entity to the host entity in the referenced
entity coordinate system. The RelativeRangeAndBearing field does not provide full relative spatial data
and, therefore, cannot be substituted for the RelativeSpatial attribute.)

RPRnoteBase7

Semantics: *The units of the Value field depends on the value of the TypeMetric field. The units are defined in section*
A.2.1.4 of IEEE 1278.1-1995.

RPRnoteBase8

Semantics: *The TSPI_Change condition shall be evaluated as follows: The owner of a base entity object shall*
maintain two state models of the object in support of the dead reckoning process. One model shall be the
internal model used by the simulation application to represent that object. The other shall be a dead
reckoning model of the object. Certain thresholds shall be established as criteria for determining if the
object's actual TSPI data has varied by an allowable amount from the dead reckoned TSPI data.
TSPI_Change is TRUE when either:
a) the objects actual position differs from the dead reckoned position by more than
DRA_POS_THRSH_DFLT
b) the objects actual orientation differs from the dead reckoned orientation by more than
DRA_ORIENT_THRSH_DFLT
See section 5.1.4 of IEEE 1278.1-1995 for the value of these symbolic constants.

RPRnoteBase9

Semantics: *The values of the default update conditions are as follows:*
DRA_POS_EPSILON_DFLT 0.001 m
DRA_ORIENT_EPSILON_DFLT 0.00001 rad
DRA_VEL_EPSILON_DFLT 0.001 m/s
DRA_ACCEL_EPSILON_DFLT 0.001 m/s/s
DRA_ANG_VEL_EPSILON_DFLT 0.00001 rad/s

RPRnoteBase10

Semantics: *The update condition for the WorldLocation field is TRUE when TSPI_Change is TRUE and the actual position differs from the last transmitted position by more than a threshold value in any direction. The default threshold shall be DRA_POS_EPSILSON_DFLT.* [RPRnoteBase8] [RPRnoteBase9]

RPRnoteBase11

Semantics: *The update condition for the Orientation field is TRUE when TSPI_Change is TRUE and the actual orientation differs from the last transmitted orientation by more than a threshold value in any orientation. The default threshold shall be DRA_ORIENT_EPSILON_DFLT.* [RPRnoteBase8] [RPRnoteBase9]

RPRnoteBase12

Semantics: *In case Dead Reckoning Algorithm FPW (2), RPW (3), RVW (4), FVW (5), FPB (6), RPB (7), RVB (8), or RVB (9) is used, the update condition for the VelocityVector field is TRUE when TSPI_Change is TRUE and the actual velocity differs from the last transmitted velocity by more than a threshold value in any direction.
The default threshold shall be DRA_VEL_EPSILON_DFLT.* [RPRnoteBase8] [RPRnoteBase9]

RPRnoteBase13

Semantics: *In case Dead Reckoning Algorithm RVW (4), FVW (5), RVB (8), or RVB (9) is used, the update condition for the AccelerationVector field is TRUE when TSPI_Change is TRUE and the actual acceleration differs from the last transmitted acceleration by more than a threshold value in any direction.
The default threshold shall be DRA_ACCEL_EPSILON_DFLT.* [RPRnoteBase8] [RPRnoteBase9]

RPRnoteBase14

Semantics: *In case Dead Reckoning Algorithm RPW (3), RVW (4), RPB (7), or RVB (8) is used, the update condition for the VelocityVector field is TRUE when TSPI_Change is TRUE and the actual angular velocity differs from the last transmitted angular velocity by more than a threshold value in any direction.
The default threshold shall be DRA_ANG_VEL_EPSILON_DFLT.* [RPRnoteBase8] [RPRnoteBase9]

RPRnoteBase15

Semantics: *Frozen entities should not be dead-reckoned, i.e. should be displayed as fixed at the current location even if non-zero velocity, acceleration or rotation data received from the frozen entity.*

RPRnoteBase16

Semantics: *The DatumLength equals the length in bits of the DatumValue only. The total size of a VariableDatumStruct record must account for the padding length.*

RPRnoteBase17

Semantics: *The type of the DatumValue field is determined by the value of the DatumID field. The types and associated units, etc., for each of the DatumID enumeration values are to be derived from the federation agreements, which could refer to SISO-REF-010. The DatumValue element type is defined as a UnsignedInteger64 (64 bits) to ensure the correct byte alignment for types that include 64-bit elements.*

RPRnoteBase18

Semantics: *If the entity is a constituent part of another entity (denoted by the IsPartOf attribute being set appropriately) then the Spatial attribute may be ignored by a receiving federate. Instead, the receiving federate can calculate spatial attribute values by adding the offsets provided in the RelativeSpatial attribute to the values provided in the host entity's Spatial attribute. Even if a federate is updating RelativeSpatial, it should still update Spatial for the benefit of federates who do not subscribe to the optional RelativeSpatial and IsPartOf attributes.*

RPRnoteBase19

Semantics: *If the entity is a constituent part of another entity (denoted by the IsPartOf attribute being set appropriately) then the IsFrozen attribute is no longer updated. The frozen status of the entity is the same as the frozen status of the host entity.*

RPRnoteBase20

Semantics: *Damaged appearance for environment objects has values 0: no damage, 1: damaged and 2: destroyed, with respect to the DIS standard as defined in SISO-REF-010 (section 12.1.2.1) ; this has to be taken into account when setting up a DIS-HLA gateway (SDEM mapping and filtering)*

4. Module Physical

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Physical FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	This module provides object class definitions for representing physical entities including aircraft, ground vehicles, ships, life forms, ammunition, etc. In addition it provides interaction classes to signal collisions between physical entities.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Base
Enumerations
Foundation

4.1. Object Classes

```
HLAobjectRoot ◁── BaseEntity ◁── PhysicalEntity  s ◁──┬── Platform  s ◁──┬── Aircraft  ps
                                                       │                  ├── AmphibiousVehicle  ps
                                                       │                  ├── GroundVehicle  ps
                                                       │                  ├── MultiDomainPlatform  ps
                                                       │                  ├── Spacecraft  ps
                                                       │                  ├── SubmersibleVessel  ps
                                                       │                  └── SurfaceVessel  ps
                                                       │
                                                       ├── Lifeform  s ◁──┬── Human  ps
                                                       │                  └── NonHuman  ps
                                                       ├── CulturalFeature  ps
                                                       ├── Munition  ps
                                                       ├── Expendables  ps
                                                       ├── Radio  ps
                                                       ├── Sensor  ps
                                                       └── Supplies  ps
```
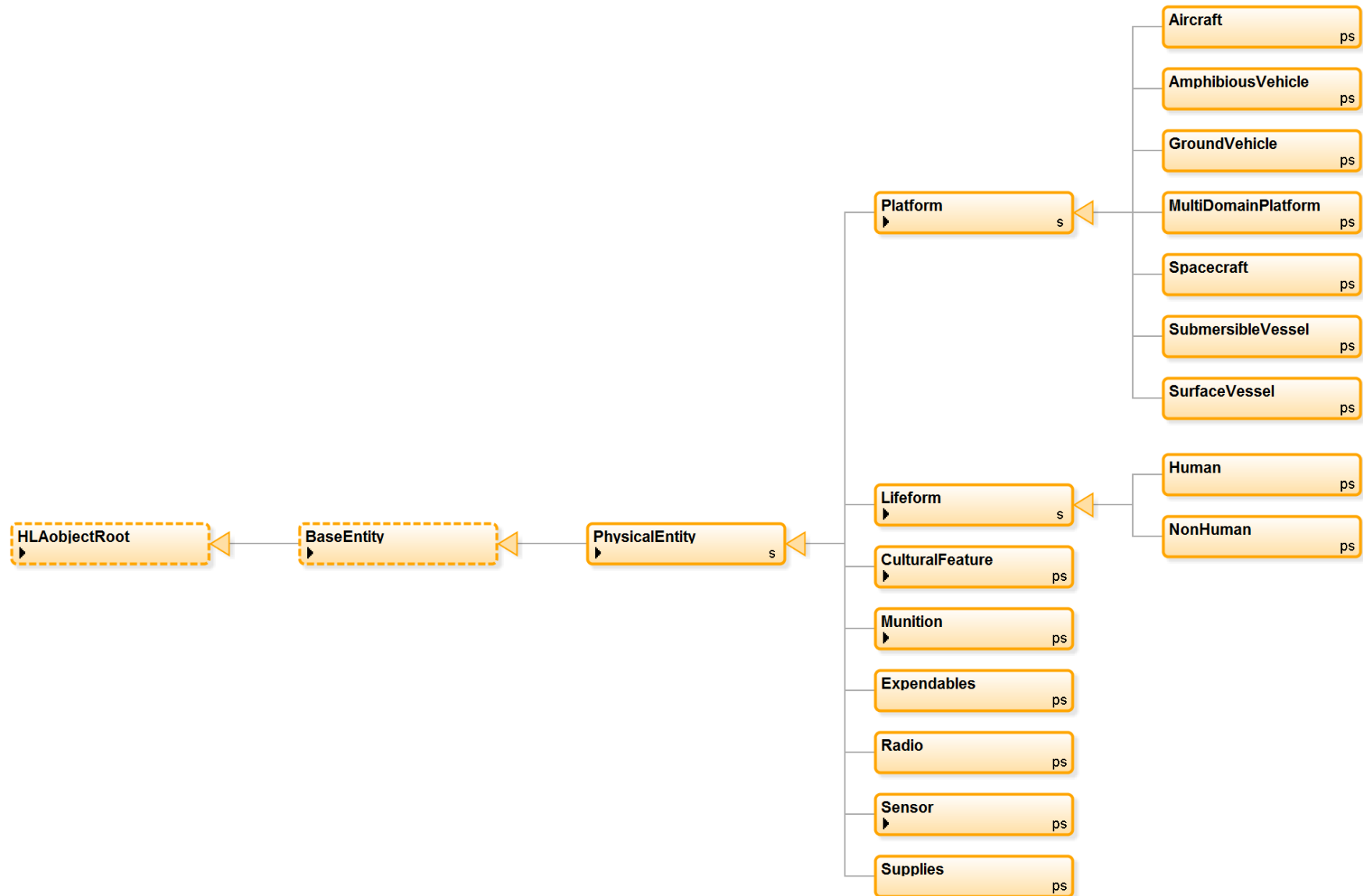
4.1.1. **PhysicalEntity**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity

Sharing: Subscribe

Semantics: *A base class of all discrete platform scenario domain participants.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AcousticSignatureIndex	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					
AlternateEntityType	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					
ArticulatedParametersArray	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					
CamouflageType	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The type of camouflage in use (if any).					

DamageState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					

FirePowerDisabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

FlamesPresent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

ForceIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HasAmmunitionSupplyCap	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HasFuelSupplyCap	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HasRecoveryCap	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to recover other entities or not.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HasRepairCap	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to repair other entities or not.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Immobilized	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is immobilized or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
InfraredSignatureIndex	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					
IsConcealed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					
LiveEntityMeasuredSpeed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					
Marking	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					
PowerPlantOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					
RadarCrossSectionSignatureIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					
SmokePlumePresent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					
TentDeployed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Whether the entity has deployed tent or not.					
TrailingEffectsCode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	The type and size of any trail that the entity is making.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
VectoringNozzleSystemData	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EntityType *Inherited from BaseEntity in Base*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EntityIdentifier *Inherited from BaseEntity in Base*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
IsPartOf *Inherited from BaseEntity in Base*	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

| Spatial

Inherited from BaseEntity in Base	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial

Inherited from BaseEntity in Base | Datatype | Sharing | Ownership | Order | Transportation | Dimensions |
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					
HLAprivilegeToDeleteObject

Inherited from HLAobjectRoot in MIM | Datatype | Sharing | Ownership | Order | Transportation | Dimensions |
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					

4.1.2. **Platform**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform

Sharing: Subscribe

Semantics: *A physical object under the control of armed forces upon which sensor, communication, or weapon systems may be mounted.*

Attributes:

AfterburnerOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's afterburner is on or not.					

AntiCollisionLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's anti-collision lights are on or not.						

BlackOutBrakeLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's black out brake lights are on or not.						

BlackOutLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's black out lights are on or not.						

BrakeLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's brake lights are on or not.						

FormationLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's formation lights are on or not.						

HatchState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HatchStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	The state of the entity's (main) hatch.					

HeadLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's headlights are on or not.					

InteriorLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's internal lights are on or not.					

LandingLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's landing lights are on or not.					

LauncherRaised	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
NavigationLightsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					
RampDeployed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					
RunningLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					
SpotLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					
TailLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					

AcousticSignatureIndex Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EngineSmokeOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					
FlamesPresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					
ForceIdentifier *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					
HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity has the capability to supply other entities with fuel or not.							

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity has the capability to recover other entities or not.							

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity has the capability to repair other entities or not.							

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity is immobilized or not.							

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	Integer16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Index used to obtain the infra-red signature state of the entity.							

IsConcealed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

SmokePlumePresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The type and size of any trail that the entity is making.					

VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

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EntityType *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Static		*NA*				
	Semantics						
	The category of the entity.						

EntityIdentifier *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Static		*NA*				
	Semantics						
	The unique identifier for the entity instance.						

IsPartOf *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IsPartOfStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.						

Spatial *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics						
	Spatial state stored in one variant record attribute.						

RelativeSpatial *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics						
	Relative spatial state stored in one variant record attribute.						

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

4.1.3. **Aircraft**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform.Aircraft

Sharing: Publish/Subscribe

Semantics: *A platform entity that operates mainly in the air, such as aircraft, balloons, etc. This includes the entities when they are on the ground.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AfterburnerOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's afterburner is on or not.					
AntiCollisionLightsOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's anti-collision lights are on or not.					
BlackOutBrakeLightsOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's black out brake lights are on or not.					

BlackOutLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from Platform in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity's black out lights are on or not.							

BrakeLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from Platform in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity's brake lights are on or not.							

FormationLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from Platform in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity's formation lights are on or not.							

HatchState	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	HatchStateEnum32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from Platform in Physical	Conditional		*On change*					
	Semantics							
	The state of the entity's (main) hatch.							

HeadLightsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from Platform in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity's headlights are on or not.							

InteriorLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's internal lights are on or not.					

LandingLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's landing lights are on or not.					

LauncherRaised *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					

NavigationLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					

RampDeployed *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					

RunningLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					

SpotLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					

TailLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[Integer16]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[EntityTypeStruct]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	On change				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	On change				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	On change				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	On change				
	Semantics					
	Whether the entity's engine is generating smoke or not.					

FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	On change				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

FlamesPresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

ForceIdentifier *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					

HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[MarkingStruct]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[PropulsionSystemDataStructLengthlessArray]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[Integer16]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

SmokePlumePresent *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					

VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IsPartOfStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.						
Spatial *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics						
	Spatial state stored in one variant record attribute.						
RelativeSpatial *Inherited from BaseEntity in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics						
	Relative spatial state stored in one variant record attribute.						
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken		PS	DA	TS	HLAreliable	
	Update type		**Update Condition**				
	Static		*NA*				
	Semantics						

4.1.4. **AmphibiousVehicle**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform.AmphibiousVehicle

Sharing: Publish/Subscribe

Semantics: *A platform entity that can operate both on the land and the sea.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AfterburnerOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's afterburner is on or not.					
AntiCollisionLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's anti-collision lights are on or not.					
BlackOutBrakeLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's black out brake lights are on or not.					
BlackOutLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's black out lights are on or not.					
BrakeLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's brake lights are on or not.					

FormationLightsOn *Inherited from Platform in Physical*	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		Update Condition					
	Conditional		*On change*					
	Semantics							
	Whether the entity's formation lights are on or not.							

HatchState *Inherited from Platform in Physical*	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	HatchStateEnum32		PS	DA	RO	HLAbestEffort		
	Update type		Update Condition					
	Conditional		*On change*					
	Semantics							
	The state of the entity's (main) hatch.							

HeadLightsOn *Inherited from Platform in Physical*	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		Update Condition					
	Conditional		*On change*					
	Semantics							
	Whether the entity's headlights are on or not.							

InteriorLightsOn *Inherited from Platform in Physical*	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		Update Condition					
	Conditional		*On change*					
	Semantics							
	Whether the entity's internal lights are on or not.							

LandingLightsOn *Inherited from Platform in Physical*	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		Update Condition					
	Conditional		*On change*					
	Semantics							
	Whether the entity's landing lights are on or not.							

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
LauncherRaised *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					
NavigationLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					
RampDeployed *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					
RunningLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					
SpotLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					

TailLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

| DamageState

Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The state of damage of the entity.					

| EngineSmokeOn

Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity's engine is generating smoke or not.					

| FirePowerDisabled

Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

| FlamesPresent

Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

| ForceIdentifier

Inherited from PhysicalEntity in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The identification of the force that the entity belongs to.					

HasAmmunitionSupplyCap	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

RadarCrossSectionSignatureIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

SmokePlumePresent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					
EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The category of the entity.					
EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The unique identifier for the entity instance.					
IsPartOf *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					

4.1.5. **GroundVehicle**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform.GroundVehicle

Sharing: Publish/Subscribe

Semantics: *A platform entity that operates wholly on the surface of the earth.*

Attributes:

AfterburnerOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's afterburner is on or not.					

AntiCollisionLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity's anti-collision lights are on or not.					

BlackOutBrakeLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity's black out brake lights are on or not.					

BlackOutLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity's black out lights are on or not.					

BrakeLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity's brake lights are on or not.					

FormationLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity's formation lights are on or not.					

HatchState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HatchStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	The state of the entity's (main) hatch.					

HeadLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's headlights are on or not.					

InteriorLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's internal lights are on or not.					

LandingLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's landing lights are on or not.					

LauncherRaised	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
NavigationLightsOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					
RampDeployed *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					
RunningLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					
SpotLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					
TailLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EngineSmokeOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					
FlamesPresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					
ForceIdentifier *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					
HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

SmokePlumePresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	The type and size of any trail that the entity is making.					

VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14			
	Semantics					
	Spatial state stored in one variant record attribute.					

RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14			
	Semantics					
	Relative spatial state stored in one variant record attribute.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

4.1.6. **MultiDomainPlatform**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform.MultiDomainPlatform

Sharing: Publish/Subscribe

Semantics: *A platform entity that operates in more than one domain (excluding those combinations explicitly defined as subclasses of the superclass of this class).*

Attributes:

AfterburnerOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's afterburner is on or not.					
AntiCollisionLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's anti-collision lights are on or not.					
BlackOutBrakeLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's black out brake lights are on or not.					

BlackOutLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's black out lights are on or not.						

BrakeLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's brake lights are on or not.						

FormationLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's formation lights are on or not.						

HatchState *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HatchStateEnum32		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	The state of the entity's (main) hatch.						

HeadLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's headlights are on or not.						

InteriorLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's internal lights are on or not.					

LandingLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's landing lights are on or not.					

LauncherRaised *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					

NavigationLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					

RampDeployed *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					

RunningLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					

SpotLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					

TailLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					

FirePowerDisabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

FlamesPresent _Inherited from PhysicalEntity in Physical_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

ForceIdentifier _Inherited from PhysicalEntity in Physical_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	The identification of the force that the entity belongs to.					

HasAmmunitionSupplyCap _Inherited from PhysicalEntity in Physical_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap _Inherited from PhysicalEntity in Physical_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap _Inherited from PhysicalEntity in Physical_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Marking *Inherited from PhysicalEntity in Physical*	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PowerPlantOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The type and size of any trail that the entity is making.					

VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[IsPartOfStruct]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from BaseEntity in Base	**Semantics**					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					
Spatial	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[SpatialVariantStruct]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
Inherited from BaseEntity in Base	**Semantics**					
	Spatial state stored in one variant record attribute.					
RelativeSpatial	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[SpatialVariantStruct]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
Inherited from BaseEntity in Base	**Semantics**					
	Relative spatial state stored in one variant record attribute.					
HLAprivilegeToDeleteObject	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
Inherited from HLAobjectRoot in MIM	**Semantics**					

4.1.7. **Spacecraft**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform.Spacecraft

Sharing: Publish/Subscribe

Semantics: *A platform entity that operates mainly in space.*

Attributes:

AfterburnerOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's afterburner is on or not.						

AntiCollisionLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's anti-collision lights are on or not.						

BlackOutBrakeLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's black out brake lights are on or not.						

BlackOutLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's black out lights are on or not.						

BrakeLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's brake lights are on or not.						

| FormationLightsOn

Inherited from Platform in Physical	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Whether the entity's formation lights are on or not.					
HatchState

Inherited from Platform in Physical | Datatype | Sharing | Ownership | Order | Transportation | Dimensions |
	HatchStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	The state of the entity's (main) hatch.					
HeadLightsOn

Inherited from Platform in Physical | Datatype | Sharing | Ownership | Order | Transportation | Dimensions |
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Whether the entity's headlights are on or not.					
InteriorLightsOn

Inherited from Platform in Physical | Datatype | Sharing | Ownership | Order | Transportation | Dimensions |
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Whether the entity's internal lights are on or not.					
LandingLightsOn

Inherited from Platform in Physical | Datatype | Sharing | Ownership | Order | Transportation | Dimensions |
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Whether the entity's landing lights are on or not.					

LauncherRaised *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					
NavigationLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					
RampDeployed *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					
RunningLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					
SpotLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TailLightsOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					
AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					
AlternateEntityType *Inherited from PhysicalEntity in Physical*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					
ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					
CamouflageType *Inherited from PhysicalEntity in Physical*	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					
EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					
FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					
ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					

HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with ammunition.						

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with fuel or not.						

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to recover other entities or not.						

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to repair other entities or not.						

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is immobilized or not.						

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
Inherited from PhysicalEntity in Physical	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

RadarCrossSectionSignatureIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
Inherited from PhysicalEntity in Physical	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

SmokePlumePresent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
Inherited from PhysicalEntity in Physical	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
Inherited from PhysicalEntity in Physical	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
Inherited from PhysicalEntity in Physical	Semantics					
	The type and size of any trail that the entity is making.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					
EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					
EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					
IsPartOf *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort		
	Update type	**Update Condition**					
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14					
	Semantics						
	Spatial state stored in one variant record attribute.						
RelativeSpatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort		
	Update type	**Update Condition**					
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14					
	Semantics						
	Relative spatial state stored in one variant record attribute.						
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable		
	Update type	**Update Condition**					
	Static	*NA*					
	Semantics						

4.1.8. **SubmersibleVessel**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform.SubmersibleVessel

Sharing: Publish/Subscribe

Semantics: *A platform entity that operates either on the surface of the sea, or beneath it.*

Attributes:

AfterburnerOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort		
	Update type	**Update Condition**					
	Conditional	*On change*					
	Semantics						
	Whether the entity's afterburner is on or not.						

AntiCollisionLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's anti-collision lights are on or not.						

BlackOutBrakeLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's black out brake lights are on or not.						

BlackOutLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's black out lights are on or not.						

BrakeLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's brake lights are on or not.						

FormationLightsOn *Inherited from Platform in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's formation lights are on or not.						

HatchState *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HatchStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	The state of the entity's (main) hatch.					
HeadLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's headlights are on or not.					
InteriorLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's internal lights are on or not.					
LandingLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's landing lights are on or not.					
LauncherRaised *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					

NavigationLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					
RampDeployed *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					
RunningLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					
SpotLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					
TailLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's engine is generating smoke or not.						

FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's main weapon system has been disabled or not.						

FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is on fire (with visible flames) or not.						

ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[ForceIdentifierEnum8](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	The identification of the force that the entity belongs to.						

HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with ammunition.						

HasFuelSupplyCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from PhysicalEntity in Physical	**Semantics**					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from PhysicalEntity in Physical	**Semantics**					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from PhysicalEntity in Physical	**Semantics**					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from PhysicalEntity in Physical	**Semantics**					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from PhysicalEntity in Physical	**Semantics**					
	The basic operating data of the propulsion systems aboard the entity.					

RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

SmokePlumePresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					

VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EntityType *Inherited from BaseEntity in Base*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					
EntityIdentifier *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					
IsPartOf *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					
Spatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

HLAprivilegeToDeleteObject	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

4.1.9. **SurfaceVessel**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Platform.SurfaceVessel

Sharing: Publish/Subscribe

Semantics: *A platform entity that operates wholly on the surface of the sea.*

Attributes:

AfterburnerOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's afterburner is on or not.					

AntiCollisionLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's anti-collision lights are on or not.					

BlackOutBrakeLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from Platform in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's black out brake lights are on or not.					

BlackOutLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's black out lights are on or not.					

BrakeLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's brake lights are on or not.					

FormationLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's formation lights are on or not.					

HatchState *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HatchStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of the entity's (main) hatch.					

HeadLightsOn *Inherited from Platform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's headlights are on or not.					

InteriorLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's internal lights are on or not.					

LandingLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's landing lights are on or not.					

LauncherRaised *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's weapon launcher is in the raised position.					

NavigationLightsOn *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity's navigation lights are on or not.					

RampDeployed *Inherited from Platform in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed a ramp or not.					

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
RunningLightsOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's running lights are on or not.					

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
SpotLightsOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's spotlights are on or not.					

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
TailLightsOn *Inherited from Platform in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's tail lights are on or not.					

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
AlternateEntityType *Inherited from PhysicalEntity in Physical*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					

FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is on fire (with visible flames) or not.						
ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	The identification of the force that the entity belongs to.						
HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with ammunition.						
HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with fuel or not.						
HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to recover other entities or not.						

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Marking *Inherited from PhysicalEntity in Physical*	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					
PowerPlantOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					
PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					
RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					
EntityType *Inherited from BaseEntity in Base*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					
EntityIdentifier *Inherited from BaseEntity in Base*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IsPartOfStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
Inherited from BaseEntity in Base	**Semantics**						
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.						
Spatial	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
Inherited from BaseEntity in Base	**Semantics**						
	Spatial state stored in one variant record attribute.						
RelativeSpatial	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
Inherited from BaseEntity in Base	**Semantics**						
	Relative spatial state stored in one variant record attribute.						
HLAprivilegeToDeleteObject	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken		PS	DA	TS	HLAreliable	
	Update type		**Update Condition**				
	Static		*NA*				
Inherited from HLAobjectRoot in MIM	**Semantics**						

4.1.10. **Lifeform**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Lifeform

Sharing: Subscribe

Semantics: *A living military platform (human or not).*

Attributes:

FlashLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	Whether the lifeform's flash lights are on or not.					

StanceCode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	StanceCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	The stance of the lifeform.					

PrimaryWeaponState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WeaponStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	The state of the soldier's primary weapon system.					

SecondaryWeaponState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WeaponStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	The state of the soldier's secondary weapon system.					

ComplianceState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ComplianceStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		On change			
	Semantics					
	The compliance of the lifeform.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EngineSmokeOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
FlamesPresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ForceIdentifier *Inherited from PhysicalEntity in Physical*	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with fuel or not.						

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to recover other entities or not.						

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to repair other entities or not.						

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is immobilized or not.						

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Index used to obtain the infra-red signature state of the entity.						

IsConcealed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RadarCrossSectionSignatureInd ex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStruc tLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					

RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

4.1.11. **Human**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Lifeform.Human

Sharing: Publish/Subscribe

Semantics: *A human lifeform.*

Attributes:

FlashLightsOn *Inherited from Lifeform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the lifeform's flash lights are on or not.					
StanceCode *Inherited from Lifeform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	StanceCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The stance of the lifeform.					
PrimaryWeaponState *Inherited from Lifeform in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	WeaponStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of the soldier's primary weapon system.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SecondaryWeaponState *Inherited from Lifeform in Physical*	WeaponStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of the soldier's secondary weapon system.					
ComplianceState *Inherited from Lifeform in Physical*	ComplianceStateEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The compliance of the lifeform.					
AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					
AlternateEntityType *Inherited from PhysicalEntity in Physical*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					
ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					
DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					
EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					
FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					

HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is immobilized or not.						
InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Index used to obtain the infra-red signature state of the entity.						
IsConcealed *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is concealed or not.						
LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	VelocityDecimeterPerSecondInteger16		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	The entity's own measurement of speed (e.g. air speed for aircraft).						
Marking *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	MarkingStruct		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	A unique marking or combination of characters used to distinguish the entity from other entities.						

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PowerPlantOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					
PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					
RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					

VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from BaseEntity in Base	**Semantics**					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					
Spatial	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from BaseEntity in Base	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from BaseEntity in Base	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					
HLAprivilegeToDeleteObject	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

4.1.12. **NonHuman**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Lifeform.NonHuman

Sharing: Publish/Subscribe

Semantics: *An animal or other non-human lifeform.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
FlashLightsOn *Inherited from Lifeform in Physical*	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the lifeform's flash lights are on or not.					
StanceCode *Inherited from Lifeform in Physical*	[StanceCodeEnum32](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The stance of the lifeform.					
PrimaryWeaponState *Inherited from Lifeform in Physical*	[WeaponStateEnum32](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of the soldier's primary weapon system.					
SecondaryWeaponState *Inherited from Lifeform in Physical*	[WeaponStateEnum32](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of the soldier's secondary weapon system.					
ComplianceState *Inherited from Lifeform in Physical*	[ComplianceStateEnum32](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The compliance of the lifeform.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's engine is generating smoke or not.						
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's main weapon system has been disabled or not.						
FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is on fire (with visible flames) or not.						
ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	The identification of the force that the entity belongs to.						
HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with ammunition.						

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity is concealed or not.							

LiveEntityMeasuredSpeed	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	VelocityDecimeterPerSecondInteger16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	The entity's own measurement of speed (e.g. air speed for aircraft).							

Marking	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	MarkingStruct		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	A unique marking or combination of characters used to distinguish the entity from other entities.							

PowerPlantOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity's power plant is on or not.							

PropulsionSystemsData	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	PropulsionSystemDataStructLengthlessArray		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	The basic operating data of the propulsion systems aboard the entity.							

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					
TentDeployed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					

RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

4.1.13. **CulturalFeature**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.CulturalFeature

Sharing: Publish/Subscribe

Semantics: *Engineering and natural effects such as craters, bridges, vehicle tracks, etc.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ExternalLightsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the cultural feature's external lights are on or not.					
InternalHeatSourceOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the cultural feature's internal heat source is on or not.					
InternalLightsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the cultural feature's internal lights are on or not.					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EngineSmokeOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					
FlamesPresent *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					
ForceIdentifier *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					
HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[VelocityDecimeterPerSecondInteger16]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[MarkingStruct]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[PropulsionSystemDataStructLengthlessArray]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RadarCrossSectionSignatureInd ex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStruc tLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					

RelativeSpatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

HLAprivilegeToDeleteObject	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
Inherited from HLAobjectRoot in MIM	Static		*NA*			
	Semantics					

4.1.14. **Munition**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Munition

Sharing: Publish/Subscribe

Semantics: *A complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material for use in military operations, including demolitions.*

Attributes:

LauncherFlashPresent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the flash of the munition being launched is present or not.					
AcousticSignatureIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					
AlternateEntityType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Static		*NA*			
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	The type of camouflage in use (if any).					

DamageState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity's engine is generating smoke or not.					

FirePowerDisabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					

HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to recover other entities or not.					

HasRepairCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

Immobilized *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Marking *Inherited from PhysicalEntity in Physical*	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PowerPlantOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					
EntityType *Inherited from BaseEntity in Base*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					
EntityIdentifier *Inherited from BaseEntity in Base*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
IsPartOf *Inherited from BaseEntity in Base*	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					
Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

4.1.15. **Expendables**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Expendables

Sharing: Publish/Subscribe

Semantics: *Countermeasures devices that are dispensed from another entity. The devices may be active emitters or passive reflectors of energy.*

Attributes:

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's engine is generating smoke or not.						
FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity's main weapon system has been disabled or not.						
FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity is on fire (with visible flames) or not.						
ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[ForceIdentifierEnum8](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	The identification of the force that the entity belongs to.						
HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with ammunition.						

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity has the capability to supply other entities with fuel or not.							

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity has the capability to recover other entities or not.							

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity has the capability to repair other entities or not.							

Immobilized *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Whether the entity is immobilized or not.							

InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	Integer16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Index used to obtain the infra-red signature state of the entity.							

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
IsConcealed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					
LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					
Marking *Inherited from PhysicalEntity in Physical*	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					
PowerPlantOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					
PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					

RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					

4.1.16. **Radio**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Radio

Sharing: Publish/Subscribe

Semantics: *Electronic devices for the communication of both audio and data, operated by entities belonging to armed forces.*

Attributes:

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					
AlternateEntityType *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					
ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[CamouflageEnum32]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[DamageStatusEnum32]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's engine is generating smoke or not.					

FirePowerDisabled *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

FlamesPresent *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ForceIdentifier	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The identification of the force that the entity belongs to.					
HasAmmunitionSupplyCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with ammunition.					
HasFuelSupplyCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					
HasRecoveryCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to recover other entities or not.					
HasRepairCap	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to repair other entities or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Immobilized *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity is immobilized or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
IsConcealed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Whether the entity is concealed or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Marking *Inherited from PhysicalEntity in Physical*	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PowerPlantOn *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					
PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					
RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					
EntityType *Inherited from BaseEntity in Base*	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					
EntityIdentifier *Inherited from BaseEntity in Base*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	IsPartOfStruct		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
Inherited from BaseEntity in Base	**Semantics**							
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.							
Spatial	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14					
Inherited from BaseEntity in Base	**Semantics**							
	Spatial state stored in one variant record attribute.							
RelativeSpatial	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	SpatialVariantStruct		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14					
Inherited from BaseEntity in Base	**Semantics**							
	Relative spatial state stored in one variant record attribute.							
HLAprivilegeToDeleteObject	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	HLAtoken		PS	DA	TS	HLAreliable		
	Update type		**Update Condition**					
	Static		*NA*					
Inherited from HLAobjectRoot in MIM	**Semantics**							

4.1.17. **Sensor**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Sensor

Sharing: Publish/Subscribe

Semantics: *Sensors and emitters, such as stand-alone radars, jammers, and detection systems, that are not part of another platform or system described by another Physical Entity, and are operated by armed forces.*

Attributes:

AntennaRaised	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the sensor/emitter's antenna is raised or not.					

BlackoutLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the sensor/emitter's blackout lights are on or not.					

LightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the sensor/emitter's lights are on or not.					

InteriorLightsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the sensor/emitter's interior lights are on or not.					

MissionKill	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether the sensor/emitter has sustained damage that will prevent it carrying out its mission or not (e.g. damaged antenna).					

AcousticSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					

AlternateEntityType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					

ArticulatedParametersArray *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of camouflage in use (if any).					

DamageState *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity's engine is generating smoke or not.							
FirePowerDisabled	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity's main weapon system has been disabled or not.							
FlamesPresent	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity is on fire (with visible flames) or not.							
ForceIdentifier	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	ForceIdentifierEnum8		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	The identification of the force that the entity belongs to.							
HasAmmunitionSupplyCap	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from PhysicalEntity in Physical	Conditional		*On change*					
	Semantics							
	Whether the entity has the capability to supply other entities with ammunition.							

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to supply other entities with fuel or not.					
HasRecoveryCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to recover other entities or not.					
HasRepairCap *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has the capability to repair other entities or not.					
Immobilized *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is immobilized or not.					
InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					

IsConcealed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					

LiveEntityMeasuredSpeed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					

Marking	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RadarCrossSectionSignatureInd ex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SmokePlumePresent *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TentDeployed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
TrailingEffectsCode *Inherited from PhysicalEntity in Physical*	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type and size of any trail that the entity is making.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
VectoringNozzleSystemData *Inherited from PhysicalEntity in Physical*	VectoringNozzleSystemDataStruc tLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					

RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

4.1.18. **Supplies**

Full Name: HLAobjectRoot.BaseEntity.PhysicalEntity.Supplies

Sharing: Publish/Subscribe

Semantics: *Supplies other than munitions, such as fuel, food and personnel.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AcousticSignatureIndex	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Index used to obtain the acoustics (sound through air) signature state of the entity.					
AlternateEntityType	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Static	*NA*				
	Semantics					
	The category of entity to be used when viewed by entities on the 'opposite' side.					
ArticulatedParametersArray	ArticulatedParameterStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PhysicalEntity in Physical	Conditional	*On change*				
	Semantics					
	Identification of the visible parts, and their states, of the entity which are capable of independent motion.					

CamouflageType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	CamouflageEnum32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	The type of camouflage in use (if any).					

DamageState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	The state of damage of the entity.					

EngineSmokeOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity's engine is generating smoke or not.					

FirePowerDisabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity's main weapon system has been disabled or not.					

FlamesPresent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from PhysicalEntity in Physical	Conditional		*On change*			
	Semantics					
	Whether the entity is on fire (with visible flames) or not.					

ForceIdentifier *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	The identification of the force that the entity belongs to.						

HasAmmunitionSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with ammunition.						

HasFuelSupplyCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to supply other entities with fuel or not.						

HasRecoveryCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to recover other entities or not.						

HasRepairCap *Inherited from PhysicalEntity in Physical*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Whether the entity has the capability to repair other entities or not.						

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Immobilized *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is immobilized or not.					
InfraredSignatureIndex *Inherited from PhysicalEntity in Physical*	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the infra-red signature state of the entity.					
IsConcealed *Inherited from PhysicalEntity in Physical*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is concealed or not.					
LiveEntityMeasuredSpeed *Inherited from PhysicalEntity in Physical*	VelocityDecimeterPerSecondInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The entity's own measurement of speed (e.g. air speed for aircraft).					
Marking *Inherited from PhysicalEntity in Physical*	MarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the entity from other entities.					

PowerPlantOn *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity's power plant is on or not.					

PropulsionSystemsData *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[PropulsionSystemDataStructLengthlessArray]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The basic operating data of the propulsion systems aboard the entity.					

RadarCrossSectionSignatureIndex *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[Integer16]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Index used to obtain the radar cross section signature state of the entity.					

SmokePlumePresent *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity is generating smoke or not (intentional or unintentional).					

TentDeployed *Inherited from PhysicalEntity in Physical*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the entity has deployed tent or not.					

TrailingEffectsCode _Inherited from PhysicalEntity in Physical_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	TrailingEffectsCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	The type and size of any trail that the entity is making.					

VectoringNozzleSystemData _Inherited from PhysicalEntity in Physical_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	VectoringNozzleSystemDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	The basic operational data for the vectoring nozzle systems aboard the entity.					

EntityType _Inherited from BaseEntity in Base_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	_NA_				
	Semantics					
	The category of the entity.					

EntityIdentifier _Inherited from BaseEntity in Base_	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	_NA_				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[IsPartOfStruct](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

Spatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[SpatialVariantStruct](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					

RelativeSpatial *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[SpatialVariantStruct](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

4.2. Interaction Classes

4.2.1. HLAinteractionRoot

Full Name:	HLAinteractionRoot
Sharing:	
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	
Parameters:	-

4.2.2. Collision

Full Name:	HLAinteractionRoot.Collision
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*The act or instance of coming together with solid impact.*
Parameters:	

Name	Datatype	Semantics
CollidingObjectIdentifier	RTIobjectId	*The object instance ID of the object that the issuing object has collided with.*
IssuingObjectMass	MassKilogramFloat32	*The mass of the issuing object.*
IssuingObjectVelocityVector	VelocityVectorStruct	*The velocity vector of the issuing object at the moment of impact.*

Name	Datatype	Semantics
CollisionType	CollisionTypeEnum8	*The type of collision.*
CollisionLocation	RelativePositionStruct	*The location of the collision relative to the object that the issuing object has collided with.*
EventIdentifier	EventIdentifierStruct	*An ID assigned by the issuing object to associate related collision events.*
IssuingObjectIdentifier	RTIobjectId	*The object instance ID of the object that has detected the collision and issued the collision interaction.*

4.2.3. **CollisionElastic**

Full Name: HLAinteractionRoot.Collision.CollisionElastic

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *The act or instance of coming together with solid impact in an elastic manner. An elastic collision allows a higher fidelity collision to be modeled, taking into account linear and rotational momentum transfer, variable elasticity, and momentum transfer that is dependent on surface orientation.*

Parameters:

Name	Datatype	Semantics
CoefficientOfRestitution	Float32	*The degree that energy is conserved in a collision.*
IntermediateResultXX	Float32	*X-X Component of the positive semi-definite Collision Intermediate Result matrix.*
IntermediateResultXY	Float32	*X-Y Component of the positive semi-definite Collision Intermediate Result matrix.*
IntermediateResultXZ	Float32	*X-Z Component of the positive semi-definite Collision Intermediate Result matrix.*
IntermediateResultYY	Float32	*Y-Y Component of the positive semi-definite Collision Intermediate Result matrix.*
IntermediateResultYZ	Float32	*Y-Z Component of the positive semi-definite Collision Intermediate Result matrix.*
IntermediateResultZZ	Float32	*Z-Z Component of the positive semi-definite Collision Intermediate Result matrix.*
UnitSurfaceNormal	EntityCoordinateVectorStruct	*The normal vector to the surface at the point of collision detection.*
CollidingObjectIdentifier *Inherited from Collision in Physical*	RTIobjectId	*The object instance ID of the object that the issuing object has collided with.*
IssuingObjectMass *Inherited from Collision in Physical*	MassKilogramFloat32	*The mass of the issuing object.*

Name	Datatype	Semantics
IssuingObjectVelocityVector *Inherited from Collision in Physical*	VelocityVectorStruct	*The velocity vector of the issuing object at the moment of impact.*
CollisionType *Inherited from Collision in Physical*	CollisionTypeEnum8	*The type of collision.*
CollisionLocation *Inherited from Collision in Physical*	RelativePositionStruct	*The location of the collision relative to the object that the issuing object has collided with.*
EventIdentifier *Inherited from Collision in Physical*	EventIdentifierStruct	*An ID assigned by the issuing object to associate related collision events.*
IssuingObjectIdentifier *Inherited from Collision in Physical*	RTIobjectId	*The object instance ID of the object that has detected the collision and issued the collision interaction.*

4.3. Datatypes

4.3.1. Simple Datatypes

RevolutionsPerMinuteFloat32

Representation: HLAfloat32BE
Units: RPM
Resolution: NA
Accuracy: perfect
Semantics: Rotation speed expressed in revolutions per minute.

VelocityDecimeterPerSecondInteger16

Representation: RPRunsignedInteger16BE
Units: decimeter per second (dm/s)
Resolution: 1
Accuracy: perfect
Semantics: Velocity/Speed measured in decimeter per second.

4.3.2. Array Datatypes

MarkingArray11

Element Type:	Octet
Cardinality:	11
Encoding:	HLAfixedArray
Semantics:	*String of characters represented by an 11 element character string.*

PropulsionSystemDataStructLengthlessArray

Element Type:	PropulsionSystemDataStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*A set of Propulsion System Data descriptions.*

VectoringNozzleSystemDataStructLengthlessArray

Element Type:	VectoringNozzleSystemDataStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*A set of Vectoring Nozzle System Data description.*

4.3.3. Fixed Record Datatypes

EntityCoordinateVectorStruct

Encoding: HLAfixedRecord

Semantics: *Vector in the entity coordinate system. Based on the Entity Coordinate Vector record as specified in IEEE 1278.1-1995 section 5.2.33a.*

Name	Type	Semantic
XComponent	MeterFloat32	*Component along the X axis*
YComponent	MeterFloat32	*Component along the Y axis*
ZComponent	MeterFloat32	*Component along the Z axis*

MarkingStruct ^{RPRnotePhysical18}

Encoding: HLAfixedRecord

Semantics: *Character set used in the marking and the string of characters to be interpreted for display.*

Name	Type	Semantic
MarkingEncodingType	MarkingEncodingEnum8	*Character set representation.*
MarkingData	MarkingArray11	*11 element character string*

PropulsionSystemDataStruct

Encoding: HLAfixedRecord

Semantics: *Information describing a propulsion system in terms of power settings and current RPM.*

Name	Type	Semantic
PowerSetting	Float32	*The power setting of the propulsion system, after any response lags have been incorporated.*
EngineRPM	RevolutionsPerMinuteFloat32	*The current engine speed.*

VectoringNozzleSystemDataStruct

Encoding: HLAfixedRecord

Semantics: *Operational data for describing the vectoring nozzle systems being simulated.*

Name	Type	Semantic
HorizontalDeflectionAngle	AngleDegreeFloat32	*The nozzle deflection angle in the horizontal body axis of the entity.*
VerticalDeflectionAngle	AngleDegreeFloat32	*The nozzle deflection angle in the vertical body axis of the entity.*

4.4. Notes

RPRnotePhysical1

Semantics: *Default value: empty*

RPRnotePhysical2

Semantics: *Default value: 0*

RPRnotePhysical3

Semantics: *Default value: False*

RPRnotePhysical4

Semantics: *Default value: Other*

RPRnotePhysical5

Semantics: *Default value: NotApplicable*

RPRnotePhysical6

Semantics: *Default value: NoDamage*

RPRnotePhysical7

Semantics: *Default value: UniformPaintScheme*

RPRnotePhysical8

Semantics: *Default value: NoWeapon*

RPRnotePhysical9

Semantics: *Default value: BaseEntity.EntityType*

RPRnotePhysical10

Semantics: *Applicable to Aircraft*

RPRnotePhysical11

Semantics: *Applicable to AmphibiousVehicle*

RPRnotePhysical12

Semantics: *Applicable to GroundVehicle*

RPRnotePhysical13

Semantics: *Applicable to MultiDomainPlatform*

RPRnotePhysical14

Semantics: *Applicable to SubmersibleVessel*

RPRnotePhysical15

Semantics: *Applicable to SurfaceVessel*

RPRnotePhysical16

Semantics: *If there is no object instance associated with the parameter, then this should be set to the empty string (no characters). Refer to SISO-STD-001 section 7.8.6 for handling empty strings.*

RPRnotePhysical17

Semantics: *This must reference a valid object instance.*

RPRnotePhysical18

Semantics: *The units and semantics for the MarkingData array elements are specified by the value of the MarkingEncodingType.*

5. Module Aggregate

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Aggregate FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	This module provides the object class definition for representing aggregates of entities.
Use Limitation:	

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Base
Enumerations
Foundation

5.1. Object Classes
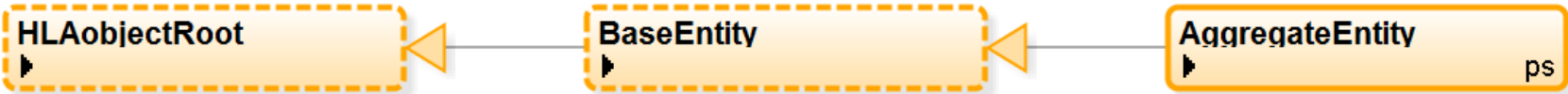
5.1.1. **AggregateEntity**

Full Name: HLAobjectRoot.BaseEntity.AggregateEntity

Sharing: Publish/Subscribe

Semantics: *A group of one or more separate objects that operate together as part of an organization. These objects may be discrete, may be other aggregate objects, or may be a mixture of both.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AggregateMarking	AggregateMarkingStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A unique marking or combination of characters used to distinguish the aggregate from other aggregates.					
AggregateState	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AggregateStateEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	An indicator of the extent of association of objects form an operating group.					

Dimensions	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DimensionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*AggSizeChange*				
	Semantics					
	The size of the area covered by the units in the aggregate.					

EntityIdentifiers	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectIdArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of entities that are contained within the aggregate.					

ForceIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the force that the aggregate belongs to.					

Formation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FormationEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The category of positional arrangement of the entities within the aggregate.					

NumberOfSilentEntities	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The number of elements in the SilentEntities list.					

NumberOfVariableDatums	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The number of records in the VariableDatums structure.					

SilentAggregates	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SilentAggregateStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The numbers and types, of silent aggregates contained in the aggregate. Silent aggregates are sub-aggregates that are in the aggregate, but that are not separately represented in the virtual world.					

SilentEntities	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	SilentEntityStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The numbers and types, of silent entities in the aggregate. Silent entities are entities that are in the aggregate, but that are not separately represented in the virtual world.					

SubAggregateIdentifiers	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectIdArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The identifications of aggregates represented in the virtual world that are contained in the aggregate.					

<table>
<tr><td rowspan="5">VariableDatums</td><td>Datatype</td><td>Sharing</td><td colspan="2">Ownership</td><td>Order</td><td>Transportation</td><td>Dimensions</td></tr>
<tr><td><a>VariableDatumStructLengthlessArray</td><td>PS</td><td colspan="2">DA</td><td>RO</td><td>HLAbestEffort</td><td></td></tr>
<tr><td>Update type</td><td colspan="6">Update Condition</td></tr>
<tr><td>Conditional</td><td colspan="6">On change</td></tr>
<tr><td>Semantics</td><td colspan="6"></td></tr>
<tr><td></td><td colspan="7">Extra data that describes the aggregate.</td></tr>
</table>

EntityType *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The category of the entity.					

EntityIdentifier *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The unique identifier for the entity instance.					

IsPartOf *Inherited from BaseEntity in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Spatial *Inherited from BaseEntity in Base*	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

5.2. Datatypes

5.2.1. Array Datatypes

MarkingArray31

Element Type:	Octet
Cardinality:	31
Encoding:	HLAfixedArray
Semantics:	*String of characters represented by a 31 element character string.*

SilentAggregateStructLengthlessArray

Element Type:	SilentAggregateStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Set of silent aggregates (aggregates not registered in the federation).*

SilentEntityStructLengthlessArray

Element Type:	SilentEntityStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*A set of silent entities (entities not registered in the federation).*

VariableDatumStructLengthlessArray

Element Type:	VariableDatumStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Set of additional data associated with an aggregate.*

5.2.2. Fixed Record Datatypes

AggregateMarkingStruct ^{RPRnoteAggregate5}

Encoding: HLAfixedRecord

Semantics: *Unique marking associated with an aggregate.*

Name	Type	Semantic
MarkingEncodingType	MarkingEncodingEnum8	*The type of marking.*
MarkingData	MarkingArray31	*The marking itself.*

SilentAggregateStruct

Encoding: HLAfixedRecord

Semantics: *These fields contain information about subaggregates not registered in the federation.*

Name	Type	Semantic
AggregateType	EntityTypeStruct	*This field shall specify the aggregates common to this system list.*
NumberOfAggregatesOfThisType	UnsignedInteger16	*This field shall specify the number of aggregates that have the type specified in AggregateType field.*

SilentEntityStruct

Encoding: HLAfixedRecord

Semantics: *These fields contain information about entities not registered in the federation.*

Name	Type	Semantic
NumberOfEntitiesOfThisType	UnsignedInteger16	*This field shall specify the number of entities that have the type specified in the field EntityType.*
NumberOfAppearanceRecords	UnsignedInteger16	*This field shall specify the number of Entity Appearance records that follow. This number shall be between zero and the number of entities of this type. Simulation applications representing the aggregate that do not model entity appearances shall set this field to zero. Simulation applications representing the aggregate that model entity appearances shall set this field to the number of entity appearances that deviate from the default appearance. Other simulations can safely assume that any entity appearances not specified are default appearances.*

Name	Type	Semantic
EntityType	EntityTypeStruct	*This field shall specify the entity types common to the entities in this system list.*
EntityAppearance RPRnoteAggregate6 RPRnoteAggregate7	UnsignedInteger32LengthlessArray	*This field shall specify the entity appearances of entities in the aggregate that deviate from the default. The length of the array is defined in the NumberOfAppearanceRecords field.*

5.3. Notes

RPRnoteAggregate1

Semantics: *Default value: empty*

RPRnoteAggregate2

Semantics: *Not optional*

RPRnoteAggregate3

Semantics: *Default value: Other*

RPRnoteAggregate4

Semantics: *Default value: zero*

RPRnoteAggregate5

Semantics: *The units and semantics for the MarkingData array elements are specified by the value of the MarkingEncodingType.*

RPRnoteAggregate6

Semantics: *The interpretation of the 32 bits defining the entity appearance is to be derived from the federation agreements, which could refer to the entity appearance record as defined in SISO-REF-010. The reason that this has not been split out into separate fields (as has been done for the subclasses of BaseEntity) is the difficulty of providing an efficient manner of defining an array of such appearance fields.*

RPRnoteAggregate7

Semantics: *RPRlengthlessArrayLength=NumberOfAppearanceRecords*

6. Module Synthetic Environment

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Synthetic Environment FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	The Synthetic Environment FOM module relates to the simulation of environmental information both under the form of (point, linear, areal) objects and processes.
Use Limitation:	

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References

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Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Base
Enumerations
Foundation

6.1. Object Classes

6.1.1. **EnvironmentalEntity**

Full Name: HLAobjectRoot.BaseEntity.EnvironmentalEntity

Sharing: Publish/Subscribe

Semantics: *An object which has physical extent but not necessarily fixed size and shape, such as meteorological effects such as clouds or smokes.*

Attributes:

OpacityCode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	OpacityCodeEnum32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the density of an environmental entity					
EntityType *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The category of the entity.					
EntityIdentifier *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The unique identifier for the entity instance.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
IsPartOf *Inherited from BaseEntity in Base*	IsPartOfStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Defines if the entity if a constituent part of another entity (denoted the host entity). If the entity is a constituent part of another entity then the HostEntityIdentifier shall be set to the EntityIdentifier of the host entity and the HostRTIObjectIdentifier shall be set to the RTI object instance ID of the host entity. If the entity is not a constituent part of another entity then the HostEntityIdentifier shall be set to 0.0.0 and the HostRTIObjectIdentifier shall be set to the empty string.					
Spatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Spatial state stored in one variant record attribute.					
RelativeSpatial *Inherited from BaseEntity in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpatialVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* RPRnoteBase10 RPRnoteBase11 RPRnoteBase12 RPRnoteBase13 RPRnoteBase14				
	Semantics					
	Relative spatial state stored in one variant record attribute.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.2. **EnvironmentObject**

Full Name: HLAobjectRoot.EnvironmentObject

Sharing: Subscribe

Semantics: *A base class of environment point, linear, or areal object classes.*

Attributes:

ObjectIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					

ReferencedObjectIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

ForceIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					

ObjectType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	Identifies the type of this EnvironmentObject instance					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					

6.1.3. **ArealObject**

Full Name: HLAobjectRoot.EnvironmentObject.ArealObject

Sharing: Subscribe

Semantics: *A synthetic environment object that is geometrically anchored to the terrain with a set of three or more points, which comes to a closure.*

Attributes:

PointsData	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStructLengthlessArray		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies the physical location (a collection of points) of the object						
PercentComplete	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	PercentUnsignedInteger32		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies the percent completion of the object						
DamagedAppearance	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies the damaged appearance of the object						
ObjectPreDistributed	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not the object was created before the start of the exercise						

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Deactivated	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
Smoking	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
Flaming	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
ObjectIdentifier	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
ReferencedObjectIdentifier	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.4. **OtherArealObject**

Full Name: HLAobjectRoot.EnvironmentObject.ArealObject.OtherArealObject

Sharing: Publish/Subscribe

Semantics: *Areal objects other than Minefield objects.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PointsData *Inherited from ArealObject in Synthetic Environment*	WorldLocationStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the physical location (a collection of points) of the object					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PercentComplete *Inherited from ArealObject in Synthetic Environment*	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the percent completion of the object					
DamagedAppearance *Inherited from ArealObject in Synthetic Environment*	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the damaged appearance of the object					
ObjectPreDistributed *Inherited from ArealObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					
Deactivated *Inherited from ArealObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					
Smoking *Inherited from ArealObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Flaming *Inherited from ArealObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.5. **LinearObject**

Full Name: HLAobjectRoot.EnvironmentObject.LinearObject

Sharing: Subscribe

Semantics: *A synthetic environment object that has size and an orientation and is geometrically anchored to the terrain with one point.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.6. **BreachableLinearObject**

Full Name: HLAobjectRoot.EnvironmentObject.LinearObject.BreachableLinearObject

Sharing: Publish/Subscribe

Semantics: *A linear object that can be breached.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SegmentRecords	BreachableSegmentStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies a breachable linear object					
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.7. **BreachObject**

Full Name: HLAobjectRoot.EnvironmentObject.LinearObject.BreachObject

Sharing: Publish/Subscribe

Semantics: *A breach linear object.*

Attributes:

SegmentRecords	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	BreachStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies a breach linear object					

ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					

ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					

ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
Inherited from HLAobjectRoot in MIM	Static		*NA*			
	Semantics					

6.1.8. **ExhaustSmokeObject**

Full Name: HLAobjectRoot.EnvironmentObject.LinearObject.ExhaustSmokeObject

Sharing: Publish/Subscribe

Semantics: *An exhaust smoke linear object.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SegmentRecords	ExhaustSmokeStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies an exhaust smoke linear object					
ObjectIdentifier	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EnvironmentObject in Synthetic Environment	Static		*NA*			
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EnvironmentObject in Synthetic Environment	Conditional		*On change*			
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ForceIdentifier	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ObjectType	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

6.1.9. **OtherLinearObject**

Full Name: HLAobjectRoot.EnvironmentObject.LinearObject.OtherLinearObject

Sharing: Publish/Subscribe

Semantics: *Linear objects other than BreachableLinear, Breach, ExhaustSmoke, or MinefieldLaneMarker objects.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ObjectIdentifier	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.10. **PointObject**

Full Name: HLAobjectRoot.EnvironmentObject.PointObject

Sharing: Subscribe

Semantics: *A synthetic environment object that is geometrically anchored to the terrain with a single point.*

Attributes:

Location	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the location of the object based on x, y and z coordinates					

Orientation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system					

PercentComplete	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the percent completion of the object					

DamagedAppearance	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the damaged appearance of the object instance					

ObjectPreDistributed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					

Deactivated	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					

Smoking	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					

Flaming	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					

ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					

ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.11. **BreachablePointObject**

Full Name: HLAobjectRoot.EnvironmentObject.PointObject.BreachablePointObject

Sharing: Publish/Subscribe

Semantics: *A point object that can be breached.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
BreachedStatus	BreachedStatusEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the breached appearance of the object					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Location *Inherited from PointObject in Synthetic Environment*	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the location of the object based on x, y and z coordinates					
Orientation *Inherited from PointObject in Synthetic Environment*	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system					
PercentComplete *Inherited from PointObject in Synthetic Environment*	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the percent completion of the object					
DamagedAppearance *Inherited from PointObject in Synthetic Environment*	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the damaged appearance of the object instance					
ObjectPreDistributed *Inherited from PointObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Deactivated *Inherited from PointObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Smoking *Inherited from PointObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Flaming *Inherited from PointObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.12. **BurstPointObject**

Full Name: HLAobjectRoot.EnvironmentObject.PointObject.BurstPointObject

Sharing: Publish/Subscribe

Semantics: *A burst point object.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PercentOpacity	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the opacity of the smoke					

CylinderSize	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the radius of the cylinder approximating an individual smoke burst ; for multiple bursts, the center bottom of each cylinder is calculated based on the model used to represent the multiple bursts					

CylinderHeight	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the height of the cylinder approximating an individual smoke burst ; for multiple bursts, the center bottom of each cylinder is calculated based on the model used to represent the multiple bursts					

NumberOfBursts	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the number of bursts in the instance of tactical smoke					

ChemicalContent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ChemicalContentEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the chemical content of the smoke					

Location *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the location of the object based on x, y and z coordinates					

Orientation *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system					
PercentComplete *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the percent completion of the object					
DamagedAppearance *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the damaged appearance of the object instance					
ObjectPreDistributed *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					
Deactivated *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					

Smoking	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					

Flaming	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					

ObjectIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					

ReferencedObjectIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

ForceIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					

ObjectType Inherited from EnvironmentObject in Synthetic Environment	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					

6.1.13. **CraterObject**

Full Name: HLAobjectRoot.EnvironmentObject.PointObject.CraterObject

Sharing: Publish/Subscribe

Semantics: *A pit, depression, or cavity formed in the surface of the earth by an explosion. The depression's shape can range from saucer to conical, depending largely of the depth of burst.*

Attributes:

CraterSize	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the diameter of the crater, where the center of the crater is at the point object location					
Location *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the location of the object based on x, y and z coordinates					

Orientation *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system					

PercentComplete *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Specifies the percent completion of the object					

DamagedAppearance *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Specifies the damaged appearance of the object instance					

ObjectPreDistributed *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					

Deactivated *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					

Smoking *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					
Flaming *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.14. **OtherPointObject**

Full Name: HLAobjectRoot.EnvironmentObject.PointObject.OtherPointObject

Sharing: Publish/Subscribe

Semantics: *Point objects other than Breachable, Burst, Crater, RibbonBridge, or Structure objects.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Location *Inherited from PointObject in Synthetic Environment*	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the location of the object based on x, y and z coordinates					
Orientation *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system					

PercentComplete *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the percent completion of the object					

DamagedAppearance *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the damaged appearance of the object instance					

ObjectPreDistributed *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					

Deactivated *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					

Smoking *Inherited from PointObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					

Flaming *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					

ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					

ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					

ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					

HLAprivilegeToDeleteObject	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

6.1.15. **RibbonBridgeObject**

Full Name: HLAobjectRoot.EnvironmentObject.PointObject.RibbonBridgeObject

Sharing: Publish/Subscribe

Semantics: *A ribbon bridge object.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
NumberOfSegments	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the number of segments composing the ribbon bridge					
Location	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies the location of the object based on x, y and z coordinates					
Orientation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system					

PercentComplete *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the percent completion of the object					

DamagedAppearance *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the damaged appearance of the object instance					

ObjectPreDistributed *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					

Deactivated *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					

Smoking *Inherited from PointObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Flaming *Inherited from PointObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					

6.1.16. **StructureObject**

Full Name: HLAobjectRoot.EnvironmentObject.PointObject.StructureObject

Sharing: Publish/Subscribe

Semantics: *A building structure, building rubble, stationary bridge, AVLB object.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Location *Inherited from PointObject in Synthetic Environment*	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the location of the object based on x, y and z coordinates					
Orientation *Inherited from PointObject in Synthetic Environment*	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system					
PercentComplete *Inherited from PointObject in Synthetic Environment*	PercentUnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the percent completion of the object					

DamagedAppearance	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DamageStatusEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies the damaged appearance of the object instance					

ObjectPreDistributed	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object was created before the start of the exercise					

Deactivated	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)					

Smoking	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is smoking (creating a smoke plume)					

Flaming	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from PointObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.1.17. **EnvironmentProcess**

Full Name: HLAobjectRoot.EnvironmentProcess

Sharing: Publish/Subscribe

Semantics: *An object class used to communicate information about environmental processes and effects.*

Attributes:

<table>
<tr><td rowspan="6">ProcessIdentifier</td><td>Datatype</td><td>Sharing</td><td>Ownership</td><td>Order</td><td>Transportation</td><td colspan="2">Dimensions</td></tr>
<tr><td>EntityIdentifierStruct</td><td>PS</td><td>DA</td><td>RO</td><td>HLAbestEffort</td><td colspan="2"></td></tr>
<tr><td>Update type</td><td colspan="6">Update Condition</td></tr>
<tr><td>Static</td><td colspan="6"><i>NA</i></td></tr>
<tr><td colspan="7">Semantics</td></tr>
<tr><td colspan="7"><i>Identifies which process issued the environmental process update</i></td></tr>

<tr><td rowspan="6">Type</td><td>Datatype</td><td>Sharing</td><td>Ownership</td><td>Order</td><td>Transportation</td><td colspan="2">Dimensions</td></tr>
<tr><td>EnvironmentTypeStruct</td><td>PS</td><td>DA</td><td>RO</td><td>HLAbestEffort</td><td colspan="2"></td></tr>
<tr><td>Update type</td><td colspan="6">Update Condition</td></tr>
<tr><td>Static</td><td colspan="6"><i>NA</i></td></tr>
<tr><td colspan="7">Semantics</td></tr>
<tr><td colspan="7"><i>Identifies the environmental process type</i></td></tr>

<tr><td rowspan="6">ModelType</td><td>Datatype</td><td>Sharing</td><td>Ownership</td><td>Order</td><td>Transportation</td><td colspan="2">Dimensions</td></tr>
<tr><td>EnvironmentModelTypeEnum8</td><td>PS</td><td>DA</td><td>RO</td><td>HLAbestEffort</td><td colspan="2"></td></tr>
<tr><td>Update type</td><td colspan="6">Update Condition</td></tr>
<tr><td>Conditional</td><td colspan="6"><i>On change</i></td></tr>
<tr><td colspan="7">Semantics</td></tr>
<tr><td colspan="7"><i>Identifies the model used for generating this environmental process update ; defined in 1278.1a as being exercise specific</i></td></tr>

<tr><td rowspan="6">EnvironmentProcessActive</td><td>Datatype</td><td>Sharing</td><td>Ownership</td><td>Order</td><td>Transportation</td><td colspan="2">Dimensions</td></tr>
<tr><td>RPRboolean</td><td>PS</td><td>DA</td><td>RO</td><td>HLAbestEffort</td><td colspan="2"></td></tr>
<tr><td>Update type</td><td colspan="6">Update Condition</td></tr>
<tr><td>Conditional</td><td colspan="6"><i>On change</i></td></tr>
<tr><td colspan="7">Semantics</td></tr>
<tr><td colspan="7"><i>Specifies the status of the environmental process (active or inactive)</i></td></tr>
</table>

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
SequenceNumber	Conditional	*On change*				
	Semantics					
	Optional, used to support update sequencing ; if not used, set to EP_NO_SEQUENCE ; when used, set to zero for each exercise and incremented by one for each update sent					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EnvironmentRecStructArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
EnvironmentRecData	Conditional	*On change*				
	Semantics					
	Specifies environment records					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
HLAprivilegeToDeleteObject	**Update type**	**Update Condition**				
	Static	*NA*				
Inherited from HLAobjectRoot in MIM	**Semantics**					

6.1.18. **GriddedData**

Full Name: HLAobjectRoot.GriddedData

Sharing: Publish/Subscribe

Semantics: *An object class used to depict global, spatially varying environmental effects.*

Attributes:

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
GridIdentifier	Static	*NA*				
	Semantics					
	Identifies the environmental simulation application					

CoordinateSystem	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentDataCoordinateSystemEnum16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the coordinate system used to locate the data grid					

NumberOfGridAxes	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Octet	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the number of grid axes used to define the data grid (e.g. three grid axes for an x, y, z coordinate system)					

ConstantGrid	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentGridTypeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether the grid axes remain constant for the life of the data grid					

EnvironmentType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	Identifies the type of environmental entity being described					

Orientation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	OrientationStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the orientation of the data grid, with Euler angles					

SampleTime	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger64	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the valid time of the environmental data sample					

TotalValues	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the number of data values that make up this grid					

VectorDimension	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Octet	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the number of data values at each grid point ; VectorDimension shall be one for scalar data, and shall be greater than one when multiple enumerated environmental data values are sent for each grid point (e.g. u, v, w wind components have VectorDimension = 3)					

GridAxisInfo	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	GridAxisStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies information on grid axes					

GridDataInfo	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	GridDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies information on grid data representations					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

6.2. Interaction Classes
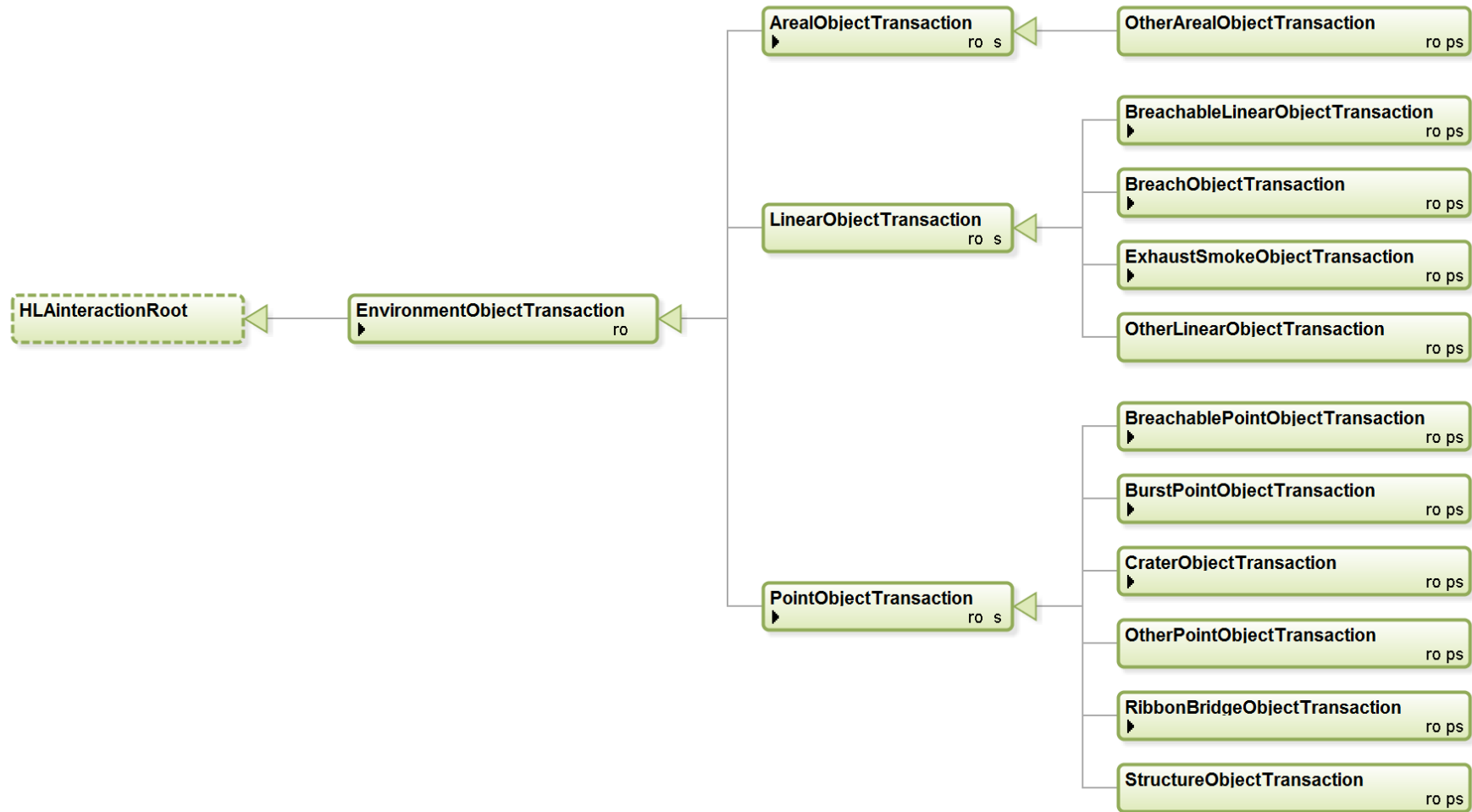
6.2.1. **HLAinteractionRoot**

Full Name: HLAinteractionRoot
Sharing:

Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	
Parameters:	-

6.2.2. **EnvironmentObjectTransaction**

Full Name:	HLAinteractionRoot.EnvironmentObjectTransaction
Sharing:	
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A base interaction for modifying instances of point, linear and areal environment object classes.*
Parameters:	

Name	Datatype	Semantics
ObjectIdentifier	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.3. **ArealObjectTransaction**

Full Name:	HLAinteractionRoot.EnvironmentObjectTransaction.ArealObjectTransaction
Sharing:	Subscribe
Transportation type:	HLAbestEffort
Order:	Receive

Dimensions:

Semantics: *An interaction for modifying instances of the ArealObject class.*

Parameters:

Name	Datatype	Semantics
PointsData	WorldLocationStructLengthlessArray	*Specifies the physical location (a collection of points) that defines the object*
PercentComplete	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.4. **OtherArealObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.ArealObjectTransaction.OtherArealObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the OtherArealObject class.*

Parameters:

Name	Datatype	Semantics
PointsData *Inherited from ArealObjectTransaction in Synthetic Environment*	WorldLocationStructLengthlessArray	*Specifies the physical location (a collection of points) that defines the object*
PercentComplete *Inherited from ArealObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance *Inherited from ArealObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*

Name	Datatype	Semantics
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.5. **LinearObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.LinearObjectTransaction

Sharing: Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction for modifying instances of the LinearObject class.*

Parameters:

Name	Datatype	Semantics
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*

Name	Datatype	Semantics
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.6. **BreachableLinearObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.LinearObjectTransaction.BreachableLinearObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the BreachableLinearObject class.*

Parameters:

Name	Datatype	Semantics
SegmentRecords	BreachableSegmentStructLengthlessArray	*Specifies a breachable linear object*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.7. **BreachObjectTransaction**

Full Name:	HLAinteractionRoot.EnvironmentObjectTransaction.LinearObjectTransaction.BreachObjectTransaction
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the BreachObject class.*

Parameters:

Name	Datatype	Semantics
SegmentRecords	BreachStructLengthlessArray	*Specifies a breach linear object*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.8. **ExhaustSmokeObjectTransaction**

Full Name:	HLAinteractionRoot.EnvironmentObjectTransaction.LinearObjectTransaction.ExhaustSmokeObjectTransaction
Sharing:	Publish/Subscribe

Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the ExhaustSmokeObject class.*

Parameters:

Name	Datatype	Semantics
SegmentRecords	ExhaustSmokeStructLengthlessArray	*Specifies an exhaust smoke linear object*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.9. **OtherLinearObjectTransaction**

Full Name:	HLAinteractionRoot.EnvironmentObjectTransaction.LinearObjectTransaction.OtherLinearObjectTransaction
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the OtherLinearObject class.*

Parameters:

Name	Datatype	Semantics
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.10. **PointObjectTransaction**

Full Name:	HLAinteractionRoot.EnvironmentObjectTransaction.PointObjectTransaction
Sharing:	Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*An interaction for modifying instances of the PointObject class.*

Parameters:

Name	Datatype	Semantics
Location	WorldLocationStruct	*Specifies the location of the object based on x, y and z coordinates*

Name	Datatype	Semantics
Orientation	OrientationStruct	*Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system*
PercentComplete	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.11. **BreachablePointObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.PointObjectTransaction.BreachablePointObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

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Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the BreachablePointObject class.*

Parameters:

Name	Datatype	Semantics
BreachedStatus	BreachedStatusEnum8	*Specifies the breached appearance of the object*
Location *Inherited from PointObjectTransaction in Synthetic Environment*	WorldLocationStruct	*Specifies the location of the object based on x, y and z coordinates*
Orientation *Inherited from PointObjectTransaction in Synthetic Environment*	OrientationStruct	*Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system*
PercentComplete *Inherited from PointObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance *Inherited from PointObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*

Name	Datatype	Semantics
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.12. **BurstPointObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.PointObjectTransaction.BurstPointObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the BurstPointObject class.*

Parameters:

Name	Datatype	Semantics
PercentOpacity	PercentUnsignedInteger32	*Specifies the opacity of the smoke*
CylinderSize	UnsignedInteger32	*Specifies the radius of the cylinder approximating an individual smoke burst ; for multiple bursts, the center bottom of each cylinder is calculated based on the model used to represent the multiple bursts*
CylinderHeight	UnsignedInteger32	*Specifies the height of the cylinder approximating an individual smoke burst ; for multiple bursts, the center bottom of each cylinder is calculated based on the model used to represent the multiple bursts*
NumberOfBursts	UnsignedInteger32	*Specifies the number of bursts in the instance of tactical smoke*
ChemicalContent	ChemicalContentEnum32	*Specifies the chemical content of the smoke*

Name	Datatype	Semantics
Location *Inherited from PointObjectTransaction in Synthetic Environment*	WorldLocationStruct	*Specifies the location of the object based on x, y and z coordinates*
Orientation *Inherited from PointObjectTransaction in Synthetic Environment*	OrientationStruct	*Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system*
PercentComplete *Inherited from PointObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance *Inherited from PointObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*

Name	Datatype	Semantics
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.13. **CraterObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.PointObjectTransaction.CraterObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the CraterObject class.*

Parameters:

Name	Datatype	Semantics
CraterSize	UnsignedInteger32	*Specifies the diameter of the crater, where the center of the crater is at the point object location*
Location *Inherited from PointObjectTransaction in Synthetic Environment*	WorldLocationStruct	*Specifies the location of the object based on x, y and z coordinates*
Orientation *Inherited from PointObjectTransaction in Synthetic Environment*	OrientationStruct	*Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system*
PercentComplete *Inherited from PointObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance *Inherited from PointObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*

Name	Datatype	Semantics
ObjectPreDistributed *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.14. **OtherPointObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.PointObjectTransaction.OtherPointObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the OtherPointObject class.*

Parameters:

Name	Datatype	Semantics
Location *Inherited from PointObjectTransaction in Synthetic Environment*	WorldLocationStruct	*Specifies the location of the object based on x, y and z coordinates*
Orientation *Inherited from PointObjectTransaction in Synthetic Environment*	OrientationStruct	*Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system*
PercentComplete *Inherited from PointObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance *Inherited from PointObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*

Name	Datatype	Semantics
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.15. **RibbonBridgeObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.PointObjectTransaction.RibbonBridgeObject Transaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the RibbonBridgeObject class.*

Parameters:

Name	Datatype	Semantics
NumberOfSegments	UnsignedInteger32	*Specifies the number of segments composing the ribbon bridge*
Location *Inherited from PointObjectTransaction in Synthetic Environment*	WorldLocationStruct	*Specifies the location of the object based on x, y and z coordinates*
Orientation *Inherited from PointObjectTransaction in Synthetic Environment*	OrientationStruct	*Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system*
PercentComplete *Inherited from PointObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*

Name	Datatype	Semantics
DamagedAppearance *Inherited from PointObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.2.16. **StructureObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.PointObjectTransaction.StructureObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the StructureObject class.*

Parameters:

Name	Datatype	Semantics
Location *Inherited from PointObjectTransaction in Synthetic Environment*	WorldLocationStruct	*Specifies the location of the object based on x, y and z coordinates*
Orientation *Inherited from PointObjectTransaction in Synthetic Environment*	OrientationStruct	*Specifies the angles of rotation around the coordinate axis between the object's attitude and the reference coordinate system axes ; these are calculated as the Tait-Bryan Euler angles, specifying the successive rotations needed to transform from the world coordinate system to the object coordinate system*
PercentComplete *Inherited from PointObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance *Inherited from PointObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from PointObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*

Name	Datatype	Semantics
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

6.3. Datatypes

6.3.1. Enumerated Datatypes

EnvironmentGridAxisTypeEnum8

Representation: HLAoctet

Semantics: *Grid axis type*

Enumerator	Value
RegularGridAxisType	0
IrregularGridAxisType	1

6.3.2. Array Datatypes

BreachableSegmentStructLengthlessArray

Element Type:	BreachableSegmentStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies a breachable linear object (a collection of segments)*

BreachedStatusArray8

Element Type:	BreachedStatusEnum8
Cardinality:	8
Encoding:	HLAfixedArray
Semantics:	*Specifies the breached appearance for each individual segment portion of length = BreachLength*

BreachStructLengthlessArray

Element Type:	BreachStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies a breach linear object (a collection of segments)*

EnvironmentRecStructArray

Element Type:	EnvironmentRecStruct
Cardinality:	Dynamic
Encoding:	HLAvariableArray
Semantics:	*Specifies environment records as a collection of geometry and state records*

ExhaustSmokeStructLengthlessArray

Element Type:	ExhaustSmokeStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies an exhaust smoke linear object (a collection of smoke segments)*

GridAxisStructLengthlessArray

Element Type:	GridAxisStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies detailed information for a collection of grid axes*

GridDataStructLengthlessArray

Element Type:	GridDataStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies detailed information for a collection of grid data representations*

6.3.3. Fixed Record Datatypes

BreachableSegmentStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying the characteristics of a breachable linear object segment*

Name	Type	Semantic
SegmentParameters	LinearSegmentStruct	*Specifies the breachable linear object segment characteristics*
BreachLength	UnsignedInteger32	*Specifies the breachable linear object segment as 8 portions of length = BreachLength*
BreachedState	BreachedStatusEnum8	*Specifies the breached appearance of the breachable linear object segment*
SegmentBreached ^{RPRnoteSE1 RPRnoteSE10}	BreachedStatusArray8	*Specifies whether the segment portion beginning at the segment origin + (i*BreachLength) and extending BreachLength meters is breached or not*
Padding ^{RPRnoteSE11}	OctetArray7	*Padding to 64 bits*

BreachStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying the characteristics of a breach linear object segment*

Name	Type	Semantic
SegmentParameters	LinearSegmentStruct	*Specifies the breach linear object segment characteristics*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding to 64 bits*

COMBICStateRecStruct ^{RPRnoteSE6}

Encoding: HLAfixedRecord

Semantics: *Record specifying COMBIC state record*

Name	Type	Semantic
TimeSinceCreation	UnsignedInteger32	*Time since creation*
MunitionSource	EntityTypeStruct	*Munition source*
NumberOfSources	Integer32	*Number of sources*

Name	Type	Semantic
GeometryIndex	UnsignedInteger16	*Geometry index*
SourceType	UnsignedInteger32	*Source type*
BarrageRate	Float32	*Barrage rate*
BarrageDuration	Float32	*Barrage duration*
BarrageCrosswindLength	Float32	*Barrage crosswind length*
BarrageDownwindLength	Float32	*Barrage downwind length*
DetonationVelocity	VelocityVectorStruct	*Detonation velocity*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding field*

Cone1GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Cone 1 geometry record*

Name	Type	Semantic
VertexLocation	WorldLocationStruct	*Vertex location X, Y, Z*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*
Height	Float32	*Height*
PeakAngle	Float32	*Peak angle*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding field*

Cone2GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Cone 2 geometry record*

Name	Type	Semantic
VertexLocation	WorldLocationStruct	*Vertex location X, Y, Z*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*
Velocity	VelocityVectorStruct	*Velocity Vx, Vy, Vz*
AngularVelocity	AngularVelocityVectorStruct	*Angular velocity Vx, Vy, Vz*
Height	Float32	*Height*
HeightRate	Float32	*Variation of height*

Name	Type	Semantic
PeakAngle	Float32	*Peak angle*
PeakAngleRate	Float32	*Variation of peak angle*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding field*

DimensionRateStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying length X, Y, Z rates*

Name	Type	Semantic
XRate	VelocityMeterPerSecondFloat32	*Variation of X axis length*
YRate	VelocityMeterPerSecondFloat32	*Variation of Y axis length*
ZRate	VelocityMeterPerSecondFloat32	*Variation of Z axis length*

Ellipsoid1GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Ellipsoid 1 geometry record*

Name	Type	Semantic
CentroidLocation	WorldLocationStruct	*Centroid location X, Y, Z*
SigmaValue	DimensionStruct	*Sigma dimensions*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*

Ellipsoid2GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Ellipsoid 2 geometry record*

Name	Type	Semantic
CentroidLocation	WorldLocationStruct	*Centroid location X, Y, Z*
SigmaValue	DimensionStruct	*Sigma dimensions*
SigmaRate	VelocityVectorStruct	*Variation of sigma dimensions*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*
Velocity	VelocityVectorStruct	*Velocity Vx, Vy, Vz*

Name	Type	Semantic
AngularVelocity	AngularVelocityVectorStruct	*Angular velocity Vx, Vy, Vz*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding field*

EnvironmentObjectTypeStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying the domain, the kind and the specific identification of the environment object*

Name	Type	Semantic
Domain	Octet	*Specifies the domain in which the object exists*
Kind	Octet	*Identifies the kind of object*
Category	Octet	*Specifies the main category that describes the object*
Subcategory	Octet	*Specifies a particular subcategory to which an object belongs based on the Category field*

EnvironmentRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying an environment (geometry or state) record*

Name	Type	Semantic
Index	UnsignedInteger32	*Identifies the sequentially numbered record index*
DataVariant	EnvironmentRecVariantStruct	*Specifies geometry and state record alternatives*

EnvironmentTypeStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying the kind of environment, the domain and any extra information necessary for describing the environmental entity*

Name	Type	Semantic
EntityKind	Octet	*Identifies the kind of entity*
Domain	Octet	*Specifies a single primary domain in which the environmental condition exists*
Class	UnsignedInteger16	*Identifies the type of environmental entity*

Name	Type	Semantic
Category	Octet	*Specifies the main category that describes the environmental entity*
Subcategory	Octet	*Specifies a particular subcategory to which an environmental entity belongs based on the Category field*
Specific	Octet	*Identifies specific information about an environmental entity based on the Subcategory field*
Extra	Octet	*Specifies extra information required to describe a particular environmental entity*

ExhaustSmokeStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying the characteristics of a linear object smoke segment*

Name	Type	Semantic
SegmentParameters	LinearSegmentStruct	*Specifies the linear object smoke segment characteristics*
PercentOpacity	PercentUnsignedInteger32	*Specifies the opacity of the linear object smoke segment*
Attached	RPRboolean	*Specifies whether the linear object smoke segment is attached to the vehicle*
ChemicalContent	ChemicalContentEnum32	*Specifies the chemical content of the linear object smoke segment*

FlareStateRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Flare state record*

Name	Type	Semantic
TimeSinceCreation	UnsignedInteger32	*Time since creation*
Source	EntityTypeStruct	*Source*
NumberIntensity	Integer32	*Number intensity*
NumberOfSources	Integer32	*Number of sources*
GeometryIndex	UnsignedInteger16	*Geometry index*
Padding ^{RPRnoteSE11}	OctetArray2	*Padding field*

GaussPlumeGeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Gaussian Plume geometry record*

Name	Type	Semantic
SourceLocation	WorldLocationStruct	*Source location X, Y, Z*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*
PlumeDimension	PlumeDimensionStruct	*Plume dimensions*
PlumeDimensionRate	PlumeDimensionRateStruct	*Variation of plume dimensions*
LeadingEdge	Float32	*Leading edge*
LeadingEdgeVelocity	VelocityVectorStruct	*Leading edge velocity*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding field*

GaussPuffGeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Gaussian Puff geometry record*

Name	Type	Semantic
PuffLocation	WorldLocationStruct	*Puff location X, Y, Z*
OriginationLocation	WorldLocationStruct	*Origination location X, Y, Z*
SigmaValue	DimensionStruct	*Sigma dimensions*
SigmaRate	DimensionRateStruct	*Variation of sigma dimensions*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*
Velocity	VelocityVectorStruct	*Velocity Vx, Vy, Vz*
AngularVelocity	AngularVelocityVectorStruct	*Angular velocity Vx, Vy, Vz*
CentroidHeight	Float32	*Centroid height*

GridAxisStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying grid Xi axis data*

Name	Type	Semantic
InitialValue	Float64	*Specifies the coordinate of the origin (or initial value) for the Xi axis*
FinalValue	Float64	*Specifies the coordinate of the endpoint (or final value) for the Xi axis*
TotalNumberOfPoints	UnsignedInteger16	*Specifies the total number of grid points along the Xi domain axis*
InterleafFactor	Octet	*Specifies the integer valued interleaf factor along a domain (grid) Xi axis ; a value of one shall indicate no sub-sampling (interleaving), while integer values greater than one shall indicate the sampling frequency along an axis*
NumberOfPoints	UnsignedInteger16	*Specifies the number of grid locations along the Xi axis*
InitialIndex	UnsignedInteger16	*Specifies the index of the initial grid point along the Xi domain axis*
AxisType-A-Alternatives	GridAxisTypeVariantStruct	*Specifies axis data alternatives*

GridDataStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying grid data representation*

Name	Type	Semantic
SampleType	EnvironmentDataSampleTypeEnum16	*Specifies the environmental data sample*
DataRepresentation-A-Alternatives	GridDataRepresentationVariantStruct	*Specifies grid data representation alternatives*

GridValueType0Struct

Encoding: HLAfixedRecord

Semantics: *Record specifying type 0 data representation*

Name	Type	Semantic
NumberOfBytes-A-Values	OctetArray1Plus	*Specifies the number of bytes*
PaddingTo32 RPRnoteSE11	OctetPadding32Array	*Brings the record length to a 32-bit boundary*

GridValueType1Struct

Encoding: HLAfixedRecord

Semantics: *Record specifying type 1 data representation*

Name	Type	Semantic
Scale	Float32	*Specifies the constant scale factor used to scale the environmental state variable data values*
Offset	Float32	*Specifies the constant offset used to scale the environmental state variable data values*
NumberOfValues-A-Values	Integer16Array1Plus	*Specifies the number of environmental state variable data values*
PaddingTo32 RPRnoteSE11	OctetPadding32Array	*Brings the record length to a 32-bit boundary*

GridValueType2Struct

Encoding: HLAfixedRecord

Semantics: *Record specifying type 2 data representation*

Name	Type	Semantic
NumberOfValues-A-Values	Float32Array1Plus	*Specifies the number of environmental state variable data values*

IrregularGridAxisStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying irregular (variable spacing) axis data*

Name	Type	Semantic
CoordinateScale	Float64	*Specifies the value that linearly scales the coordinates of the grid locations for the Xi axis*
CoordinateOffset	Float64	*Specifies the constant offset value that shall be applied to the grid locations for the Xi axis*
NumberOfGridLocations-A-GridLocations	UnsignedInteger16Array1Plus	*Specifies the coordinate values for the Ni grid locations along the irregular (variable spacing) Xi axis*
PaddingTo64 RPRnoteSE11	OctetPadding64Array	*Brings the record length to a 64-bit boundary*

Line1GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Line 1 geometry record*

Name	Type	Semantic
StartPointLocation	WorldLocationStruct	*Start point location*
EndPointLocation	WorldLocationStruct	*End point location*

Line2GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Line 2 geometry record*

Name	Type	Semantic
StartPointLocation	WorldLocationStruct	*Start point location*
EndPointLocation	WorldLocationStruct	*End point location*
StartPointVelocity	VelocityVectorStruct	*Start point velocity*
EndPointVelocity	VelocityVectorStruct	*End point velocity*

PlumeDimensionRateStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying plume dimension rates*

Name	Type	Semantic
LengthRate	VelocityMeterPerSecondFloat32	*Variation of plume length*
WidthRate	VelocityMeterPerSecondFloat32	*Variation of plume width*
HeightRate	VelocityMeterPerSecondFloat32	*Variation of plume height*

PlumeDimensionStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying plume dimensions*

Name	Type	Semantic
Length	MeterFloat32	*Plume length*
Width	MeterFloat32	*Plume width*

Name	Type	Semantic
Height	MeterFloat32	*Plume height*

Point2GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Point 2 geometry record*

Name	Type	Semantic
Location	WorldLocationStruct	*Location X, Y, Z*
Velocity	VelocityVectorStruct	*Velocity Vx, Vy, Vz*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding field*

RectVol1GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Rectangular Volume 1 geometry record*

Name	Type	Semantic
CornerLocation	WorldLocationStruct	*Corner location X, Y, Z*
Dimensions	DimensionStruct	*Dimensions*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*

RectVol2GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Rectangular Volume 2 geometry record*

Name	Type	Semantic
CornerLocation	WorldLocationStruct	*Corner location X, Y, Z*
Dimensions	DimensionStruct	*Dimensions*
DimensionsRate	DimensionRateStruct	*Variation of dimensions*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*
Velocity	VelocityVectorStruct	*Velocity Vx, Vy, Vz*
AngularVelocity	AngularVelocityVectorStruct	*Angular velocity Vx, Vy, Vz*
Padding ^{RPRnoteSE11}	OctetArray4	*Padding field*

Sphere1GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Bounding Sphere & Sphere 1 geometry record*

Name	Type	Semantic
CentroidLocation	WorldLocationStruct	*Centroid location X, Y, Z*
Radius	Float32	*Radius*
Padding [RPRnoteSE11]	OctetArray4	*Padding field*

Sphere2GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Sphere 2 geometry record*

Name	Type	Semantic
CentroidLocation	WorldLocationStruct	*Centroid location X, Y, Z*
Radius	Float32	*Radius*
RadiusRate	Float32	*Variation of radius*
Velocity	VelocityVectorStruct	*Velocity Vx, Vy, Vz*
AngularVelocity	AngularVelocityVectorStruct	*Angular velocity Vx, Vy, Vz*

UniformGeomRecStruct [RPRnoteSE7]

Encoding: HLAfixedRecord

Semantics: *Record specifying Uniform geometry record*

Name	Type	Semantic
Padding [RPRnoteSE11]	OctetArray8	*Padding field*

RectVol3GeomRecStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying Rectangular Volume 3 geometry record*

Name	Type	Semantic
CenterLocation	WorldLocationStruct	*Center location X, Y, Z*

Name	Type	Semantic
Dimensions	DimensionStruct	*Dimensions*
Orientation	OrientationStruct	*Orientation, specified by Euler angles*

6.3.4. Variant Record Datatypes

EnvironmentRecVariantStruct

Encoding: RPRextendedVariantRecord

Discriminant name: Type

Discriminant type: EnvironmentRecordTypeEnum32

Semantics: *Record specifying either a geometry or a state record*

Name	Enumerator	Type	Semantics
Point1GeometryData	PointRecord1Type	WorldLocationStruct	*Specifies Point 1 geometry record alternative*
Point2GeometryData	PointRecord2Type	Point2GeomRecStruct	*Specifies Point 2 geometry record alternative*
Line1GeometryData	LineRecord1Type	Line1GeomRecStruct	*Specifies Line 1 geometry record alternative*
Line2GeometryData	LineRecord2Type	Line2GeomRecStruct	*Specifies Line 2 geometry record alternative*
BoundingSphereGeometryData	BoundingSphereRecordType	Sphere1GeomRecStruct	*Specifies Bounding Sphere geometry record alternative*
Sphere1GeometryData	SphereRecord1Type	Sphere1GeomRecStruct	*Specifies Sphere 1 geometry record alternative*
Sphere2GeometryData	SphereRecord2Type	Sphere2GeomRecStruct	*Specifies Sphere 2 geometry record alternative*
Ellipsoid1GeometryData	EllipsoidRecord1Type	Ellipsoid1GeomRecStruct	*Specifies Ellipsoid 1 geometry record alternative*
Ellipsoid2GeometryData	EllipsoidRecord2Type	Ellipsoid2GeomRecStruct	*Specifies Ellipsoid 2 geometry record alternative*
Cone1GeometryData	ConeRecord1Type	Cone1GeomRecStruct	*Specifies Cone 1 geometry record alternative*
Cone2GeometryData	ConeRecord2Type	Cone2GeomRecStruct	*Specifies Cone 2 geometry record alternative*
RectVol1GeometryData	RectangularVolRecord1Type	RectVol1GeomRecStruct	*Specifies Rectangular Volume 1 geometry record alternative*
RectVol2GeometryData	RectangularVolRecord2Type	RectVol2GeomRecStruct	*Specifies Rectangular Volume 2 geometry record alternative*

Name	Enumerator	Type	Semantics
GaussPlumeGeometryData	GaussianPlumeRecordType	GaussPlumeGeomRecStruct	*Specifies Gaussian Plume geometry record alternative*
GaussPuffGeometryData	GaussianPuffRecordType	GaussPuffGeomRecStruct	*Specifies Gaussian Puff geometry record alternative*
UniformGeometryData	UniformGeometryRecordType	UniformGeomRecStruct	*Specifies Uniform geometry record alternative*
COMBICStateData	COMBICStateRecordType	COMBICStateRecStruct	*Specifies COMBIC state record alternative*
FlareStateData	FlareStateRecordType	FlareStateRecStruct	*Specifies Flare state record alternative*
RectVol3GeometryData	RectangularVolRecord3Type	RectVol3GeomRecStruct	*Specifies Rectangular Volume 3 geometry record alternative*

GridAxisTypeVariantStruct

Encoding: HLAvariantRecord

Discriminant name: AxisType

Discriminant type: EnvironmentGridAxisTypeEnum8

Semantics: *Record specifying either regular (fixed spacing) or irregular (variable spacing) axis data*

Name	Enumerator	Type	Semantics
IrregularGridAxis	IrregularGridAxisType	IrregularGridAxisStruct	*Specifies irregular (variable spacing) axis data alternative*

GridDataRepresentationVariantStruct

Encoding: HLAvariantRecord

Discriminant name: DataRepresentation

Discriminant type: EnvironmentDataRepresentationEnum16

Semantics: *Record specifying either type 0 or type 1 or type 2 data representation*

Name	Enumerator	Type	Semantics
Type0	EnvironmentDataType0	GridValueType0Struct	*Specifies type 0 data representation alternative*
Type1	EnvironmentDataType1	GridValueType1Struct	*Specifies type 1 data representation alternative*

Name	Enumerator	Type	Semantics
Type2	EnvironmentDataType2	GridValueType2Struct	*Specifies type 2 data representation alternative*

6.4. Notes

RPRnoteSE1

Semantics: *Default value: Not optional*

RPRnoteSE2

Semantics: *Default value: False (0)*

RPRnoteSE3

Semantics: *Default value: Zero*

RPRnoteSE4

Semantics: *Default value: 100% complete*

RPRnoteSE5

Semantics: *Default value: NoDamage (0)*

RPRnoteSE6

Semantics: *The structure of this datatype follows that defined in SISO-REF-010 (section 12.3.5.1)*

RPRnoteSE7

Semantics: *There is no data associated with the uniform geometry complex datatype ; however, to correctly align fields within the EnvironmentRecStruct complex datatype all environmental record datatypes (including this datatype) must have a size which is a multiple of 64 bits ; hence 64 bits of padding are included in this record*

RPRnoteSE8

Semantics: *Damaged appearance for environment objects has values 0: no damage, 1: damaged and 2: destroyed, with respect to the DIS standard as defined in SISO-REF-010 (section 12.1.2.1) ; this has to be taken into account when setting up a DIS-HLA gateway (SDEM mapping and filtering)*

RPRnoteSE9

Semantics: *Breached appearance for point objects and areal objects has values 0: no breaching, 1: breached and 2: cleared, with respect to the DIS standard as defined in SISO-REF-010 (section 12.1.2.2.2 & 12.1.2.4.1) ; this has to be taken into account when setting up a DIS-HLA gateway (SDEM mapping and filtering)*

RPRnoteSE10

Semantics: *Breached appearance for linear object segments has values 0: portion is not breached, 1: portion breached, with respect to the DIS standard as defined in SISO-REF-010 (section 12.1.2.3.1) ; this has to be taken into account when setting up a DIS-HLA gateway (SDEM mapping and filtering)*

RPRnoteSE11

Semantics: *All padding fields shall be set to the value 0*

7. Module Minefield

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Minefield FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	The Minefield FOM module relates to the simulation of minefields at both an aggregate and individual level simultaneously. In addition, it implements the two modes defined for exchanging the data of individual mines within minefields, depending on the number of mines.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved.
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References

Dependency	Real-time Platform Reference Synthetic Environment FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Synthetic Environment
Base
Enumerations
Foundation

7.1. Object Classes
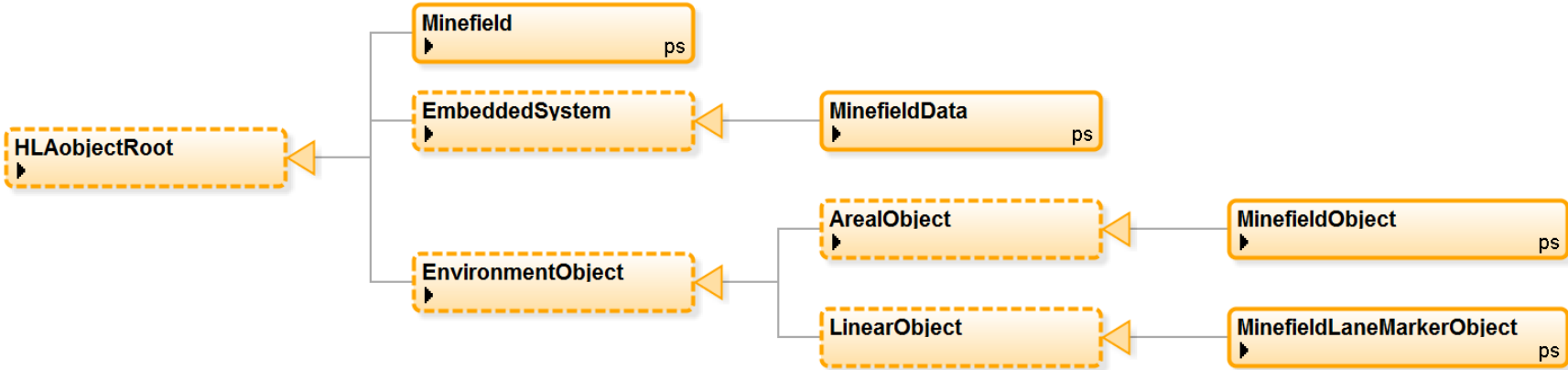
7.1.1. Minefield

Full Name: HLAobjectRoot.Minefield

Sharing: Publish/Subscribe

Semantics: *An area of ground or water containing mines laid with or without a pattern.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ActiveStatus	MinefieldStatusEnum8	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the active status of the minefield					

ForceIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force to which the minefield belongs					

Lane	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MinefieldLaneEnum8	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the minefield has an active lane					

MinefieldAppearanceType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MinefieldTypeEnum8	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the appearance information needed for displaying the symbology of the minefield					

MinefieldIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Uniquely identifies this minefield instance in association with the federate's site and application					

MinefieldLocation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStruct	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the location of the center of the minefield					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
MinefieldOrientation	OrientationStruct	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the orientation of the minefield, with Euler angles					
MinefieldType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the minefield type					
MineTypes	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStructLengthlessArray	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the type of each mine contained within the minefield					
PerimeterPointCoordinates	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PerimeterPointStructLengthlessArray	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the location of each perimeter point, relative to the minefield location					
ProtocolMode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MinefieldProtocolEnum8	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the mode (Heartbeat or Query Response Protocol) being used to communicate data about the minefield					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
State	RPRboolean	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the minefield has been deactivated					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

7.1.2. **MinefieldData**

Full Name: HLAobjectRoot.EmbeddedSystem.MinefieldData

Sharing: Publish/Subscribe

Semantics: *The MinefieldData object class provides data about collections of mines within a minefield on an individual mine basis.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
GroundBurialDepthOffset	DepthMeterFloat32LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the offset of the origin of the mine coordinate system with respect to the ground surface					
Fusing	MineFusingStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the primary and secondary fuse and anti-handling device for each mine in a collection of mines					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
MineEmplacementTime	ClockTimeStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the real-world (UTC) emplacement time of each mine in a collection of mines					
MineEntityIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MineIdentifierLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the mine entity identifier; the MineEntityID in conjunction with the MinefieldID form the unique identifier for each mine					
MinefieldIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the minefield to which the mines belong					
MineLocation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the location of the mine relative to the minefield location for each mine in a collection of mines					
MineOrientation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	OrientationStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the orientation of the center axis direction of fire of the mine, relative to the minefield Coordinate System for each mine in a collection of mines					

MineType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the type of mine for the collection of mines contained within the MinefieldData object					

NumberTripDetonationWires	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger8LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the number of trip detonation wires that exist for each mine in a collection of mines					

NumberWireVertices	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger8LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the number of vertices for each trip wire of each mine in a collection of mines					

PaintScheme	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MinefieldPaintSchemeLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the camouflage scheme/color of the mine					

Reflectance	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MineDielectricDifferenceLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the local dielectric difference between the mine and the surrounding soil					

ScalarDetectionCoefficient	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger8LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the coefficient to be utilized to insure proper correlation between detectors located on different simulation platforms					

SensorTypes	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	MinefieldSensorTypeLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	In QRP mode, specifies the requesting sensor types which were specified in the minefield query whereas in Heartbeat mode, specifies the sensor types that are being served by the minefield					

SnowBurialDepthOffset	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DepthMeterFloat32LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the offset of the origin of the mine coordinate system with respect to the snow surface					

ThermalContrast	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TemperatureDegreeCelsiusFloat32LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	Specifies the temperature difference between the mine and the surround soil in degrees Centigrade					

WaterBurialDepthOffset	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DepthMeterFloat32LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the offset of the origin of the mine coordinate system with respect to the water surface					

WireVertices	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies the locations of vertices in a trip wire					

EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					

RelativePosition *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					

7.1.3. **MinefieldObject**

Full Name: HLAobjectRoot.EnvironmentObject.ArealObject.MinefieldObject

Sharing: Publish/Subscribe

Semantics: *A mine, mine weapon, mine row, mine strip, mine lane, mine marker or minefield, defined as an areal environment object.*

Attributes:

BreachedStatus	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	BreachedStatusEnum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the breached appearance of the minefield object					
MineCount	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the number of mines in the minefield					
PointsData *Inherited from ArealObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies the physical location (a collection of points) of the object					

PercentComplete	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	PercentUnsignedInteger32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from ArealObject in Synthetic Environment	Conditional		*On change*					
	Semantics							
	Specifies the percent completion of the object							

DamagedAppearance	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	DamageStatusEnum32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from ArealObject in Synthetic Environment	Conditional		*On change*					
	Semantics							
	Specifies the damaged appearance of the object							

ObjectPreDistributed	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from ArealObject in Synthetic Environment	Conditional		*On change*					
	Semantics							
	Specifies whether or not the object was created before the start of the exercise							

Deactivated	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from ArealObject in Synthetic Environment	Conditional		*On change*					
	Semantics							
	Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)							

Smoking	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from ArealObject in Synthetic Environment	Conditional		*On change*					
	Semantics							
	Specifies whether or not the object is smoking (creating a smoke plume)							

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Flaming *Inherited from ArealObject in Synthetic Environment*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the object is aflame					
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					
ForceIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType *Inherited from EnvironmentObject in Synthetic Environment*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

7.1.4. **MinefieldLaneMarkerObject**

Full Name: HLAobjectRoot.EnvironmentObject.LinearObject.MinefieldLaneMarkerObject

Sharing: Publish/Subscribe

Semantics: *A minefield lane marker showing a cleared lane through a specific minefield, defined as a linear object.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SegmentRecords	MinefieldLaneMarkerStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies a minefield lane marker showing a cleared lane through a minefield					
ObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Identifies this EnvironmentObject instance (point, linear or areal)					
ReferencedObjectIdentifier *Inherited from EnvironmentObject in Synthetic Environment*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated					

ForceIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ForceIdentifierEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Conditional	*On change*				
	Semantics					
	Identifies the force that created or modified this EnvironmentObject instance					
ObjectType	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EnvironmentObjectTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EnvironmentObject in Synthetic Environment	Static	*NA*				
	Semantics					
	Identifies the type of this EnvironmentObject instance					
HLAprivilegeToDeleteObject	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

7.2. Interaction Classes
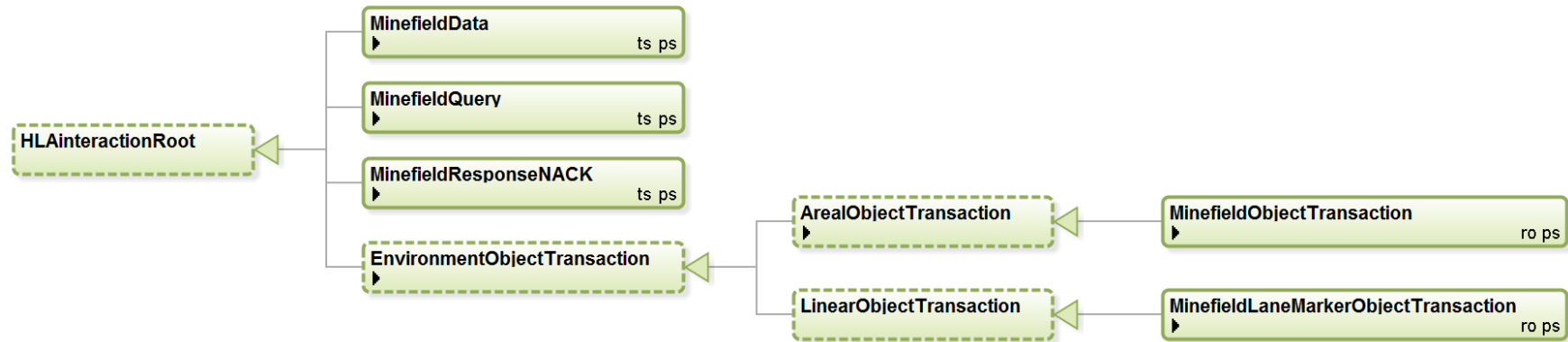
7.2.1. HLAinteractionRoot

Full Name:	HLAinteractionRoot
Sharing:	
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	
Parameters:	-

7.2.2. MinefieldData

Full Name:	HLAinteractionRoot.MinefieldData
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Timestamp
Dimensions:	
Semantics:	*Provides information on individual mines contained within a minefield*

Parameters:

Name	Datatype	Semantics
GroundBurialDepthOffset	DepthMeterFloat32LengthlessArray	*Specifies the offset of the origin of the mine coordinate system with respect to the ground surface*
Fusing	MineFusingStructLengthlessArray	*Specifies the primary and secondary fuse and anti-handling device for each mine*
MineEmplacementTime	ClockTimeStructLengthlessArray	*Specifies the real-world (UTC) emplacement time of the mine*
MineEntityIdentifier	MineIdentifierLengthlessArray	*Identifies the mine entity identifier; the MineEntityID in conjunction with the MinefieldID form the unique identifier for each mine*
MinefieldIdentifier	RTIobjectId	*Identifies the minefield to which the mines belong*
MineLocation	WorldLocationStructLengthlessArray	*Specifies the location of the relative to the minefield location*
MineOrientation	OrientationStructLengthlessArray	*Specifies the orientation of the center axis direction of fire of the mine, relative to the minefield Coordinate System*
MineType	EntityTypeStruct	*Specifies the type of each mine contained within the minefield interaction*
NumberOfRecords	UnsignedInteger8	*Specifies the total number of minefield records being published in response to a Minefield Query interaction*
NumberTripDetonationWires	UnsignedInteger8LengthlessArray	*Specifies the number of trip detonation wires that exist for each mine*
NumberWireVertices	UnsignedInteger8LengthlessArray	*Specifies the number of vertices for each trip wire*
PaintScheme	MinefieldPaintSchemeLengthlessArray	*Specifies the camouflage scheme/color of the mine*
RecordSequenceNumber	UnsignedInteger8	*Specifies the number of the current record in a sequence of minefield records published in response to a Minefield Query interaction*
Reflectance	MineDielectricDifferenceLengthlessArray	*Specifies the local dielectric difference between the mine and the surrounding soil*
RequestIdentifier	UnsignedInteger8	*Identifies the matching response to a request for mine information from the minefield simulation made by means of a Minefield Query interaction*
RequestingEntityIdentifier	RTIobjectId	*Identifies the entity that requested the information from the minefield simulation in QRP (Query Response Protocol) mode*
ScalarDetectionCoefficient	UnsignedInteger8LengthlessArray	*Specifies the coefficient to be utilized to insure proper correlation between detectors located on different simulation platforms*
SensorTypes	MinefieldSensorTypeLengthlessArray	*In QRP mode, specifies the requesting sensor types which were specified in the minefield query whereas in Heartbeat mode, specifies the sensor types that are being served by the minefield*
SnowBurialDepthOffset	DepthMeterFloat32LengthlessArray	*Specifies the offset of the origin of the mine coordinate system with respect to the snow surface*
ThermalContrast	TemperatureDegreeCelsiusFloat32LengthlessArray	*Specifies the temperature difference between the mine and the surrounding soil in degrees Centigrade*

Name	Datatype	Semantics
WaterBurialDepthOffset	DepthMeterFloat32LengthlessArray	*Specifies the offset of the origin of the mine coordinate system with respect to the water surface*
WireVertices	WorldLocationStructLengthlessArray	*Specifies the locations of vertices in a trip wire*

7.2.3. **MinefieldQuery**

Full Name: HLAinteractionRoot.MinefieldQuery

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Timestamp

Dimensions:

Semantics: *Provides the means by which a federate shall query a minefield simulation for information on the individual mines within the minefield operating in QRP mode.*

Parameters:

Name	Datatype	Semantics
MinefieldIdentifier	RTIobjectId	*Identifies the minefield to which this query is addressed*
PerimeterPoints	PerimeterPointStructLengthlessArray	*Specifies the location of each perimeter point in the requested area relative to the minefield location*
QueryFusing	RPRboolean	*Specifies whether or not fusing is requested*
QueryMineOrientation	RPRboolean	*Specifies whether or not orientation is requested*
QueryGroundBurialDepthOffset	RPRboolean	*Specifies whether or not ground burial depth offset is requested*
QueryMineEmplacementAge	RPRboolean	*Specifies whether or not emplacement age is requested*
QueryPaintScheme	RPRboolean	*Specifies whether or not paint scheme is requested*
QueryReflectance	RPRboolean	*Specifies whether or not reflectance is requested*
QueryScalarDetectionCoefficient	RPRboolean	*Specifies whether or not scalar detection coefficient is requested*
QuerySnowBurialDepthOffset	RPRboolean	*Specifies whether or not snow burial depth offset is requested*
QueryThermalContrast	RPRboolean	*Specifies whether or not thermal contrast is requested*
QueryTripDetonationWire	RPRboolean	*Specifies whether or not trip detonation wire is requested*
QueryWaterBurialDepthOffset	RPRboolean	*Specifies whether or not water burial depth offset is requested*
RequestingEntityIdentifier	RTIobjectId	*Identifies the entity that requests the information from the minefield simulation*

Name	Datatype	Semantics
RequestIdentifier	UnsignedInteger8	*Identifies the minefield query request*
RequestedMineType	EntityTypeStruct	*Identifies the type of mine being queried by the requesting federate*
SensorTypes	MinefieldSensorTypeLengthlessArray	*Specifies the types of sensors requesting the data*

7.2.4. **MinefieldResponseNACK**

Full Name: HLAinteractionRoot.MinefieldResponseNACK

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Timestamp

Dimensions:

Semantics: *A response to a MinefieldQuery providing information on individual mines within a minefield.*

Parameters:

Name	Datatype	Semantics
MinefieldIdentifier	RTIobjectId	*Identifies the minefield to which this query is addressed*
MissingRecordNumbers	MissingRecordNumbersLengthlessArray1Plus	*Specifies the record numbers that were not received in a sequence of minefield records*
RequestIdentifier	UnsignedInteger8	*Identifies the minefield query request*
RequestingEntityIdentifier	RTIobjectId	*Identifies the entity that requested the information from the minefield simulation*

7.2.5. **EnvironmentObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction

Sharing:

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics:

Parameters:

Name	Datatype	Semantics
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

7.2.6. **ArealObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.ArealObjectTransaction

Sharing:

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics:

Parameters:

Name	Datatype	Semantics
PointsData *Inherited from ArealObjectTransaction in Synthetic Environment*	WorldLocationStructLengthlessArray	*Specifies the physical location (a collection of points) that defines the object*
PercentComplete *Inherited from ArealObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*

Name	Datatype	Semantics
DamagedAppearance *Inherited from ArealObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

7.2.7. **MinefieldObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.ArealObjectTransaction.MinefieldObjectTransaction

Sharing: Publish/Subscribe

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Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the MinefieldObject class.*

Parameters:

Name	Datatype	Semantics
BreachedStatus	BreachedStatusEnum8	*Specifies the breached appearance of the minefield object*
MineCount	UnsignedInteger32	*Specifies the number of mines in the minefield*
PointsData *Inherited from ArealObjectTransaction in Synthetic Environment*	WorldLocationStructLengthlessArray	*Specifies the physical location (a collection of points) that defines the object*
PercentComplete *Inherited from ArealObjectTransaction in Synthetic Environment*	PercentUnsignedInteger32	*Specifies the percent completion of the object*
DamagedAppearance *Inherited from ArealObjectTransaction in Synthetic Environment*	DamageStatusEnum32	*Specifies the damaged appearance of the object*
ObjectPreDistributed *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object was created before the start of the exercise*
Deactivated *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object has been deactivated (it has ceased to exist in the synthetic environment)*
Smoking *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is smoking (creating a smoke plume)*
Flaming *Inherited from ArealObjectTransaction in Synthetic Environment*	RPRboolean	*Specifies whether or not the object is flaming*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*

Name	Datatype	Semantics
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

7.2.8. **LinearObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.LinearObjectTransaction

Sharing:

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics:

Parameters:

Name	Datatype	Semantics
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*

Name	Datatype	Semantics
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

7.2.9. **MinefieldLaneMarkerObjectTransaction**

Full Name: HLAinteractionRoot.EnvironmentObjectTransaction.LinearObjectTransaction.MinefieldLaneMark erObjectTransaction

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *An interaction sent to an environment manager to request the creation, modification, or deletion of instances of the MinefieldLaneMarkerObject class.*

Parameters:

Name	Datatype	Semantics
SegmentRecords	MinefieldLaneMarkerStructLengthlessArray	*Specifies a minefield lane marker linear object*
ObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EntityIdentifierStruct	*Identifies this EnvironmentObject instance (point, linear or areal)*
ReferencedObjectIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	RTIobjectId	*Identifies the Synthetic Environment object instance to which this EnvironmentObject instance is associated*
ForceIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	ForceIdentifierEnum8	*Identifies the force that created or modified this EnvironmentObject instance*
ObjectType *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	EnvironmentObjectTypeStruct	*Identifies the type of this EnvironmentObject instance*
RequestingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application sending the EnvironmentObjectTransaction interaction*

Name	Datatype	Semantics
ReceivingIdentifier *Inherited from EnvironmentObjectTransaction in Synthetic Environment*	FederateIdentifierStruct	*Identifies the simulation application receiving the EnvironmentObjectTransaction interaction*

7.3. Datatypes

7.3.1. Simple Datatypes

MineDielectricDifference

Representation: HLAfloat32BE

Units: NA

Resolution: NA

Accuracy: NA

Semantics: Local dielectric difference between the mine and the surrounding soil (reflectance)

MineIdentifier

Representation: RPRunsignedInteger16BE

Units: NA

Resolution: 1

Accuracy: NA

Semantics: Specifies a mine entity identifier

7.3.2. Array Datatypes

DepthMeterFloat32LengthlessArray

Element Type:	DepthMeterFloat32
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies ground - snow - water burial depth offset for each mine in a collection of mines*

MineDielectricDifferenceLengthlessArray

Element Type:	MineDielectricDifference
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies local dielectric difference between the mine and the surrounding soil (reflectance) for each mine in a collection of mines*

MinefieldLaneMarkerStructLengthlessArray

Element Type:	MinefieldLaneMarkerStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies a minefield lane marker (a collection of segments)*

MinefieldPaintSchemeLengthlessArray

Element Type:	MinefieldPaintSchemeEnum32
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies the camouflage scheme/color for each mine in a collection of mines*

MinefieldSensorTypeLengthlessArray

Element Type:	MinefieldSensorTypeEnum32
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies a collection of minefield sensor types*

MineFusingStructLengthlessArray

Element Type:	MineFusingStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Specifies the type of primary fuse, the type of the secondary fuse and the anti-handling device status for a collection of mines*

MineIdentifierLengthlessArray

Element Type:	MineIdentifier
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Identifies the mine entity identifier for each mine in a collection of mines*

MissingRecordNumbersLengthlessArray1Plus

Element Type:	UnsignedInteger8
Cardinality:	[1..2147483647]
Encoding:	RPRlengthlessArray
Semantics:	*Specifies missing record numbers as a collection*

PerimeterPointStructLengthlessArray

Element Type:	PerimeterPointStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray

Semantics: *Specifies the location of perimeter points (collection)*

TemperatureDegreeCelsiusFloat32LengthlessArray

Element Type: TemperatureDegreeCelsiusFloat32

Cardinality: Dynamic

Encoding: RPRlengthlessArray

Semantics: *Specifies thermal contrast for each mine in a collection of mines*

7.3.3. Fixed Record Datatypes

MinefieldLaneMarkerStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying a minefield lane marker segment*

Name	Type	Semantic
SegmentParameters	LinearSegmentStruct	*Specifies the minefield lane marker segment characteristics*
VisibleSideLocation	VisibleSideLocationEnum32	*Specifies the visible side(s) of the minefield lane marker segment*

MineFusingStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying the type of primary fuse, the type of the secondary fuse and the anti-handling device status of a mine*

Name	Type	Semantic
Primary	MinefieldFusingEnum32	*Specifies the type of the primary fuse of a mine*
Secondary	MinefieldFusingEnum32	*Specifies the type of the secondary fuse of a mine*
AntiHandlingDevice	RPRboolean	*Specifies the anti-handling device status of a mine*
Padding ^{RPRnoteMinefield14}	OctetArray3	*Padding to 32 bits*

PerimeterPointStruct

Encoding: HLAfixedRecord

Semantics: *Record specifying the location of a perimeter point*

Name	Type	Semantic
X	MeterFloat32	*Specifies the X coordinate*
Y	MeterFloat32	*Specifies the Y coordinate*

7.4. Notes

RPRnoteMinefield1

Semantics: *Not optional*

RPRnoteMinefield2

Semantics: *Default value: {0,0,0}*

RPRnoteMinefield3

Semantics: *Default value: 0*

RPRnoteMinefield4

Semantics: *Default value: False (0)*

RPRnoteMinefield5

Semantics: *Required if tripwires are used, otherwise the default value is Empty*

RPRnoteMinefield6

Semantics: *Required if the sum of values in NumberTripDetonationWires is greater than 0, otherwise the default value is Empty*

RPRnoteMinefield7

Semantics: *Required if the sum of values in NumberWireVertices is greater than 0, otherwise the default values is Empty*

RPRnoteMinefield8

Semantics: *Default value: Other (0)*

RPRnoteMinefield9

Semantics: *Default value: Inactive (1)*

RPRnoteMinefield10

Semantics: *Default value: Mixed Anti-personnel Anti-tank (0)*

RPRnoteMinefield11

Semantics: *Default value: Minefield Location (not needed for single mines)*

RPRnoteMinefield12

Semantics: *Default value: Heartbeat mode (0)*

RPRnoteMinefield13

Semantics: *Breached appearance for point objects and areal objects has values 0: no breaching, 1: breached and 2: cleared, with respect to the DIS standard as defined in SISO-REF-010 (section 12.1.2.2.2 & 12.1.2.4.1) ; this has to be taken into account when setting up a DIS-HLA gateway (SDEM mapping and filtering)*

RPRnoteMinefield14

Semantics: *All padding fields shall be set to the value 0*

8. Module Communication

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Communication FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	The Communication module is used to simulate radio transmitters and receivers as well as the radio signals that are transmitted between them.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Base
Enumerations
Foundation

8.1. Object Classes
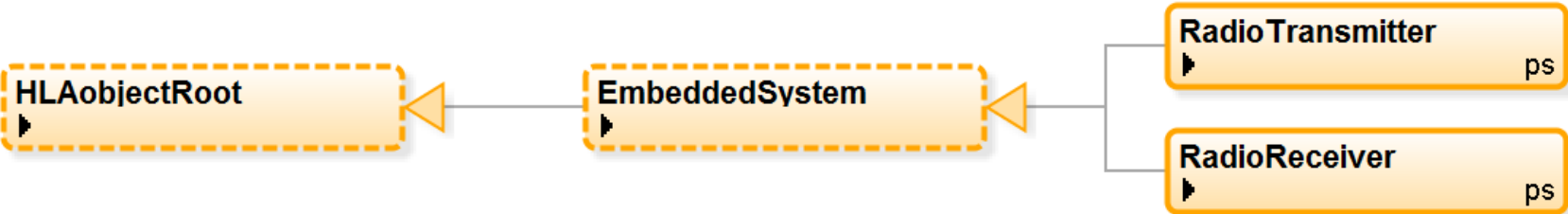
8.1.1. RadioTransmitter

Full Name: HLAobjectRoot.EmbeddedSystem.RadioTransmitter

Sharing: Publish/Subscribe

Semantics: *A device that sends out information encoded in electromagnetic waves in the radio frequency range.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AntennaPatternData	AntennaPatternVariantStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The radiation pattern of the radio's antenna.					
CryptographicMode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	CryptographicModeEnum32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The mode of the cryptographic system.					

CryptoSystem	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	CryptographicSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The type of cryptographic equipment in use.					

EncryptionKeyIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The identification of the key used to encrypt the radio signals being transmitted. The transmitter and receiver should be considered to be using the same key if these numbers match.					

Frequency	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzUnsignedInteger64	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The center frequency of the radio transmissions.					

FrequencyBandwidth	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The bandpass of the radio transmissions.					

RadioIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	A number that uniquely identifies this radio from others on the host.					

RadioInputSource	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RadioInputSourceEnum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies which position or data port provided the input for the transmission.					

RadioSystemType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RadioTypeStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The type of radio transmitter.					

RFModulationSystemType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RFModulationSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	The radio system type associated with this transmitter.					

RFModulationType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RFModulationTypeVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Classification of the modulation type.					

SpreadSpectrum	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	SpreadSpectrumVariantStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Describes the spread spectrum characteristics of the transmission, such as frequency hopping or other spread spectrum transmission modes.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
StreamTag	UnsignedInteger64	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	A globally unique identifier for the associated audio stream					
TimeHopInUse	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether the radio is using time hopping or not.					
TransmittedPower	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PowerRatioDecibelMilliwattFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The average transmitted power.					
TransmitterOperationalStatus	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TransmitterOperationalStatusEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The current operational state of the radio transmitter.					
WorldLocation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> TRANS_POS_THRSH_DFLT* [RPRnoteCommunication4]				
	Semantics					
	The location of the antenna in the world coordinate system.					

EntityIdentifier *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					

8.1.2. **RadioReceiver**

Full Name: HLAobjectRoot.EmbeddedSystem.RadioReceiver

Sharing: Publish/Subscribe

Semantics: *A device that converts incoming electromagnetic waves in the radio frequency range into information.*

Attributes:

RadioIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	A number that uniquely identifies this radio receiver from other receivers on the host object.					
ReceivedPower	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	PowerRatioDecibelMilliwattFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The radio frequency power received, after applying any propagation loss and antenna gain.					
ReceivedTransmitterIdentifier	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The object instance ID of the transmitter that generated the received radio signal.					
ReceiverOperationalStatus	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	ReceiverOperationalStatusEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The operational state of the radio receiver.					
EntityIdentifier *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

8.2. Interaction Classes
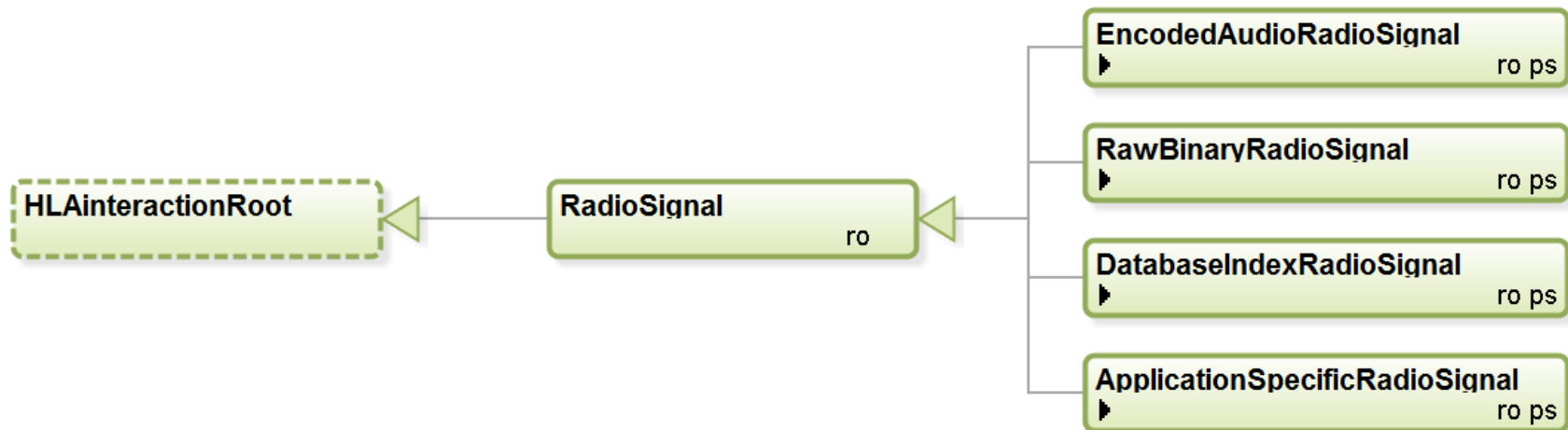
8.2.1. **HLAinteractionRoot**

Full Name:	HLAinteractionRoot
Sharing:	
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	
Parameters:	-

8.2.2. **RadioSignal**

Full Name:	HLAinteractionRoot.RadioSignal
Sharing:	
Transportation type:	HLAbestEffort

Order: Receive

Dimensions:

Semantics: *The wireless transmission and reception of audio or digital data by means of electromagnetic waves.*

Parameters: -

8.2.3. EncodedAudioRadioSignal

Full Name: HLAinteractionRoot.RadioSignal.EncodedAudioRadioSignal

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A radio signal used to transmit voice/audio data encoded according to a standard encoding scheme.*

Parameters:

Name	Datatype	Semantics
AudioData	AudioDataTypeStruct	*The data associated with the encoded audio radio signal*

8.2.4. RawBinaryRadioSignal

Full Name: HLAinteractionRoot.RadioSignal.RawBinaryRadioSignal

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A radio signal used to transmit raw binary data.*

Parameters:

Name	Datatype	Semantics
HostRadioIndex	RTIobjectId	*The object instance ID of the radio transmitting this signal.*
DataRate	BitRateBitPerSecondUnsignedInteger32	*The rate at which the data is being transmitted.*
SignalDataLength	BitsUnsignedInteger16	*The length of the signal data.*

Name	Datatype	Semantics
SignalData	SignalDataLengthlessArray1Plus	*The signal data.*
TacticalDataLinkType	TacticalDataLinkTypeEnum16	*The type of tactical data link used to transmitted this signal (if any).*
TDLMessageCount	UnsignedInteger16	*The number of tactical data link messages contained in this signal.*

8.2.5. **DatabaseIndexRadioSignal**

Full Name: HLAinteractionRoot.RadioSignal.DatabaseIndexRadioSignal

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A radio signal that represents transmission of a pre-determined message by using a pre-defined database index.*

Parameters:

Name	Datatype	Semantics
HostRadioIndex	RTIobjectId	*The object instance ID of the radio transmitting this signal.*
DatabaseIndex	UnsignedInteger32	*The index into the federation specific database of stored signals.*
Duration	TimeMillisecondUnsignedInteger32	*The duration of the stored signal to be replayed.*
StartOffset	TimeMillisecondUnsignedInteger32	*The offset, from the start of the stored signal, that the signal is replayed from.*
TacticalDataLinkType	TacticalDataLinkTypeEnum16	*The type of tactical data link used to transmitted this signal (if any).*
TDLMessageCount	UnsignedInteger16	*The number of tactical data link messages contained in this signal.*

8.2.6. **ApplicationSpecificRadioSignal**

Full Name: HLAinteractionRoot.RadioSignal.ApplicationSpecificRadioSignal

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A radio signal that can be used for an application specific encoding scheme.*

Parameters:

Name	Datatype	Semantics
HostRadioIndex	RTIobjectId	*The object instance ID of the radio transmitting this signal.*
DataRate	BitRateBitPerSecondUnsignedInteger32	*The rate at which the data is being transmitted.*
SignalDataLength	BitsUnsignedInteger16	*The length of the signal data.*
SignalData	SignalDataLengthlessArray1Plus	*The signal data.*
TacticalDataLinkType	TacticalDataLinkTypeEnum16	*The type of tactical data link used to transmitted this signal (if any).*
TDLMessageCount	UnsignedInteger16	*The number of tactical data link messages contained in this signal.*
UserProtocolID	UserProtocolEnum32	*The ID of the user protocol in use.*

8.3. Datatypes

8.3.1. Simple Datatypes

BitRateBitPerSecondUnsignedInteger32

Representation: RPRunsignedInteger32BE
Units: bit/second
Resolution: 1
Accuracy: perfect
Semantics: Rate of transmission, in bits per second.

BitsUnsignedInteger16

Representation: RPRunsignedInteger16BE
Units: bit
Resolution: 1
Accuracy: perfect
Semantics: Transmission size, in number of bits.

FrequencyHertzUnsignedInteger64

Representation: RPRunsignedInteger64BE
Units: hertz (Hz)
Resolution: NA
Accuracy: NA
Semantics: Frequency of a radio transmission, in hertz.

8.3.2. Enumerated Datatypes

CryptographicModeEnum32

Representation: RPRunsignedInteger32BE

Semantics: *Represents the encryption mode of a cryptographic system.*

Enumerator	Value
BasebandEncryption	0
DiphaseEncryption	1

8.3.3. Array Datatypes

AntennaPatternVariantStructLengthlessArray

Element Type:	AntennaPatternVariantStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Represents an antenna's radiation pattern, its orientation in space, and the polarization of the radiation.*

CoefficientsLengthlessArray1Plus

Element Type:	Float32
Cardinality:	[1..2147483647]
Encoding:	RPRlengthlessArray
Semantics:	*Represents the power distribution from the antenna as the coefficients of a spherical harmonic expansion. The highest order of the expansion can be determined by the number of coefficients in the array.*

SignalDataLengthlessArray1Plus

Element Type:	Octet
Cardinality:	[1..2147483647]
Encoding:	RPRlengthlessArray
Semantics:	*The audio or digital data conveyed in a radio transmission.*

8.3.4. Fixed Record Datatypes

AudioDataTypeStruct

Encoding: HLAfixedRecord

Semantics: *Specifies an encoded audio radio signal.*

Name	Type	Semantic
StreamTag	UnsignedInteger64	*Identifier for the audio stream. This must be globally unique.*
EncodingType	EncodingTypeEnum32	*The type of encoding used for the audio data*
SampleRate	BitRateBitPerSecondUnsignedInteger32	*The number of samples per second in the audio data.*
DataLength	BitsUnsignedInteger16	*The length of the signal data.*
SampleCount	UnsignedInteger32	*The number of samples in this transmission.*
Data	SignalDataLengthlessArray1Plus	*The signal data.*

BeamAntennaStruct

Encoding: HLAfixedRecord

Semantics: *Specifies the direction, pattern, and polarization of radiation from a radio transmitter's antenna.*

Name	Type	Semantic
BeamOrientation	OrientationStruct	*The rotation that transforms the reference coordinate system into the beam coordinate system.*
BeamAzimuthBeamwidth	AngleRadianFloat32	*The full width of the beam to the -3 dB power density points in the x-y plane of the beam coordinate system.*
BeamElevationBeamwidth	AngleRadianFloat32	*The full width of the beam to the -3 dB power density points in the x-z plane of the beam coordinate system.*
ReferenceSystem	ReferenceSystemEnum8	*The reference coordinate system with respect to which beam direction is specified*
Ez	Float32	*The magnitude of the Z-component (in beam coordinates) of the Electrical field at some arbitrary single point in the mainbeam and in the far field of the antenna.*
Ex	Float32	*The magnitude of the X-component (in beam coordinates) of the Electrical field at some arbitrary single point in the mainbeam and in the far field of the antenna*
BeamPhaseAngle	Float32	*The phase angle between Ez and Ex in radians.*

RadioTypeStruct ^{RPRnoteCommunication3}

Encoding: HLAfixedRecord

Semantics: *Specifies the type of a radio.*

Name	Type	Semantic
EntityKind	Octet	*The kind of the entity described in this struct.*
Domain	Octet	*The domain in which the radio entity operates.*
CountryCode	UnsignedInteger16	*The country to which the design of the radio entity is attributed.*
Category	Octet	*The main category that describes the radio entity.*
NomenclatureVersion	NomenclatureVersionEnum8	*The specific modification or individual unit type for a series and/or family of equipment.*
Nomenclature	NomenclatureEnum16	*The nomenclature for a particular communications device.*

SINCGARSModulationStruct

Encoding: HLAfixedRecord

Semantics: *Modulation parameters for SINCGARS radio system*

Name	Type	Semantic
FHNetID	Integer16	*Frequency hopping network identifier.*
HopSetID	Integer16	*Identification for the set of frequencies used when creating a hopping pattern.*
LockoutSetID	Integer16	*Identification for the set of frequencies that are excluded from the hopping pattern.*
TransmissionSecurityKey	Integer16	*Identifies the transmission security key that is used when generating the hopping pattern.*
FHSynchronizationTimeOffset	TimeSecondInteger32	*The offset to exercise time in seconds for the clock in the radio.*

SphericalHarmonicAntennaStruct

Encoding: HLAfixedRecord

Semantics: *Specifies the direction and radiation pattern from a radio transmitter's antenna.*

Name	Type	Semantic
Order	UnsignedInteger32	*The highest order of the expansion in spherical harmonics, counting from zero.*
Coefficients ^{RPRnoteCommunication5}	CoefficientsLengthlessArray1Plus	*Represents the power distribution from the antenna as the coefficients of a spherical harmonic expansion to the order given in the Order field. The length of the array is N^2+2N+1 (N being the Order).*
ReferenceSystem	ReferenceSystemEnum8	*This field shall specify the reference coordinate system with respect to which beam direction is specified.*
Padding ^{RPRnoteCommunication1}	OctetArray3	*Padding to 32 bits*

8.3.5. Variant Record Datatypes

AntennaPatternVariantStruct

Encoding: HLAvariantRecord

Discriminant name: AntennaPatternType

Discriminant type: AntennaPatternTypeEnum32

Semantics: *Specifies the radiation pattern from the antenna, its orientation in space, and the polarization of the radiation.*

Name	Enumerator	Type	Semantics
BeamAntenna	Beam	BeamAntennaStruct	*Specifies the direction, pattern, and polarization of radiation from a radio transmitter's antenna, represented with respect to a beam coordinate system.*
SphericalHarmonicAntenna	SphericalHarmonic	SphericalHarmonicAntennaStruct	*Specifies the direction and radiation pattern from a radio transmitter's antenna, represented with respect to the world coordinate system or entity coordinate system.*

RFModulationTypeVariantStruct

Encoding: HLAvariantRecord

Discriminant name: MajorModulationType

Discriminant type: MajorRFModulationTypeEnum16

Semantics: *Specifies the major modulation type as well as certain detailed information specific to the type.*

Name	Enumerator	Type	Semantics
AmplitudeModulationType	Amplitude	AmplitudeModulationTypeEnum16	*Detailed modulation type for the amplitude major modulation type.*
AmplitudeAngleModulationType	AmplitudeAndAngle	AmplitudeAngleModulationTypeEnum16	*Detailed modulation type for the amplitude and angle major modulation type.*
AngleModulationType	Angle	AngleModulationTypeEnum16	*Detailed modulation type for the angle major modulation type.*
CombinationModulationType	Combination	CombinationModulationTypeEnum16	*Detailed modulation type for the combination major modulation type.*

Name	Enumerator	Type	Semantics
PulseModulationType	Pulse	PulseModulationTypeEnum16	*Detailed modulation type for the pulse major modulation type.*
UnmodulatedType	Unmodulated	UnmodulatedTypeEnum16	*Detailed modulation type for the unmodulated major modulation type.*

SpreadSpectrumVariantStruct

Encoding: HLAvariantRecord

Discriminant name: SpreadSpectrumType

Discriminant type: SpreadSpectrumEnum16

Semantics: *Identifies the actual spread spectrum technique in use.*

Name	Enumerator	Type	Semantics
SINCGARSModulation	SINCGARSFrequencyHop	SINCGARSModulationStruct	*Modulation parameters for SINCGARS radio system.*

8.4. Notes

RPRnoteCommunication1

Semantics: *All padding fields shall be set to the value 0.*

RPRnoteCommunication2

Semantics: *This must reference a valid Object instance.*

RPRnoteCommunication3

Semantics: *All the fields in the radio type struct are enumerations. The values for the individual fields (that do not use enumeration datatypes from within the RPR FOM) are to be derived from the federation agreements, which could refer to SISO-REF-010. The values used in this structure should comply with the requirements specified in section 5.2.16 of IEEE 1278.1-1995.*

RPRnoteCommunication4

Semantics: *This attribute is updated if the current value differs from the previously updated value by more than the value specified by the symbolic name (see section 5.1.4 of IEEE 1278.1-1995 for the actual values of the symbolic names)*

RPRnoteCommunication5

Semantics: *RPRlengthlessArrayLength=Order*Order+2*Order+1*

9. Module Distributed Emission Regeneration

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Distributed Emission Regeneration FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	Represent electromagnetic emissions using the regeneration principle.
Use Limitation:	

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Base
Enumerations
Foundation

9.1. Object Classes
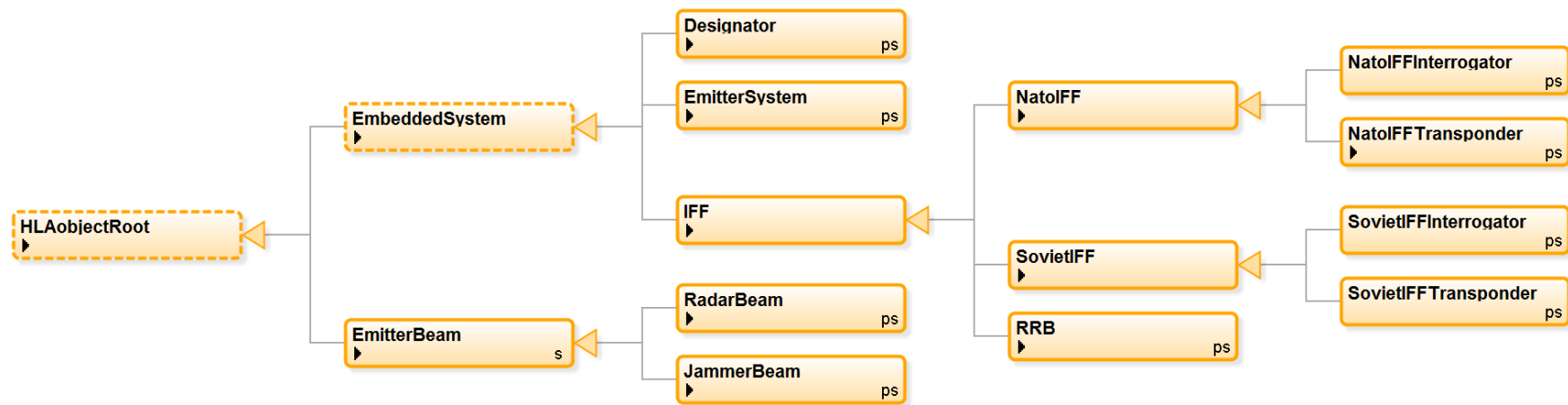
9.1.1. **Designator**

Full Name: HLAobjectRoot.EmbeddedSystem.Designator

Sharing: Publish/Subscribe

Semantics: *A system used to designate or mark a location or object, such as a laser designator which supports a laser-guided weapon engagement.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DesignatorCodeNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
CodeName	Static		*NA*			
	Semantics					
	The code name of the designator system.					

DesignatedObjectIdentifier	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The object instance ID of the entity that is currently being designated (if any).					

DesignatorCode	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	DesignatorCodeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The designator code being used by the designating entity.					

DesignatorEmissionWavelength	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	WavelengthMicronFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> DS_WAVELENGTH* [RPRnoteDER12]				
	Semantics					
	The wavelength of the designator system.					

DesignatorOutputPower	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	PowerWattFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The output power of the designator system.					

DesignatorSpotLocation	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	WorldLocationStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*DesigPositionChange* [RPRnoteDER10] [RPRnoteDER11]				
	Semantics					
	The location, in the world coordinate system, of the designator spot.					

DeadReckoningAlgorithm	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	DeadReckoningAlgorithmEnum8	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Dead reckoning algorithm used by the issuing object.					

RelativeSpotLocation	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*RelDesigPositionChange* [RPRnoteDER10] [RPRnoteDER11]			
	Semantics					
	The location of the designator spot, relative to the object being designated (if any).					

SpotLinearAccelerationVector	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AccelerationVectorStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*DesigAccelerationChange* [RPRnoteDER9] [RPRnoteDER10]			
	Semantics					
	The rate of change in linear velocity of the designator spot over time.					

EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RelativePosition *Inherited from EmbeddedSystem in Base*	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

9.1.2. **EmitterSystem**

Full Name: HLAobjectRoot.EmbeddedSystem.EmitterSystem

Sharing: Publish/Subscribe

Semantics: *A device that radiates an electromagnetic signal, such as a radar or jammer.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EmitterFunctionCode	EmitterFunctionEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The function of the emitter system.					
EmitterType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EmitterTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The type of the emitter system.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EmitterIndex	Octet	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	A unique number, which uniquely identifies the emitter system from other on the same host entity.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EventIdentifier	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* ^{RPRnoteDER4}				
	Semantics					
	The EventIdentifier is used by the generating federate to associate related events. The event number shall start at one at the beginning of the exercise, and be incremented by one for each event.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EntityIdentifier *Inherited from EmbeddedSystem in Base*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RelativePosition *Inherited from EmbeddedSystem in Base*	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

9.1.3. **IFF**

Full Name: HLAobjectRoot.EmbeddedSystem.IFF

Sharing:

Semantics: *Interrogator Friend or Foe (IFF) system, Air Traffic Control Beacon and Transponder system, collision avoidance and navigational aids systems.*

Attributes:

BeamAzimuthCenter	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the IFF beam's scan volume relative to the IFF system.					
BeamAzimuthSweep	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.					
BeamElevationCenter	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation center of the IFF beam's scan volume relative to the IFF system.					

BeamElevationSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	> *EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamSweepSync	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Periodic	*HRT_BEAT_TIMER secs* [RPRnoteDER8]				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					

EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Used to associate related events.					

FundamentalParameterData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FundamentalParameterDataStruct LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					

Layer2DataAvailable	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					

SecondaryOperationalDataParameter1	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter1Enum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SecondaryOperationalDataParameter2	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter2Enum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SystemMode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemModeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Mode of operation.					

SystemName	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	On change				
	Semantics					
	Particular named type of the IFF system in use.					

SystemType	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	NA				
	Semantics					
	General type of IFF system in use.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SystemIsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					
SystemIsOperational	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					
EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					

HLAprivilegeToDeleteObject	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

9.1.4. **NatoIFF**

Full Name: HLAobjectRoot.EmbeddedSystem.IFF.NatoIFF

Sharing:

Semantics: *NATO Identification Friend or Foe (IFF) system that uses electromagnetic transmissions to which friendly forces' equipment automatically responds.*

Attributes:

AlternateMode4	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffAlternateMode4Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	IFF Alternate Mode 4.					
Mode1Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is enabled.					
Mode1IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is damaged.					

Mode1IsMalfunctioning	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		Update Condition				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Mode 1 is malfunctioning.						

Mode1IsOn	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		Update Condition				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Mode 1 is on.						

Mode2Enabled	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		Update Condition				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Mode 2 is enabled.						

Mode2IsDamaged	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		Update Condition				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Mode 2 is damaged.						

Mode2IsMalfunctioning	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		Update Condition				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Mode 2 is malfunctioning.						

Mode2IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is on.					

Mode3AEnabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is enabled.					

Mode3AIsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is damaged.					

Mode3AIsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is malfunctioning.					

Mode3AIsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is on.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode4Enabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is enabled.					
Mode4IsDamaged	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is damaged.					
Mode4IsMalfunctioning	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is malfunctioning.					
Mode4IsOn	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is on.					
Mode4PseudoCrypto	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Mode 4 Pseudo-Crypto value (0-4094).					

Mode4PseudoCryptoAvailable	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Specifies whether or not Mode 4 pseudo-crypto value is available.					

Mode5CEnabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is enabled.					

Mode5CIsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is damaged.					

Mode5CIsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is malfunctioning.					

Mode5CIsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	On change				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is on.					

ModeSEnabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is enabled.					

ModeSIsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is damaged.					

ModeSIsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is malfunctioning.					

ModeSIsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is on.					

ModeSIsTcasI	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies which Traffic Alert/Collision Avoidance System is used. FALSE means TCAS I, TRUE means TCAS II.					

BeamAzimuthCenter	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	AngleRadianFloat32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from IFF in Distributed Emission Regeneration	Conditional		$> EE\_AZ\_THRSH\_DFLT$ [RPRnoteDER7]					
	Semantics							
	The azimuth center of the IFF beam's scan volume relative to the IFF system.							

BeamAzimuthSweep	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	AngleRadianFloat32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from IFF in Distributed Emission Regeneration	Conditional		$> EE\_AZ\_THRSH\_DFLT$ [RPRnoteDER7]					
	Semantics							
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.							

BeamElevationCenter	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	AngleRadianFloat32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from IFF in Distributed Emission Regeneration	Conditional		$> EE\_EL\_THRSH\_DFLT$ [RPRnoteDER7]					
	Semantics							
	The elevation center of the IFF beam's scan volume relative to the IFF system.							

BeamElevationSweep	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	AngleRadianFloat32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from IFF in Distributed Emission Regeneration	Conditional		$> EE\_EL\_THRSH\_DFLT$ [RPRnoteDER7]					
	Semantics							
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.							

BeamSweepSync	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	PercentFloat32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from IFF in Distributed Emission Regeneration	Periodic		HRT_BEAT_TIMER secs [RPRnoteDER8]					
	Semantics							
	The percentage of time a scan is through its pattern from its origin.							

EventIdentifier *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Used to associate related events.					
FundamentalParameterData *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	FundamentalParameterDataStruct LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					
Layer2DataAvailable *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					
SecondaryOperationalDataParameter1 *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IffOperationalParameter1Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					
SecondaryOperationalDataParameter2 *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IffOperationalParameter2Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SystemMode *Inherited from IFF in Distributed Emission Regeneration*	IffSystemModeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Mode of operation.					
SystemName *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*On change*				
	Semantics					
	Particular named type of the IFF system in use.					
SystemType *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	General type of IFF system in use.					
SystemIsOn *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					
SystemIsOperational *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					

EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					

9.1.5. NatoIFFInterrogator

Full Name: HLAobjectRoot.EmbeddedSystem.IFF.NatoIFF.NatoIFFInterrogator

Sharing: Publish/Subscribe

Semantics: *The part of an IFF system that first transmits electromagnetic signals.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AlternateMode4 *Inherited from NatoIFF in Distributed Emission Regeneration*	IffAlternateMode4Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	IFF Alternate Mode 4.					
Mode1Enabled *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is enabled.					
Mode1IsDamaged *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is damaged.					
Mode1IsMalfunctioning *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is malfunctioning.					
Mode1IsOn *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is on.					

Mode2Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is enabled.					

Mode2IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is damaged.					

Mode2IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is malfunctioning.					

Mode2IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is on.					

Mode3AEnabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is enabled.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode3AIsDamaged *Inherited from NatoIFF in Distributed Emission Regeneration*	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is damaged.					
Mode3AIsMalfunctioning *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is malfunctioning.					
Mode3AIsOn *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is on.					
Mode4Enabled *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is enabled.					
Mode4IsDamaged *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is damaged.					

Mode4IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is malfunctioning.					

Mode4IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is on.					

Mode4PseudoCrypto	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Mode 4 Pseudo-Crypto value (0-4094).					

Mode4PseudoCryptoAvailable	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 pseudo-crypto value is available.					

Mode5CEnabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is enabled.					

Mode5CIsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
Inherited from NatoIFF in Distributed Emission Regeneration	**Update type**	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is damaged.					

Mode5CIsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
Inherited from NatoIFF in Distributed Emission Regeneration	**Update type**	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is malfunctioning.					

Mode5CIsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
Inherited from NatoIFF in Distributed Emission Regeneration	**Update type**	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is on.					

ModeSEnabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
Inherited from NatoIFF in Distributed Emission Regeneration	**Update type**	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is enabled.					

ModeSIsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
Inherited from NatoIFF in Distributed Emission Regeneration	**Update type**	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is damaged.					

ModeSIsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is malfunctioning.					

ModeSIsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is on.					

ModeSIsTcasI	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies which Traffic Alert/Collision Avoidance System is used. FALSE means TCAS I, TRUE means TCAS II.					

BeamAzimuthCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the IFF beam's scan volume relative to the IFF system.					

BeamAzimuthSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
BeamElevationCenter *Inherited from IFF in Distributed Emission Regeneration*	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The elevation center of the IFF beam's scan volume relative to the IFF system.					
BeamElevationSweep *Inherited from IFF in Distributed Emission Regeneration*	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.					
BeamSweepSync *Inherited from IFF in Distributed Emission Regeneration*	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Periodic	*HRT_BEAT_TIMER secs* ^{RPRnoteDER8}				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					
EventIdentifier *Inherited from IFF in Distributed Emission Regeneration*	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Used to associate related events.					
FundamentalParameterData *Inherited from IFF in Distributed Emission Regeneration*	FundamentalParameterDataStruct LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Layer2DataAvailable *Inherited from IFF in Distributed Emission Regeneration*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					
SecondaryOperationalDataPara meter1 *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter1Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					
SecondaryOperationalDataPara meter2 *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter2Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					
SystemMode *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemModeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Mode of operation.					
SystemName *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*On change*				
	Semantics					
	Particular named type of the IFF system in use.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SystemType	IffSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Static	*NA*				
	Semantics					
	General type of IFF system in use.					
SystemIsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					
SystemIsOperational	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					
EntityIdentifier	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EmbeddedSystem in Base	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EmbeddedSystem in Base	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					

RelativePosition *Inherited from EmbeddedSystem in Base*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RelativePositionStruct		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	The position of the embedded system, relative to the host object's position.							
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	HLAtoken		PS	DA	TS	HLAreliable		
	Update type		**Update Condition**					
	Static		*NA*					
	Semantics							

9.1.6. **NatoIFFTransponder**

Full Name: HLAobjectRoot.EmbeddedSystem.IFF.NatoIFF.NatoIFFTransponder

Sharing: Publish/Subscribe

Semantics: *The part of a specific IFF system that responds (for example by emitting pulses) to the electromagnetic signals.*

Attributes:

EmergencyOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Specifies whether or not emergency is on.							
IdentSquawkFlashOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Specifies whether or not the squawk ident/flash is on.							

Mode1Code	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	UnsignedInteger16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Mode 1 code, two octal values.							

Mode2Code	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	UnsignedInteger16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Mode 2 code, four octal values.							

Mode3ACode	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	UnsignedInteger16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Mode 3 code, four octal values.							

Mode5CAltitude	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	TransponderModeCAltitude100-FootInteger16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Parameter 5 - Mode C altitude.							

Mode5CAltitudeAvailable	Datatype		Sharing	Ownership	Order	Transportation		Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
	Conditional		*On change*					
	Semantics							
	Specifies whether or not Parameter 5 - Mode C altitude is available.							

StiOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not STI is on.					

AlternateMode4 *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[IffAlternateMode4Enum8](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	IFF Alternate Mode 4.					

Mode1Enabled *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is enabled.					

Mode1IsDamaged *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is damaged.					

Mode1IsMalfunctioning *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is malfunctioning.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode1IsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 1 is on.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode2Enabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is enabled.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode2IsDamaged	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is damaged.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode2IsMalfunctioning	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is malfunctioning.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode2IsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 2 is on.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode3AEnabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is enabled.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode3AIsDamaged	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is damaged.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode3AIsMalfunctioning	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is malfunctioning.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode3AIsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 3 is on.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode4Enabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is enabled.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode4IsDamaged *Inherited from NatoIFF in Distributed Emission Regeneration*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is damaged.					
Mode4IsMalfunctioning *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is malfunctioning.					
Mode4IsOn *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 is on.					
Mode4PseudoCrypto *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Mode 4 Pseudo-Crypto value (0-4094).					
Mode4PseudoCryptoAvailable *Inherited from NatoIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Mode 4 pseudo-crypto value is available.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode5CEnabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is enabled.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode5CIsDamaged	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is damaged.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode5CIsMalfunctioning	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is malfunctioning.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Mode5CIsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 - Mode C is on.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ModeSEnabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is enabled.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ModeSIsDamaged	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is damaged.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ModeSIsMalfunctioning	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is malfunctioning.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ModeSIsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 - Mode S is on.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ModeSIsTcasI	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from NatoIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies which Traffic Alert/Collision Avoidance System is used. FALSE means TCAS I, TRUE means TCAS II.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
BeamAzimuthCenter	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the IFF beam's scan volume relative to the IFF system.					

BeamAzimuthSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_AZ_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamElevationCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_EL_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The elevation center of the IFF beam's scan volume relative to the IFF system.					

BeamElevationSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_EL_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamSweepSync	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Periodic	*HRT_BEAT_TIMER secs* ^{RPRnoteDER8}				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					

EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Used to associate related events.					

FundamentalParameterData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FundamentalParameterDataStructLengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					

Layer2DataAvailable	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					

SecondaryOperationalDataParameter1	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter1Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SecondaryOperationalDataParameter2	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter2Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SystemMode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemModeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Mode of operation.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SystemName *Inherited from IFF in Distributed Emission Regeneration*	IffSystemNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*On change*				
	Semantics					
	Particular named type of the IFF system in use.					
SystemType *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	General type of IFF system in use.					
SystemIsOn *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					
SystemIsOperational *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					
EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					

9.1.7. **SovietIFF**

Full Name: HLAobjectRoot.EmbeddedSystem.IFF.SovietIFF

Sharing:

Semantics: *Soviet type IFF system*

Attributes:

Parameter1Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Specifies whether or not Parameter 1 is enabled.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter1IsDamaged	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is damaged.					
Parameter1IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is malfunctioning.					
Parameter1IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is on.					
Parameter2Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is enabled.					
Parameter2IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is damaged.					

Parameter2IsMalfunctioning	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 2 is malfunctioning.						

Parameter2IsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 2 is on.						

Parameter3Enabled	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is enabled.						

Parameter3IsDamaged	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is damaged.						

Parameter3IsMalfunctioning	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is malfunctioning.						

Parameter3IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 3 is on.					

Parameter4Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 4 is enabled.					

Parameter4IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 4 is damaged.					

Parameter4IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 4 is malfunctioning.					

Parameter4IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 4 is on.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter5Enabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is enabled.					
Parameter5IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is damaged.					
Parameter5IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is malfunctioning.					
Parameter5IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is on.					
Parameter6Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is enabled.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter6IsDamaged	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is damaged.					
Parameter6IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is malfunctioning.					
Parameter6IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is on.					
BeamAzimuthCenter *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the IFF beam's scan volume relative to the IFF system.					
BeamAzimuthSweep *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.					

	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
BeamElevationCenter	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	> *EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation center of the IFF beam's scan volume relative to the IFF system.					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
BeamElevationSweep	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	> *EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
BeamSweepSync	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Periodic	*HRT_BEAT_TIMER secs* [RPRnoteDER8]				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
EventIdentifier	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Used to associate related events.					
	Datatype	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
FundamentalParameterData	FundamentalParameterDataStruct LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Layer2DataAvailable *Inherited from IFF in Distributed Emission Regeneration*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					
SecondaryOperationalDataParameter1 *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter1Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					
SecondaryOperationalDataParameter2 *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter2Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					
SystemMode *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemModeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Mode of operation.					
SystemName *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*On change*				
	Semantics					
	Particular named type of the IFF system in use.					

SystemType Inherited from IFF in Distributed Emission Regeneration	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	General type of IFF system in use.					

SystemIsOn Inherited from IFF in Distributed Emission Regeneration	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					

SystemIsOperational Inherited from IFF in Distributed Emission Regeneration	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					

EntityIdentifier Inherited from EmbeddedSystem in Base	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

HostObjectIdentifier Inherited from EmbeddedSystem in Base	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					

RelativePosition *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

9.1.8. **SovietIFFInterrogator**

Full Name: HLAobjectRoot.EmbeddedSystem.IFF.SovietIFF.SovietIFFInterrogator

Sharing: Publish/Subscribe

Semantics: *Soviet IFF Interrogator*

Attributes:

Parameter1Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is enabled.					
Parameter1IsDamaged *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is damaged.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter1IsMalfunctioning	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is malfunctioning.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter1IsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is on.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter2Enabled	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is enabled.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter2IsDamaged	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is damaged.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter2IsMalfunctioning	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is malfunctioning.					

Parameter2IsOn *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 2 is on.						

Parameter3Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is enabled.						

Parameter3IsDamaged *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is damaged.						

Parameter3IsMalfunctioning *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is malfunctioning.						

Parameter3IsOn *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is on.						

Parameter4Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 4 is enabled.						

Parameter4IsDamaged *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 4 is damaged.						

Parameter4IsMalfunctioning *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 4 is malfunctioning.						

Parameter4IsOn *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 4 is on.						

Parameter5Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 5 is enabled.						

Parameter5IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is damaged.					

Parameter5IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is malfunctioning.					

Parameter5IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is on.					

Parameter6Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is enabled.					

Parameter6IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is damaged.					

Parameter6IsMalfunctioning *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is malfunctioning.					

Parameter6IsOn *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is on.					

BeamAzimuthCenter *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[AngleRadianFloat32]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the IFF beam's scan volume relative to the IFF system.					

BeamAzimuthSweep *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[AngleRadianFloat32]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamElevationCenter *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[AngleRadianFloat32]	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation center of the IFF beam's scan volume relative to the IFF system.					

BeamElevationSweep *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	> *EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamSweepSync *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Periodic	*HRT_BEAT_TIMER secs* [RPRnoteDER8]				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					

EventIdentifier *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Used to associate related events.					

FundamentalParameterData *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FundamentalParameterDataStruct LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					

Layer2DataAvailable *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					

SecondaryOperationalDataParameter1 *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IffOperationalParameter1Enum8		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.						

SecondaryOperationalDataParameter2 *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IffOperationalParameter2Enum8		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.						

SystemMode *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IffSystemModeEnum8		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Mode of operation.						

SystemName *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IffSystemNameEnum16		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Static		*On change*				
	Semantics						
	Particular named type of the IFF system in use.						

SystemType *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	IffSystemTypeEnum16		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Static		*NA*				
	Semantics						
	General type of IFF system in use.						

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SystemIsOn *Inherited from IFF in Distributed Emission Regeneration*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					
SystemIsOperational *Inherited from IFF in Distributed Emission Regeneration*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					
EntityIdentifier *Inherited from EmbeddedSystem in Base*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

9.1.9. **SovietIFFTransponder**

Full Name: HLAobjectRoot.EmbeddedSystem.IFF.SovietIFF.SovietIFFTransponder

Sharing: Publish/Subscribe

Semantics: *Soviet IFF Transponder*

Attributes:

Parameter1Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is enabled.					
Parameter1IsDamaged *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is damaged.					
Parameter1IsMalfunctioning *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	[RPRboolean](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is malfunctioning.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
Parameter1IsOn *Inherited from SovietIFF in Distributed Emission Regeneration*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 1 is on.					
Parameter2Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is enabled.					
Parameter2IsDamaged *Inherited from SovietIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is damaged.					
Parameter2IsMalfunctioning *Inherited from SovietIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is malfunctioning.					
Parameter2IsOn *Inherited from SovietIFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 2 is on.					

Parameter3Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is enabled.						
Parameter3IsDamaged *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is damaged.						
Parameter3IsMalfunctioning *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is malfunctioning.						
Parameter3IsOn *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 3 is on.						
Parameter4Enabled *Inherited from SovietIFF in Distributed Emission Regeneration*	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not Parameter 4 is enabled.						

Parameter4IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 4 is damaged.					

Parameter4IsMalfunctioning	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 4 is malfunctioning.					

Parameter4IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 4 is on.					

Parameter5Enabled	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is enabled.					

Parameter5IsDamaged	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 5 is damaged.					

Parameter5IsMalfunctioning	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	Specifies whether or not Parameter 5 is malfunctioning.							

Parameter5IsOn	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	Specifies whether or not Parameter 5 is on.							

Parameter6Enabled	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	Specifies whether or not Parameter 6 is enabled.							

Parameter6IsDamaged	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	Specifies whether or not Parameter 6 is damaged.							

Parameter6IsMalfunctioning	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	RPRboolean		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	Specifies whether or not Parameter 6 is malfunctioning.							

Parameter6IsOn	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from SovietIFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies whether or not Parameter 6 is on.					

BeamAzimuthCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the IFF beam's scan volume relative to the IFF system.					

BeamAzimuthSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamElevationCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation center of the IFF beam's scan volume relative to the IFF system.					

BeamElevationSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamSweepSync	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Periodic	*HRT_BEAT_TIMER secs* ^{RPRnoteDER8}				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					
EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Used to associate related events.					
FundamentalParameterData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FundamentalParameterDataStruct LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					
Layer2DataAvailable	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					
SecondaryOperationalDataParameter1	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter1Enum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SecondaryOperationalDataPara meter2 *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter2Enum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SystemMode *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemModeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Mode of operation.					

SystemName *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*On change*				
	Semantics					
	Particular named type of the IFF system in use.					

SystemType *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	General type of IFF system in use.					

SystemIsOn *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					

SystemIsOperational *Inherited from IFF in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					
EntityIdentifier *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

9.1.10. **RRB** RPRnoteDER15

Full Name: HLAobjectRoot.EmbeddedSystem.IFF.RRB

Sharing: Publish/Subscribe

Semantics: *RRB IFF transponder system*

Attributes:

Code	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	Octet		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	RRB Code (range 0-16)						

PowerReduction	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not power reduction is on.						

IsDamaged	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not the system is damaged.						

IsMalfunctioning	Datatype		Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean		PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**				
	Conditional		*On change*				
	Semantics						
	Specifies whether or not the system is malfunctioning.						

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
IsOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the system is on.					
RadarEnhancement	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Specifies whether or not the radar enhancement is on.					
BeamAzimuthCenter *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the IFF beam's scan volume relative to the IFF system.					
BeamAzimuthSweep *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the IFF beam's scan volume relative to the IFF system.					
BeamElevationCenter *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation center of the IFF beam's scan volume relative to the IFF system.					

BeamElevationSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the IFF beam's scan volume relative to the IFF system.					

BeamSweepSync	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Periodic	*HRT_BEAT_TIMER secs* [RPRnoteDER8]				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					

EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Used to associate related events.					

FundamentalParameterData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FundamentalParameterDataStruct LengthlessArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The fundamental energy radiation characteristics of the IFF/ATC/NAVAIDS system.					

Layer2DataAvailable	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from IFF in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	Specifies if level 2 data is available for this IFF system. If level 2 data is available then the BeamAzimuthCenter, BeamAzimuthSweep, BeamElevationCenter, BeamElevationSweep, BeamSweepSync, FundamentalParameterData, SecondaryOperationalDataParameter1, and SecondaryOperationalDataParameter2 attributes shall be generated.					

SecondaryOperationalDataParameter1 *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter1Enum8	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SecondaryOperationalDataParameter2 *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffOperationalParameter2Enum8	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Additional characteristics of the IFF/ATC/NAVAIDS emitting system.					

SystemMode *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemModeEnum8	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Mode of operation.					

SystemName *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemNameEnum16	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*On change*			
	Semantics					
	Particular named type of the IFF system in use.					

SystemType *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	IffSystemTypeEnum16	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	General type of IFF system in use.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SystemIsOn *Inherited from IFF in Distributed Emission Regeneration*	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is on.					
SystemIsOperational *Inherited from IFF in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Whether or not the system is operational.					
EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
RelativePosition *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					

HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					

9.1.11. **EmitterBeam**

Full Name: HLAobjectRoot.EmitterBeam

Sharing: Subscribe

Semantics: *A sector of concentrated energy from a device that radiates an electromagnetic signal. See also IEEE 1278.1-1995 Section 5.4.7.1.*

Attributes:

BeamAzimuthCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[AngleRadianFloat32](#)	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*> EE_AZ_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The azimuth center of the emitter beam's scan volume relative to the emitter system.					
BeamAzimuthSweep	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[AngleRadianFloat32](#)	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*> EE_AZ_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The azimuth half-angle of the emitter beam's scan volume relative to the emitter system.					
BeamElevationCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	[AngleRadianFloat32](#)	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*> EE_EL_THRSH_DFLT* ^{RPRnoteDER7}				
	Semantics					
	The elevation center of the emitter beam's scan volume relative to the emitter system.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
BeamElevationSweep	[AngleRadianFloat32](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	$> EE\_EL\_THRSH\_DFLT$ [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the emitter beam's scan volume relative to the emitter system.					
BeamFunctionCode	[BeamFunctionCodeEnum8](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The function of the emitter beam.					
BeamIdentifier	[Octet](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The identification of the emitter beam (must be unique on the emitter system).					
BeamParameterIndex	[UnsignedInteger16](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The index, into the federation specific emissions database, of the current operating mode of the emitter beam.					
EffectiveRadiatedPower	[PowerRatioDecibelMilliwattFloat32](#)	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The effective radiated power of the emitter beam.					

EmissionFrequency	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The center frequency of the emitter beam.					

EmitterSystemIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The identification of the emitter system that is generating this emitter beam.					

EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change* ^{RPRnoteDER4}				
	Semantics					
	The EventIdentifier is used by the generating federate to associate related events. The event number shall start at one at the beginning of the exercise, and be incremented by one for each event.					

FrequencyRange	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The bandwidth of the frequencies covered by the emitter beam.					

PulseRepetitionFrequency	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The Pulse Repetition Frequency of the emitter beam.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
PulseWidth	TimeMicrosecondFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The pulse width of the emitter beam.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PercentFloat32	PS	DA	RO	HLAbestEffort	
SweepSynch	**Update type**	**Update Condition**				
	Periodic	*HRT_BEAT_TIMER secs* RPRnoteDER8				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
HLAprivilegeToDeleteObject	**Update type**	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

9.1.12. **RadarBeam**

Full Name: HLAobjectRoot.EmitterBeam.RadarBeam

Sharing: Publish/Subscribe

Semantics: *A sector of concentrated energy from a device that radiates an electromagnetic signal.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
HighDensityTrack	**Update type**	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	When TRUE the receiving simulation can assume that all targets that are in the scan pattern of the radar beam are being tracked					

TrackObjectIdentifiers	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	RTIobjectIdArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the entities being tracked.					

BeamAzimuthCenter *Inherited from EmitterBeam in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the emitter beam's scan volume relative to the emitter system.					

BeamAzimuthSweep *Inherited from EmitterBeam in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the emitter beam's scan volume relative to the emitter system.					

BeamElevationCenter *Inherited from EmitterBeam in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation center of the emitter beam's scan volume relative to the emitter system.					

BeamElevationSweep *Inherited from EmitterBeam in Distributed Emission Regeneration*	**Datatype**	**Sharing**	**Ownership**	**Order**	**Transportation**	**Dimensions**
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the emitter beam's scan volume relative to the emitter system.					

BeamFunctionCode	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	BeamFunctionCodeEnum8		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	The function of the emitter beam.							
BeamIdentifier	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	Octet		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from EmitterBeam in Distributed Emission Regeneration	Static		*NA*					
	Semantics							
	The identification of the emitter beam (must be unique on the emitter system).							
BeamParameterIndex	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	UnsignedInteger16		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	The index, into the federation specific emissions database, of the current operating mode of the emitter beam.							
EffectiveRadiatedPower	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	PowerRatioDecibelMilliwattFloat32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	The effective radiated power of the emitter beam.							
EmissionFrequency	**Datatype**		**Sharing**	**Ownership**	**Order**	**Transportation**		**Dimensions**
	FrequencyHertzFloat32		PS	DA	RO	HLAbestEffort		
	Update type		**Update Condition**					
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*					
	Semantics							
	The center frequency of the emitter beam.							

EmitterSystemIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Static		*NA*			
	Semantics					
	The identification of the emitter system that is generating this emitter beam.					

EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change* RPRnoteDER4			
	Semantics					
	The EventIdentifier is used by the generating federate to associate related events. The event number shall start at one at the beginning of the exercise, and be incremented by one for each event.					

FrequencyRange	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*			
	Semantics					
	The bandwidth of the frequencies covered by the emitter beam.					

PulseRepetitionFrequency	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*			
	Semantics					
	The Pulse Repetition Frequency of the emitter beam.					

PulseWidth	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TimeMicrosecondFloat32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*			
	Semantics					
	The pulse width of the emitter beam.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SweepSynch *Inherited from EmitterBeam in Distributed Emission Regeneration*	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Periodic	*HRT_BEAT_TIMER secs* ^{RPRnoteDER8}				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

9.1.13. **JammerBeam**

Full Name: HLAobjectRoot.EmitterBeam.JammerBeam

Sharing: Publish/Subscribe

Semantics: *An emitter beam that is designed to jam or otherwise interfere or confuse another emitter system*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
JammingModeSequence	UnsignedInteger32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The jamming mode technique or series of techniques being applied.					
JammedObjectIdentifiers	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectIdArray	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Identification of the emitter beams being jammed.					

HighDensityJam	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	When TRUE the receiving simulation can assume that all emitter beams that are in the scan pattern of the jammer beam are being jammed					

BeamAzimuthCenter *Inherited from EmitterBeam in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth center of the emitter beam's scan volume relative to the emitter system.					

BeamAzimuthSweep *Inherited from EmitterBeam in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_AZ_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The azimuth half-angle of the emitter beam's scan volume relative to the emitter system.					

BeamElevationCenter *Inherited from EmitterBeam in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation center of the emitter beam's scan volume relative to the emitter system.					

BeamElevationSweep *Inherited from EmitterBeam in Distributed Emission Regeneration*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*> EE_EL_THRSH_DFLT* [RPRnoteDER7]				
	Semantics					
	The elevation half-angle of the emitter beam's scan volume relative to the emitter system.					

BeamFunctionCode	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	BeamFunctionCodeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The function of the emitter beam.					

BeamIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Octet	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EmitterBeam in Distributed Emission Regeneration	Static	*NA*				
	Semantics					
	The identification of the emitter beam (must be unique on the emitter system).					

BeamParameterIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The index, into the federation specific emissions database, of the current operating mode of the emitter beam.					

EffectiveRadiatedPower	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PowerRatioDecibelMilliwattFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The effective radiated power of the emitter beam.					

EmissionFrequency	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional	*On change*				
	Semantics					
	The center frequency of the emitter beam.					

EmitterSystemIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Static		*NA*			
	Semantics					
	The identification of the emitter system that is generating this emitter beam.					

EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change* RPRnoteDER4			
	Semantics					
	The EventIdentifier is used by the generating federate to associate related events. The event number shall start at one at the beginning of the exercise, and be incremented by one for each event.					

FrequencyRange	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*			
	Semantics					
	The bandwidth of the frequencies covered by the emitter beam.					

PulseRepetitionFrequency	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	FrequencyHertzFloat32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*			
	Semantics					
	The Pulse Repetition Frequency of the emitter beam.					

PulseWidth	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	TimeMicrosecondFloat32	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
Inherited from EmitterBeam in Distributed Emission Regeneration	Conditional		*On change*			
	Semantics					
	The pulse width of the emitter beam.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
SweepSynch *Inherited from EmitterBeam in Distributed Emission Regeneration*	PercentFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Periodic	*HRT_BEAT_TIMER secs* ^{RPRnoteDER8}				
	Semantics					
	The percentage of time a scan is through its pattern from its origin.					
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

9.2. Datatypes

9.2.1. Simple Datatypes

PowerWattFloat32

Representation: HLAfloat32BE
Units: watt (W)
Resolution: NA
Accuracy: perfect
Semantics: The unit of power is the watt (W), which is equal to one joule per second.

TransponderModeCAltitude100-FootInteger16

Representation: HLAinteger16BE
Units: 100-foot increment
Resolution: 1
Accuracy: perfect
Semantics: Actual Mode C altitude in the range 0-126,000 feet in 100-foot increments.

9.2.2. Array Datatypes

FundamentalParameterDataStructLengthlessArray

Element Type:	FundamentalParameterDataStruct
Cardinality:	Dynamic
Encoding:	RPRlengthlessArray
Semantics:	*Array of Fundamental Parameter Data records.*

9.2.3. Fixed Record Datatypes

FundamentalParameterDataStruct

Encoding: HLAfixedRecord

Semantics: *Fundamental Parameter Data record.*

Name	Type	Semantic
ERP	PowerRatioDecibelMilliwattFloat32	*The average peak radiated power of the emission.*
Frequency RPRnoteDER13	FrequencyHertzFloat32	*The center frequency of the emission.*
PgRF	InterrogationsPerSecondFloat32	*When applied to originators, this field shall specify the number of interrogations per second emitted. This field shall be set to zero when applied to a responder (i.e. transponder) systems.*
PulseWidth	TimeMicrosecondFloat32	*The duration of the fundamental pulse of which the interrogation or reply is composed.*
BurstLength	Integer32	*The number of emissions generated in a single burst. This field shall contain zero for continuously emitting systems and shall contain the value 1 for responders.*
ApplicableModes	IffApplicableModesEnum8	*Specifies the modes to which the fundamental parameter data applies.*
Padding RPRnoteDER16	OctetArray3	*Padding to 32 bits*

9.3. Notes

RPRnoteDER1

Semantics: *If there is no object instance associated with the attribute, then this should be set to the empty string (no characters). Refer to SISO-STD-001 section 7.8.6 for handling empty strings.*

RPRnoteDER2

Semantics: *This must reference a valid Object instance.*

RPRnoteDER3

Semantics: *The EventIdentifier attribute is used to link together updates arising from a common event. For example an emitter function change can be linked to a frequency change in one of its associated emitter beams, by using the same event ID in the attribute updates to the appropriate EmitterSystem and EmitterBeam classes. It is important to note that in order that the EventIdentifier is delivered in the same reflect attribute values call in the receiving federates as the associated attributes, then all the attributes, including the EventIdentifier, must share the same transport type.*

RPRnoteDER4

Semantics: *The federate should change the value of the EventIdentifier when associating changes between two or more emitter beams and/or emitter systems. It is not necessary to update the EventIdentifier field with every attribute update if the change is not associated with changes in other instances of other classes.*

RPRnoteDER5

Semantics: *The object IDs in this structure shall refer to EmitterBeam objects (or subclasses of EmitterBeam).*

RPRnoteDER6

Semantics: *The object IDs in this structure shall refer to PhysicalEntity objects (or subclasses of PhysicalEntity).*

RPRnoteDER7

Semantics: *This attribute is updated if the current value differs from the previously updated value by more than the value specified by the symbolic name (see section 5.1.4 of IEEE 1278.1-1995 for the actual values of the symbolic names).*

RPRnoteDER8

Semantics: *See section 5.1.4 of IEEE 1278.1-1995 for the values of the symbolic name.*

RPRnoteDER9

Semantics: *This condition is TRUE when TSPI_Change is TRUE and the actual acceleration differs from the last updated acceleration by more than a threshold value in any direction. The default threshold shall be DRA_ACCEL_EPSILON_DFLT (0.001 m/s/s).*

RPRnoteDER10

Semantics: *The TSPI_Change condition shall be evaluated as follows:*
The owner of a base entity object shall maintain two state models of the object in support of the dead reckoning process. One model shall be the internal model used by the simulation application to represent that object. The other shall be a dead reckoning model of the object. Certain thresholds shall be established as criteria for determining if the object's actual TSPI data has varied by an allowable amount from the dead reckoned TSPI data.
TSPI_Change is TRUE when either:
a) the objects actual position differs from the dead reckoned position by more than DRA_POS_THRSH_DFLT
b) the objects actual orientation differs from the dead reckoned orientation by more than DRA_ORIENT_THRSH_DFLT
See section 5.1.4 of IEEE 1278.1-1995 for the value of these symbolic constants.

RPRnoteDER11

Semantics: *This condition is TRUE when TSPI_Change is TRUE and the actual position differs from the last updated position by more than a threshold value in any direction. The default threshold shall be DRA_POS_EPSILSON_DFLT (0.001 m).*

RPRnoteDER12

Semantics: *The value of DS_WAVELENGTH shall be 0.0000001 microns.*

RPRnoteDER13

Semantics: *Frequency modulation shall be derived from database parameters stored for the particular emitting system and specified mode.*

RPRnoteDER14

Semantics: *If layer 2 data is available (determined by the state of the Layer2DataAvailable attribute) then this attribute shall be updated by the federate. If layer 2 data is not available then this attribute shall not be updated by the federate.*

RPRnoteDER15

Semantics: *The RRB system is a transponder only system.*

RPRnoteDER16

Semantics: *All padding fields shall be set to the value 0*

10. Module Underwater Acoustics

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Underwater Acoustics FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	Definitions of the objects and interactions required to express acoustic signatures of surface and subsurface vessels for passive sonar sensors. Includes sounds produced as byproducts of propulsion and other ship board systems and activities as well as sounds produced by acoustic transducers for active sonar sensing and depth measurement.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

Dependencies

Base
Enumerations
Foundation

10.1. Object Classes
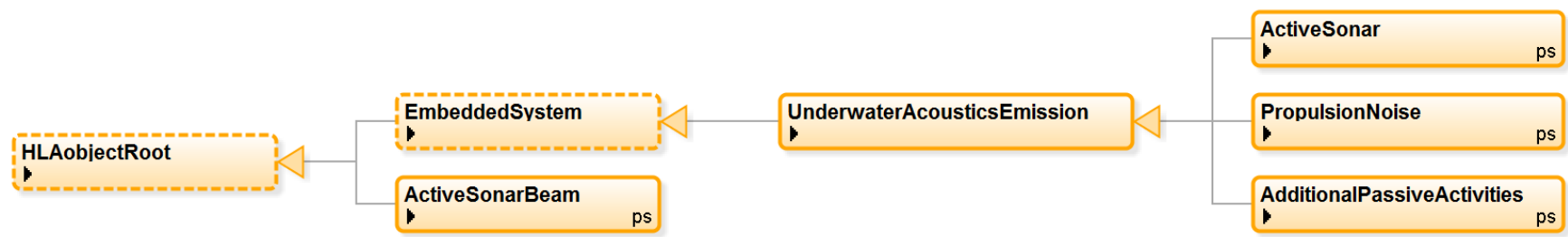
10.1.1. **UnderwaterAcousticsEmission**

Full Name: HLAobjectRoot.EmbeddedSystem.UnderwaterAcousticsEmission

Sharing:

Semantics: *The underwater acoustic classes used to communicate underwater acoustic active, intentional emissions and Passive Signature or Unintentional Emissions information. These emissions are used during undersea warfare scenarios to detect, classify, and track hostile forces when electronic warfare mechanisms are unavailable.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EventIdentifier	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		*On change*			
	Semantics					
	The generating federate uses the Event Identifier to associate related events. The event number begins at one at the beginning of the exercise and is incremented by one for each event.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
EntityIdentifier *Inherited from EmbeddedSystem in Base*	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Static		*NA*			
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RelativePosition *Inherited from EmbeddedSystem in Base*	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The position of the embedded system, relative to the host object's position.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject *Inherited from HLAobjectRoot in MIM*	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					

10.1.2. **ActiveSonar**

Full Name: HLAobjectRoot.EmbeddedSystem.UnderwaterAcousticsEmission.ActiveSonar

Sharing: Publish/Subscribe

Semantics: *Describes the state of an active sonar system.*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
AcousticName	ActiveSonarEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Defines the type of sonar being represented.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
FunctionCode	ActiveSonarFunctionCodeEnum8	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Declares the current primary use of the sonar. It may be used by simulatons to infer intent.					
AcousticsIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Octet	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	Unique identifier for the sonar on an entity, Starts with 1					
EventIdentifier *Inherited from UnderwaterAcousticsEmission in Underwater Acoustics*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The generating federate uses the Event Identifier to associate related events. The event number begins at one at the beginning of the exercise and is incremented by one for each event.					
EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					
HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RelativePosition _Inherited from EmbeddedSystem in Base_	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		_On change_			
	Semantics					
	The position of the embedded system, relative to the host object's position.					
HLAprivilegeToDeleteObject _Inherited from HLAobjectRoot in MIM_	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type		**Update Condition**			
	Static		_NA_			
	Semantics					

10.1.3. **PropulsionNoise**

Full Name: HLAobjectRoot.EmbeddedSystem.UnderwaterAcousticsEmission.PropulsionNoise

Sharing: Publish/Subscribe

Semantics: _Describes the steady state component of unintended passive emissions that are normally associated with the power plant_

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HullMaskerOn	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		_On change_			
	Semantics					
	Whether the hull masker silencing system is on.					
PassiveParameterIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type		**Update Condition**			
	Conditional		_On change_			
	Semantics					
	Database index to look up the entities acoustic signature					

PropulsionPlantConfiguration	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	PropulsionPlantEnum8	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	The operating mode of the propulsion plant					

ShaftRateData	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	ShaftDataStructLengthlessArray1Plus	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	Information about each of the propulsion shafts associated with the entity. Shafts are ordered from port to starboard, when looking from the stern to the bow.					

EventIdentifier *Inherited from UnderwaterAcousticsEmission in Underwater Acoustics*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Conditional	*On change*				
	Semantics					
	The generating federate uses the Event Identifier to associate related events. The event number begins at one at the beginning of the exercise and is incremented by one for each event.					

EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	Update Condition				
	Static	*NA*				
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
RelativePosition	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
Inherited from EmbeddedSystem in Base	**Semantics**					
	The position of the embedded system, relative to the host object's position.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
HLAprivilegeToDeleteObject	**Update type**	**Update Condition**				
	Static	*NA*				
Inherited from HLAobjectRoot in MIM	**Semantics**					

10.1.4. **AdditionalPassiveActivities**

Full Name: HLAobjectRoot.EmbeddedSystem.UnderwaterAcousticsEmission.AdditionalPassiveActivities

Sharing: Publish/Subscribe

Semantics: *Describes the steady state components of non-propulsion passive emissions such as those held in the Additional Narrowband Database (ANDB).*

Attributes:

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ActivityCode	UnsignedInteger16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Database index used to indicate the passive signature of the entity					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ActivityParameter	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The current state of this activity.					

IsSilent	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RPRboolean	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	Used to silence an additional passive activity without destroying this object.					

EventIdentifier *Inherited from UnderwaterAcousticsEmission in Underwater Acoustics*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The generating federate uses the Event Identifier to associate related events. The event number begins at one at the beginning of the exercise and is incremented by one for each event.					

EntityIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EntityIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The EntityIdentifier of the object which this embedded system is a part of.					

HostObjectIdentifier *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Static		*NA*			
	Semantics					
	The RTI object instance ID of the object of which this embedded system is part of.					

RelativePosition *Inherited from EmbeddedSystem in Base*	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RelativePositionStruct	PS	DA	RO	HLAbestEffort	
	Update type		Update Condition			
	Conditional		*On change*			
	Semantics					
	The position of the embedded system, relative to the host object's position.					

HLAprivilegeToDeleteObject	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	_NA_				
	Semantics					

10.1.5. **ActiveSonarBeam**

Full Name: HLAobjectRoot.ActiveSonarBeam

Sharing: Publish/Subscribe

Semantics: _A sector of concentrated acoustic energy from an active sonar device._

Attributes:

ActiveEmissionParameterIndex	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Integer16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	An index into the database of active (intentional) underwater acoustics emissions.					
ActiveSonarIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	RTIobjectId	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	_NA_				
	Semantics					
	The RTI ID of the ActiveSonar emitting this beam					
AzimuthBeamwidth	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	_On change_				
	Semantics					
	The horizontal width of the main beam (as opposed to any side lobes) measured from beam center to the 3 dB down point. Omni directional beams shall have a beam width of 0 radians.					

AzimuthCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The center azimuthal bearing of the main beam (as opposed to side lobes) in relation to the own ship heading, clockwise positive. Omnidirection beams shall have an azimuthal center of 0 radians.					
BeamIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	Octet	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Static	*NA*				
	Semantics					
	The identification of the active sonar beam, which must be unique on the active sonar system.					
ElevationBeamwidth	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Vertical angle from beam center to 3db down point. O is omnidirectional					
ElevationCenter	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	AngleRadianFloat32	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The angle of axis of the beam center to the horizontal plane. Positive upward.					
EventIdentifier	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
	EventIdentifierStruct	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	Used to associate changes to the beam with its ActiveSonar.					

	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
ScanPattern	ActiveSonarScanPatternEnum16	PS	DA	RO	HLAbestEffort	
	Update type	**Update Condition**				
	Conditional	*On change*				
	Semantics					
	The pattern that describes the angular movement of the sonar beam during its sweep.					
	Datatype	Sharing	Ownership	Order	Transportation	Dimensions
HLAprivilegeToDeleteObject	HLAtoken	PS	DA	TS	HLAreliable	
	Update type	**Update Condition**				
Inherited from HLAobjectRoot in MIM	Static	*NA*				
	Semantics					

10.2. Interaction Classes

10.2.1. **HLAinteractionRoot**

Full Name:	HLAinteractionRoot
Sharing:	
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	
Parameters:	-

10.2.2. **AcousticTransient**

Full Name:	HLAinteractionRoot.AcousticTransient
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*Specifies the occurrence of a transient acoustic event such as torpedo tube floodings, hatch slams, and wrench drops.*
Parameters:	

Name	Datatype	Semantics
ActivityCode	UnsignedInteger16	*Index into a data base of transient acoustic events*
ActivityParameter	Integer16	*The current state of the activity specified by the activity code*
HostObjectIdentifier	RTIobjectId	*The Object Instance ID of the object emitting the sound*
RelativePosition	RelativePositionStruct	*The location of the sound relative to the hosts coordinate system*

10.3. Datatypes

10.3.1. Simple Datatypes

SpeedChangeRateRPMPerSecondInteger16

Representation: HLAinteger16BE
Units: RPM/s
Resolution: 1
Accuracy: perfect
Semantics: Angular acceleration

10.3.2. Array Datatypes

ShaftDataStructLengthlessArray1Plus

Element Type: ShaftDataStruct

Cardinality: [1..2147483647]

Encoding: RPRlengthlessArray

Semantics: *Array of propulsion shaft states, one per shaft*

10.3.3. Fixed Record Datatypes

ShaftDataStruct

Encoding: HLAfixedRecord

Semantics: *Rotation state of a ship's propulsion shaft*

Name	Type	Semantic
CurrentShaftRate	RevolutionsPerMinuteInteger16	*The current shaft speed. A positive shaft speed indicates that the shaft is rotating in a clockwise direction (when viewed from the stern to bow), and a negative shaft speed indicates an anti-clockwise direction.*
OrderedShaftRate	RevolutionsPerMinuteInteger16	*The ordered shaft speed. If the ordered shaft speed is different from the current shaft speed then the shaft will accelerate or decelerate at the shaft rate of change. A positive shaft speed indicates that the shaft is rotating in a clockwise direction (when viewed from the stern to bow), and a negative shaft speed indicates an anti-clockwise direction.*
ShaftRateOfChange	SpeedChangeRateRPMPerSecondInteger16	*The absolute value of the shaft's rotational acceleration. The shaft will change its rotational speed at this rate if the current shaft speed differs from the ordered shaft rate.*

11. Module Warfare

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Warfare FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	Represents the firing and detonation of munitions.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

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11.1. Interaction Classes
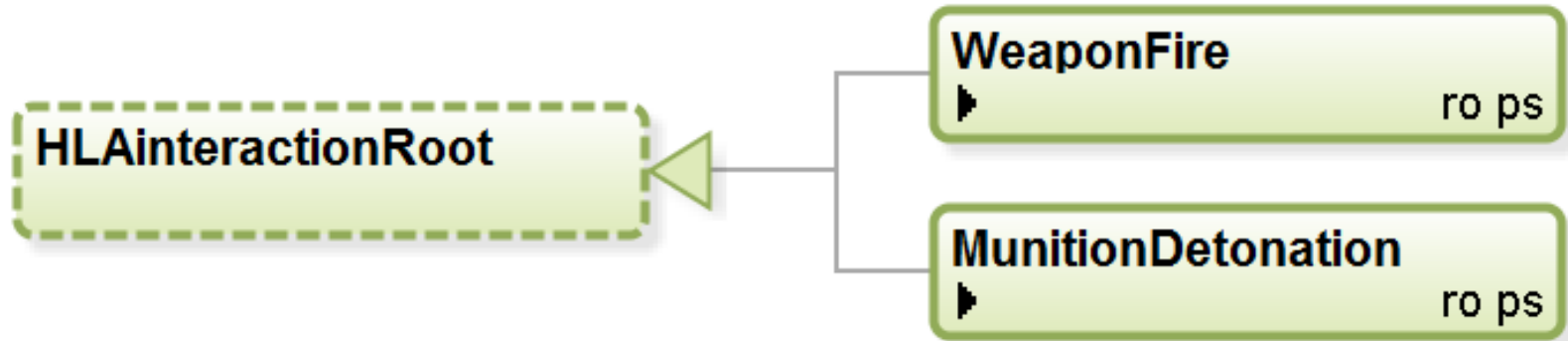
11.1.1. **HLAinteractionRoot**

Full Name:	HLAinteractionRoot
Sharing:	
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	
Parameters:	-

11.1.2. **WeaponFire**

Full Name:	HLAinteractionRoot.WeaponFire
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive

Dimensions:

Semantics: *Communicates information associated with the firing or launch of a munition.*

Parameters:

Name	Datatype	Semantics
EventIdentifier	EventIdentifierStruct	*An ID, generated by the issuing federate, used to associate related fire and detonation events.*
FireControlSolutionRange	LengthMeterFloat32	*The range used in the fire control solution. Zero if the range is unknown or inapplicable.*
FireMissionIndex	UnsignedInteger32	*A unique index to identify the fire mission (used to associate weapon fire interactions in a single fire mission).*
FiringLocation	WorldLocationStruct	*The location, in world coordinates, from which the munition was launched.*
FiringObjectIdentifier	RTIobjectId	*The object instance ID of the entity firing the munition.*
FuseType	FuseTypeEnum16	*The type of fuse on the munition.*
InitialVelocityVector	VelocityVectorStruct	*The velocity vector of the munition when fired.*
MunitionObjectIdentifier	RTIobjectId	*The object instance ID of the fired munition, if an object instance is registered.*
MunitionType	EntityTypeStruct	*The type of munition being fired.*
QuantityFired	UnsignedInteger16	*The number of rounds fired in the burst.*
RateOfFire	UnsignedInteger16	*The rate of fire in rounds per minute when quantity > 1. Zero otherwise.*
TargetObjectIdentifier	RTIobjectId	*The object instance ID of the intended target (if any).*
WarheadType	WarheadTypeEnum16	*The type of warhead fitted to the munition being fired.*

11.1.3. **MunitionDetonation**

Full Name: HLAinteractionRoot.MunitionDetonation

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *Communicates information associated with the impact or detonation of a munition*

Parameters:

Name	Datatype	Semantics
ArticulatedPartData	ArticulatedParameterStructLengthlessArray	*The set of articulated parts affected by the detonation (including where on the articulated part the detonation has affected).*

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Name	Datatype	Semantics
DetonationLocation	WorldLocationStruct	*The location, in world coordinates, at which the munition detonated.*
DetonationResultCode	DetonationResultCodeEnum8	*The type of detonation (including no detonation).*
EventIdentifier	EventIdentifierStruct	*An ID, generated by the issuing federate, used to associate related fire and detonation events.*
FiringObjectIdentifier	RTIobjectId	*The object instance ID of the entity that fired the munition.*
FinalVelocityVector	VelocityVectorStruct	*The velocity vector of the munition at the moment of the detonation.*
FuseType	FuseTypeEnum16	*The type of fuse on the munition.*
MunitionObjectIdentifier	RTIobjectId	*The Object instance ID of the fired munition, if an object instance is registered.*
MunitionType	EntityTypeStruct	*The type of munition that is detonating.*
QuantityFired	UnsignedInteger16	*The number of rounds fired in the burst.*
RateOfFire	UnsignedInteger16	*The rate of fire in rounds per minute when quantity > 1. Zero otherwise.*
RelativeDetonationLocation	RelativePositionStruct	*The location of the detonation in coordinates relative to the target entity (if any).*
TargetObjectIdentifier	RTIobjectId	*The object instance ID of the entity that the munition has detonated on (if any).*
WarheadType	WarheadTypeEnum16	*The type of warhead on the munition.*

11.3. Notes

RPRnoteWarfare1

Semantics: *If there is no object instance associated with the parameter, then this should be set to the empty string (no characters). Refer to SISO-STD-001 section 7.8.6 for handling empty strings.*

RPRnoteWarfare2

Semantics: *This must reference a valid Object instance.*

12. Module Logistics

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Logistics FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	The Logistics module defines interactions that represent repair and resupply logistic services.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

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12.1. Interaction Classes

12.1.1. **HLAinteractionRoot**

Full Name: HLAinteractionRoot

Sharing:

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics:

Parameters: -

12.1.2. **RepairComplete**

Full Name: HLAinteractionRoot.RepairComplete

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *Notifies the requesting entity that the requested repair has been completed.*

Parameters:

Name	Datatype	Semantics
ReceivingObject	RTIobjectId	*Object requesting repairs*
RepairingObject	RTIobjectId	*Object that is able to perform the requested repair*
RepairType	RepairTypeEnum16	*Type of repair performed*

12.1.3. **RepairResponse**

Full Name: HLAinteractionRoot.RepairResponse

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

RepairComplete
ro ps

RepairResponse
ro ps

ResupplyCancel
ro ps

ResupplyOffer
ro ps

ResupplyReceived
ro ps

ServiceRequest
ro ps

HLAinteractionRoot
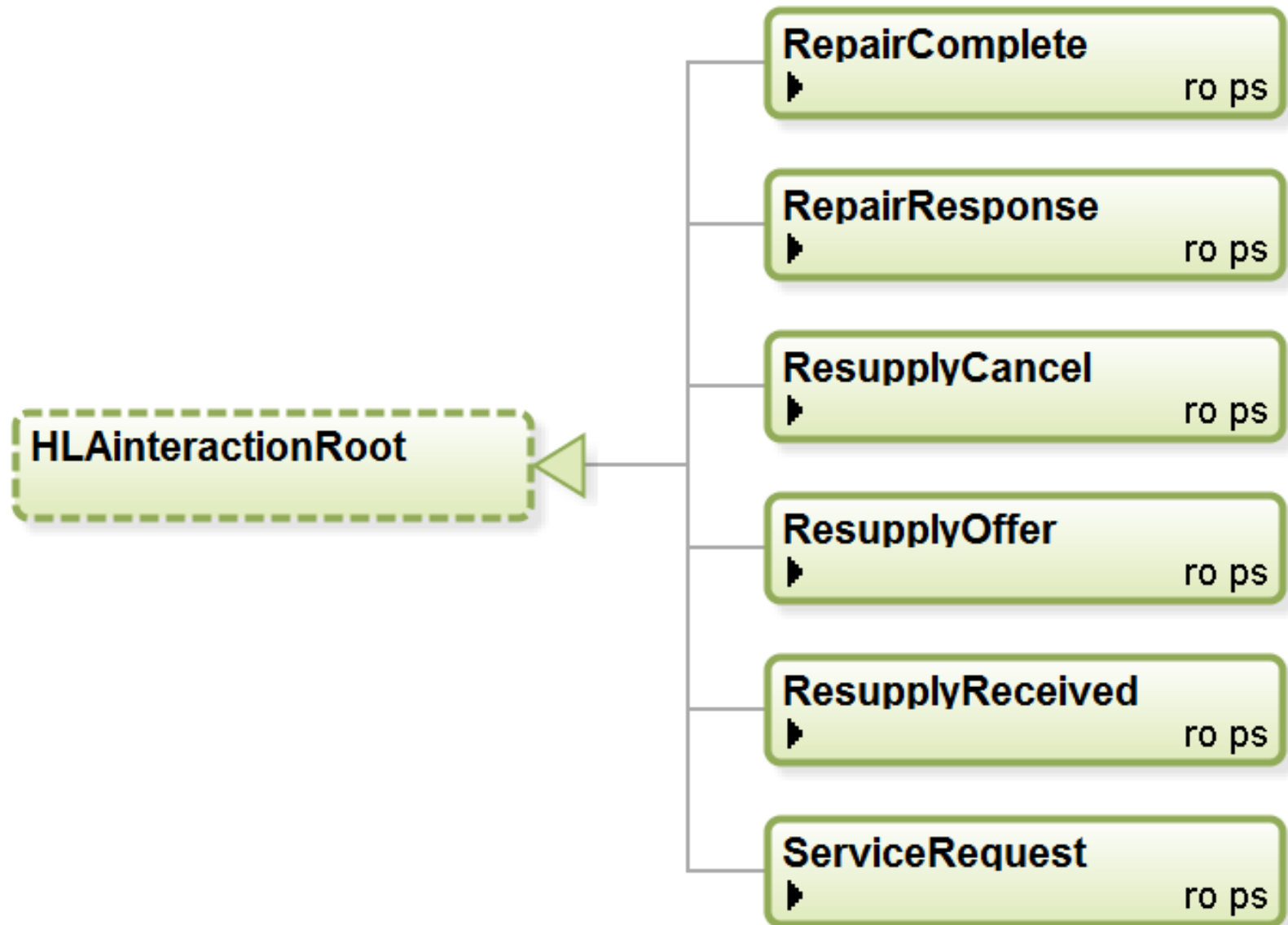
Dimensions:

Semantics: *Acknowledges the notification of the completion of a repair.*

Parameters:

Name	Datatype	Semantics
ReceivingObject	RTIobjectId	*Object requesting repairs*
RepairingObject	RTIobjectId	*Object that is able to perform the requested repair*
RepairResultCode	RepairResultEnum8	*Result of repair*

12.1.4. **ResupplyCancel**

Full Name: HLAinteractionRoot.ResupplyCancel

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *Communicates the canceling of a service function by either the receiving or the supplying entity.*

Parameters:

Name	Datatype	Semantics
ReceivingObject	RTIobjectId	*Object that is receiving supplies*
SupplyingObject	RTIobjectId	*Object that has offered supplies*

12.1.5. **ResupplyOffer**

Full Name: HLAinteractionRoot.ResupplyOffer

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *Communicates the offer of supplies from a supplying entity to a receiving entity.*

Parameters:

Name	Datatype	Semantics
ReceivingObject	RTIobjectId	*Object that the supplies are being offered to.*
SupplyingObject	RTIobjectId	*Object that is offering the supplies*
SuppliesData	SupplyStructLengthlessArray	*List of supplies that are offered.*

12.1.6. **ResupplyReceived**

Full Name: HLAinteractionRoot.ResupplyReceived

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *Acknowledge the receipt of supplies.*

Parameters:

Name	Datatype	Semantics
ReceivingObject	RTIobjectId	*Object that is receiving the supplies*
SupplyingObject	RTIobjectId	*Object that is providing the supplies.*
SuppliesData	SupplyStructLengthlessArray	*List of supplies taken by receiving object.*

12.1.7. **ServiceRequest**

Full Name: HLAinteractionRoot.ServiceRequest

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A request for logistics support. The requesting entity issues the interaction to the supplying entity asking for repair or specific supplies.*

Parameters:

Name	Datatype	Semantics
RequestingObject	RTIobjectId	*Object requesting service*
ServicingObject	RTIobjectId	*Object that is able to provide the requested service*

Name	Datatype	Semantics
ServiceType	ServiceTypeEnum8	*Type of requested service*
SuppliesData	SupplyStructLengthlessArray	*For a service of resupply, the list of supplies to be exchanged. If the service requested is not resupply, then this parameter shall be omitted.*

12.2. Datatypes

12.2.1. Array Datatypes

SupplyStructLengthlessArray

Element Type: SupplyStruct

Cardinality: Dynamic

Encoding: RPRlengthlessArray

Semantics: *A list of supply types and the number of each being offered or requested.*

12.2.2. Fixed Record Datatypes

SupplyStruct

Encoding: HLAfixedRecord

Semantics: *Represents a single supply type and the quantity being offered or requested.*

Name	Type	Semantic
SupplyType	EntityTypeStruct	*The type of supply being offered or requested.*
Quantity	Float32	*The number of units of the supply type. The unit measure depends on the supply type and shall use the SI units of measurement used for such supplies.*

12.3. Notes

RPRnoteLogistics1

Semantics: *This must reference a valid Object instance.*

13. Module Simulation Management

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Simulation Management FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	Simulation Management interactions.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	Real-time Platform Reference Base FOM Module
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

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13.1. Interaction Classes

13.1.1. HLAinteractionRoot

Full Name:	HLAinteractionRoot
Sharing:	
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	
Parameters:	-

13.1.2. Acknowledge

RPRnoteSIMAN12

Full Name:	HLAinteractionRoot.Acknowledge
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of a SIMAN PDU from a Simulation Manager federate and to inform the Simulation Manager federate whether the federate has implemented the request.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier	UnsignedInteger32	*This field matches this response with the specific StartResume, StopFreeze, CreateEntity or RemoveEntity interaction sent by the simulation manager.*
AcknowledgeFlag	AcknowledgeFlagEnum16	*The type of interaction being acknowledged.*
ResponseFlag	ResponseFlagEnum16	*The type of response made to the interaction by the recipient.*

Real-time Platform Reference FOM v2.0
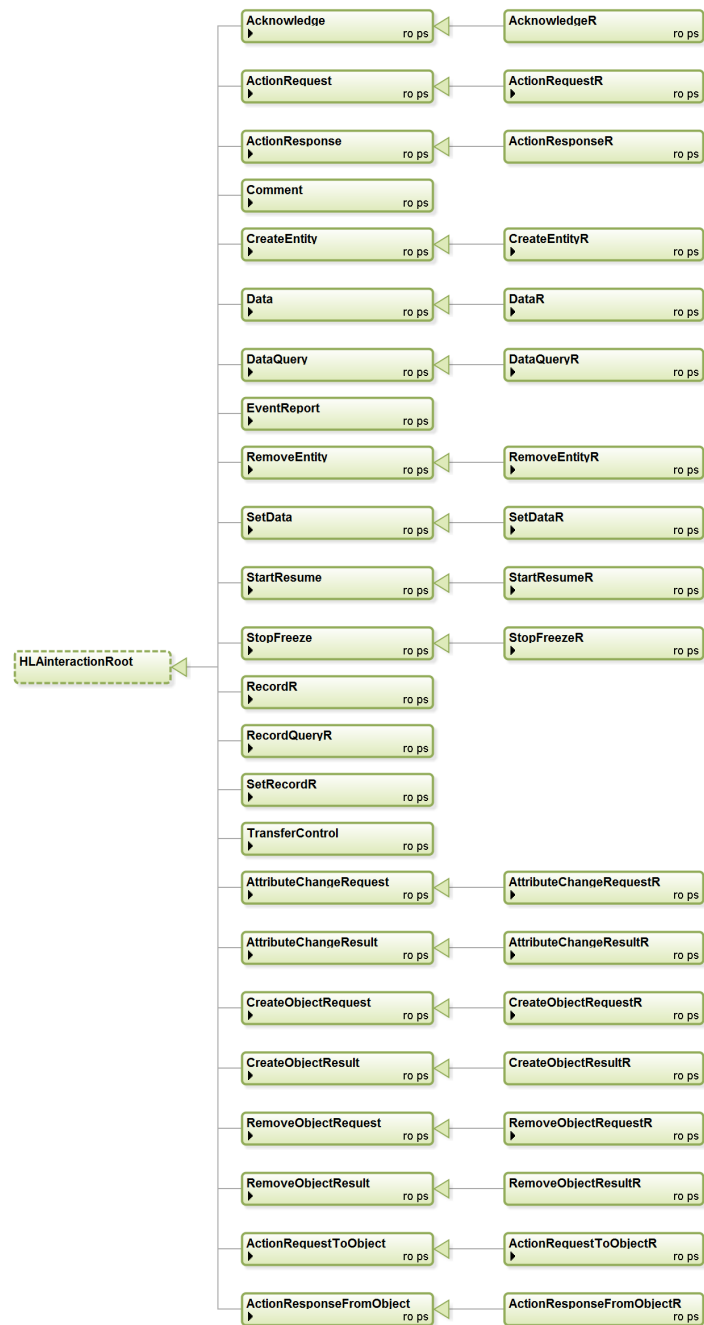
13.1.3. **AcknowledgeR**

Full Name: HLAinteractionRoot.Acknowledge.AcknowledgeR

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to acknowledge receipt of a SIMAN PDU, with a specified acknowledgement protocol, from a Simulation Manager federate and to inform the Simulation Manager federate whether the federate has implemented the request.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity *Inherited from Acknowledge in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from Acknowledge in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier *Inherited from Acknowledge in Simulation Management*	UnsignedInteger32	*This field matches this response with the specific StartResume, StopFreeze, CreateEntity or RemoveEntity interaction sent by the simulation manager.*
AcknowledgeFlag *Inherited from Acknowledge in Simulation Management*	AcknowledgeFlagEnum16	*The type of interaction being acknowledged.*
ResponseFlag *Inherited from Acknowledge in Simulation Management*	ResponseFlagEnum16	*The type of response made to the interaction by the recipient.*

13.1.4. **ActionRequest**

Full Name: HLAinteractionRoot.ActionRequest

Sharing: Publish/Subscribe

Transportation type:	HLAbestEffort	
Order:	Receive	
Dimensions:		
Semantics:	*A Simulation Management (SIMAN) interaction sent from a Simulation Manager federate to one or more federates to request that they perform a specified action.*	

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
ActionRequestCode	ActionEnum32	*The action that the recipient(s) are requested to perform.*
FixedDatums	FixedDatumStructLengthlessArray	*Optional additional data items (types and values)*
VariableDatumSet	VariableDatumStructArray	*Optional additional data items (types and values). These data items are not of fixed length.*

13.1.5. **ActionRequestR**

RPRnoteSIMAN2

Full Name:	HLAinteractionRoot.ActionRequest.ActionRequestR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction sent from a Simulation Manager federate to one or more federates to request that they perform a specified action. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from ActionRequest in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from ActionRequest in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier *Inherited from ActionRequest in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
ActionRequestCode *Inherited from ActionRequest in Simulation Management*	ActionEnum32	*The action that the recipient(s) are requested to perform.*
FixedDatums *Inherited from ActionRequest in Simulation Management*	FixedDatumStructLengthlessArray	*Optional additional data items (types and values)*
VariableDatumSet *Inherited from ActionRequest in Simulation Management*	VariableDatumStructArray	*Optional additional data items (types and values). These data items are not of fixed length.*

13.1.6. **ActionResponse**

RPRnoteSIMAN16

Full Name:	HLAinteractionRoot.ActionResponse
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of an ActionResponse interaction from a Simulation Manager federate and to inform the Simulation Manager federate whether the federate has implemented the request.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*

Name	Datatype	Semantics
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier	UnsignedInteger32	*This field matches this response with the specific ActionRequest interaction sent by the simulation manager.*
RequestStatus	RequestStatusEnum32	*The status of the request that the recipient has been asked to perform.*
FixedDatums	FixedDatumStructLengthlessArray	*Additional, fixed length data items (types and values).*
VariableDatumSet	VariableDatumStructArray	*Additional, non fixed length, data items (types and values).*

13.1.7. **ActionResponseR**

RPRnoteSIMAN2

Full Name:	HLAinteractionRoot.ActionResponse.ActionResponseR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of an ActionResponseR interaction from a Simulation Manager federate and to inform the Simulation Manager federate whether the federate has implemented the request.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity *Inherited from ActionResponse in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from ActionResponse in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier *Inherited from ActionResponse in Simulation Management*	UnsignedInteger32	*This field matches this response with the specific ActionRequest interaction sent by the simulation manager.*
RequestStatus *Inherited from ActionResponse in Simulation Management*	RequestStatusEnum32	*The status of the request that the recipient has been asked to perform.*

Name	Datatype	Semantics
FixedDatums *Inherited from ActionResponse in Simulation Management*	FixedDatumStructLengthlessArray	*Additional, fixed length data items (types and values).*
VariableDatumSet *Inherited from ActionResponse in Simulation Management*	VariableDatumStructArray	*Additional, non fixed length, data items (types and values).*

13.1.8. **Comment**

Full Name:	HLAinteractionRoot.Comment
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction used to insert messages and information into a log stream and closely matches the structures used by the Data interaction class. This information is usually unsolicited in nature. The information contained within the Interaction should be used for commenting purposes only.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
VariableDatumSet	VariableDatumStructArray	*The set of data items (types and values) associated with the interaction.*

13.1.9. **CreateEntity**

RPRnoteSIMAN12

Full Name:	HLAinteractionRoot.CreateEntity
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager to request that an application creates an entity. See DIS 4.5.5.4.1 and DIS 5.3.6 for details.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The FederateIdentifier field identifies the federate that is responsible for creating the entity (if possible). The complete parameter defines the entity ID of the new entity (see also note [18]).*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.10. **CreateEntityR**

RPRnoteSIMAN5

Full Name:	HLAinteractionRoot.CreateEntity.CreateEntityR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager to request that an application creates an entity, using a specified acknowledgement service. See DIS 4.5.11.3.1 and DIS 5.3.12.1 for details.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from CreateEntity in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from CreateEntity in Simulation Management*	EntityIdentifierStruct	*The FederateIdentifier field identifies the federate that is responsible for creating the entity (if possible). The complete parameter defines the entity ID of the new entity (see also note [18]).*

Name	Datatype	Semantics
RequestIdentifier *Inherited from CreateEntity in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.11. **Data**

Full Name: HLAinteractionRoot.Data

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to acknowledge either a) a DataQuery interaction (in which case the Data interaction contains the results of the query) or b) a SetData interaction (in which case the Data interaction contains the data that the federate was able to set).*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier	UnsignedInteger32	*This field matches this response with the specific SetData or DataQuery interaction sent by the simulation manager.*
FixedDatums	FixedDatumStructLengthlessArray	*The set of data items (types and values), of fixed length, that the recipient can return for this interaction.*
VariableDatumSet	VariableDatumStructArray	*The set of data items (types and values), of variable length, that the recipient can return for this interaction.*

13.1.12. **DataR**

Full Name: HLAinteractionRoot.Data.DataR

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to acknowledge either a) a DataQueryR interaction (in which case the DataR interaction contains the results of the query) or b) a SetDataR interaction (in which case the DataR interaction contains the data that the federate was able to set).*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from Data in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from Data in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier *Inherited from Data in Simulation Management*	UnsignedInteger32	*This field matches this response with the specific SetData or DataQuery interaction sent by the simulation manager.*
FixedDatums *Inherited from Data in Simulation Management*	FixedDatumStructLengthlessArray	*The set of data items (types and values), of fixed length, that the recipient can return for this interaction.*
VariableDatumSet *Inherited from Data in Simulation Management*	VariableDatumStructArray	*The set of data items (types and values), of variable length, that the recipient can return for this interaction.*

13.1.13. **DataQuery**

RPRnoteSIMAN18

Full Name: HLAinteractionRoot.DataQuery

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to request that a federate supply the current values of specified data.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*

Name	Datatype	Semantics
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
TimeInterval	UnsignedInteger32	*The interval between regular updates of the requested data. If this field is zero then the recipient should only issue a single Data interaction in response to this interaction.*
FixedDatumIdentifiers	DatumIdentifierLengthlessArray	*The set of fixed length data items (types) that the recipient is requested to supply data for.*
VariableDatumIdentifiers	DatumIdentifierLengthlessArray	*The set of variable length data items (types) that the recipient is requested to supply data for.*

13.1.14. **DataQueryR**

RPRnoteSIMAN6

Full Name:	HLAinteractionRoot.DataQuery.DataQueryR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to request that a federate supply the current values of specified data. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from DataQuery in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from DataQuery in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier *Inherited from DataQuery in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

Name	Datatype	Semantics
TimeInterval *Inherited from DataQuery in Simulation Management*	UnsignedInteger32	*The interval between regular updates of the requested data. If this field is zero then the recipient should only issue a single Data interaction in response to this interaction.*
FixedDatumIdentifiers *Inherited from DataQuery in Simulation Management*	DatumIdentifierLengthlessArray	*The set of fixed length data items (types) that the recipient is requested to supply data for.*
VariableDatumIdentifiers *Inherited from DataQuery in Simulation Management*	DatumIdentifierLengthlessArray	*The set of variable length data items (types) that the recipient is requested to supply data for.*

13.1.15. **EventReport**

Full Name: HLAinteractionRoot.EventReport

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to allow a federate to alert a Simulation Manager federate that a particular event has occurred.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
EventType	EventTypeEnum32	*The type of event being reported.*
FixedDatums	FixedDatumStructLengthlessArray	*The set of fixed size data items (types and values) associated with this event.*
VariableDatumSet	VariableDatumStructArray	*The set of variable size data items (types and values) associated with this event.*

13.1.16. **RemoveEntity**

RPRnoteSIMAN12

Full Name: HLAinteractionRoot.RemoveEntity

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager to request that a specified entity be removed from the simulation.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.17. **RemoveEntityR**

RPRnoteSIMAN5

Full Name: HLAinteractionRoot.RemoveEntity.RemoveEntityR

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager to request that a specified entity be removed from the simulation.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from RemoveEntity in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from RemoveEntity in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*

Name	Datatype	Semantics
RequestIdentifier *Inherited from RemoveEntity in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.18. **SetData**

RPRnoteSIMAN19

Full Name: HLAinteractionRoot.SetData

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to request that a federate sets the values of specified data to specified values.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
FixedDatums	FixedDatumStructLengthlessArray	*The set of fixed length data items (types and values) that the recipient is requested to set.*
VariableDatumSet	VariableDatumStructArray	*The set of variables length data items (types and values) that the recipient is requested to set.*

13.1.19. **SetDataR**

RPRnoteSIMAN8

Full Name: HLAinteractionRoot.SetData.SetDataR

Sharing: Publish/Subscribe

Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to request that a federate sets the values of specified data to specified values. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from SetData in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from SetData in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier *Inherited from SetData in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
FixedDatums *Inherited from SetData in Simulation Management*	FixedDatumStructLengthlessArray	*The set of fixed length data items (types and values) that the recipient is requested to set.*
VariableDatumSet *Inherited from SetData in Simulation Management*	VariableDatumStructArray	*The set of variables length data items (types and values) that the recipient is requested to set.*

13.1.20. **StartResume**

RPRnoteSIMAN12

Full Name:	HLAinteractionRoot.StartResume
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to either a) start simulating one or more entities or b) resume simulation of one or more entities after a pause.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RealWorldTime	ClockTimeStruct	*The real world time (GMT) that the entity or entities should start/resume at.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
SimulationTime	ClockTimeStruct	*The simulation time that the entity or entities should use when they start/resume.*

13.1.21. **StartResumeR**

RPRnoteSIMAN5

Full Name:	HLAinteractionRoot.StartResume.StartResumeR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to either a) start simulating one or more entities or b) resume simulation of one or more entities after a pause. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from StartResume in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from StartResume in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*

Name	Datatype	Semantics
RealWorldTime *Inherited from StartResume in Simulation Management*	ClockTimeStruct	*The real world time (GMT) that the entity or entities should start/resume at.*
RequestIdentifier *Inherited from StartResume in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
SimulationTime *Inherited from StartResume in Simulation Management*	ClockTimeStruct	*The simulation time that the entity or entities should use when they start/resume.*

13.1.22. **StopFreeze**

RPRnoteSIMAN12

Full Name:	HLAinteractionRoot.StopFreeze
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to request that one or more entities either a) freeze (pause) their simulation or b) stop their simulation.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
RealWorldTime	ClockTimeStruct	*The real world time (GMT) that the entity or entities should stop/freeze at.*
Reason	StopFreezeReasonEnum8	*The reason for the stop or freeze.*

Name	Datatype	Semantics
ReflectValues	RPRboolean	*Whether the entity or entities being stopped/frozen should continue to reflect values when stopped/frozen.*
RunInternalSimulationClock	RPRboolean	*Whether the entity or entities being stopped/frozen should continue to run their internal simulation clock when stopped/frozen.*
UpdateAttributes	RPRboolean	*Whether the entity or entities being stopped/frozen should continue to update attributes when stopped/frozen.*

13.1.23. **StopFreezeR**

RPRnoteSIMAN5

Full Name: HLAinteractionRoot.StopFreeze.StopFreezeR

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to request that one or more entities either a) pause their simulation or b) stop their simulation. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
OriginatingEntity *Inherited from StopFreeze in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity *Inherited from StopFreeze in Simulation Management*	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier *Inherited from StopFreeze in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
RealWorldTime *Inherited from StopFreeze in Simulation Management*	ClockTimeStruct	*The real world time (GMT) that the entity or entities should stop/freeze at.*
Reason *Inherited from StopFreeze in Simulation Management*	StopFreezeReasonEnum8	*The reason for the stop or freeze.*

Name	Datatype	Semantics
ReflectValues *Inherited from StopFreeze in Simulation Management*	RPRboolean	*Whether the entity or entities being stopped/frozen should continue to reflect values when stopped/frozen.*
RunInternalSimulationClock *Inherited from StopFreeze in Simulation Management*	RPRboolean	*Whether the entity or entities being stopped/frozen should continue to run their internal simulation clock when stopped/frozen.*
UpdateAttributes *Inherited from StopFreeze in Simulation Management*	RPRboolean	*Whether the entity or entities being stopped/frozen should continue to update attributes when stopped/frozen.*

13.1.24. **RecordR**

Full Name: HLAinteractionRoot.RecordR

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to acknowledge receipt of a RecordQueryR or SetRecordR interaction from a Simulation Manager federate and to inform the Simulation Manager federate whether the federate has implemented the request.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient of the interaction.*
RequestIdentifier	UnsignedInteger32	*This field matches this response with the specific RecordQueryR or SetRecordR interaction sent by the simulation manager.*
EventType	EventTypeEnum32	*The type of event that caused the RecordR interaction to be issued.*
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for the transaction*
ResponseSerialNumber	UnsignedInteger32	*Used to identify the serial number of the RecordR interaction when more than one interaction is used to report record values.*
RecordSetData	RecordSetStructArray1Plus	*The set of records containing the information requested*

13.1.25. **RecordQueryR**

RPRnoteSIMAN21

Full Name: HLAinteractionRoot.RecordQueryR

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to allow a Simulation Manager federate to request data, in record format, from another federate.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
TimeInterval	UnsignedInteger32	*The interval between regular updates of the requested data. If this field is zero then the recipient should only issue a single RecordR interaction in response to this interaction.*
EventType	EventTypeEnum32	*Specifies the type of event that the receiving entity or application should use to trigger the issue of a RecordR interaction in response to this query. If this is zero, then reporting shall be periodic based upon the value of the TimeInterval parameter.*
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for the transaction*
RecordIdentifiers	DatumIdentifierLengthlessArray	*Identifies the records for which information is requested*

13.1.26. **SetRecordR**

RPRnoteSIMAN9

Full Name: HLAinteractionRoot.SetRecordR

Sharing: Publish/Subscribe

Transportation type: HLAreliable

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to request that a federate sets the values of specified data to specified values (provided in record format).*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
RecordSetData	RecordSetStructArray1Plus	*Specifies the information, in record format, to be set by the receiving entity.*

13.1.27. **TransferControl**

Full Name: HLAinteractionRoot.TransferControl

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent to initiate the transfer of control of an entity.*

Parameters:

Name	Datatype	Semantics
OriginatingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application sending the interaction.*
ReceivingEntity	EntityIdentifierStruct	*The DIS entity ID of the entity or application which is the intended recipient(s) of the interaction.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*
TransferType	TransferTypeEnum8	*The type of transfer to be performed.*
TransferEntity	RTIobjectId	*The ID of the object to be transferred.*

Name	Datatype	Semantics
RecordSetData	RecordSetStructArray1Plus	*Specifies the information, in record format, to be set by the receiving entity.*

13.1.28. **AttributeChangeRequest**

RPRnoteSIMAN11

Full Name:	HLAinteractionRoot.AttributeChangeRequest
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to ask that a specified attribute be set to a specified value.*

Parameters:

Name	Datatype	Semantics
ObjectIdentifiers	RTIobjectIdArray	*The list of objects that are the intended recipients of this interaction.*
AttributeValueSet	AttributeValuePairStructArray1Plus	*The set of attributes and their values, that the recipients are asked to update.*

13.1.29. **AttributeChangeRequestR**

RPRnoteSIMAN4

Full Name:	HLAinteractionRoot.AttributeChangeRequest.AttributeChangeRequestR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to ask that a specified attribute be set to a specified value. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
ObjectIdentifiers *Inherited from AttributeChangeRequest in Simulation Management*	RTIobjectIdArray	*The list of objects that are the intended recipients of this interaction.*
AttributeValueSet *Inherited from AttributeChangeRequest in Simulation Management*	AttributeValuePairStructArray1Plus	*The set of attributes and their values, that the recipients are asked to update.*

13.1.30. **AttributeChangeResult**

RPRnoteSIMAN11

Full Name:	HLAinteractionRoot.AttributeChangeResult
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of an AttributeChangeRequest interaction from a Simulation Manager federate, and to inform the Simulation Manager federate whether the attribute was set to the specified value or not.*

Parameters:

Name	Datatype	Semantics
ObjectIdentifier	RTIobjectId	*The ID of the object replying to the AttributeChangeRequest interaction.*
AttributeChangeResult	ResponseFlagEnum16	*Indicates ability to comply.*
AttributeValueSet	AttributeValuePairStructArray1Plus	*The set of attributes and their values that the recipient has been able to update.*

13.1.31. **AttributeChangeResultR**

RPRnoteSIMAN4

Full Name:	HLAinteractionRoot.AttributeChangeResult.AttributeChangeResultR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to acknowledge receipt of an AttributeChangeRequest interaction from a Simulation Manager federate, and to inform the Simulation Manager federate whether the attribute was set to the specified value or not. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for this transaction*
ObjectIdentifier *Inherited from AttributeChangeResult in Simulation Management*	RTIobjectId	*The ID of the object replying to the AttributeChangeRequest interaction.*
AttributeChangeResult *Inherited from AttributeChangeResult in Simulation Management*	ResponseFlagEnum16	*Indicates ability to comply.*
AttributeValueSet *Inherited from AttributeChangeResult in Simulation Management*	AttributeValuePairStructArray1Plus	*The set of attributes and their values that the recipient has been able to update.*

13.1.32. **CreateObjectRequest**

RPRnoteSIMAN15

Full Name: HLAinteractionRoot.CreateObjectRequest

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to another federate requesting that it create an object instance of a particular type.*

Parameters:

Name	Datatype	Semantics
ObjectClass	UnsignedInteger32	*The class of object to be created.*
AttributeValueSet	AttributeValuePairStructArray1Plus	*The set of attributes, and associated values, to be used to initialize the object.*

Name	Datatype	Semantics
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.33. **CreateObjectRequestR**

RPRnoteSIMAN10

Full Name:　　　　HLAinteractionRoot.CreateObjectRequest.CreateObjectRequestR

Sharing:　　　　Publish/Subscribe

Transportation type:　　　　HLAreliable

Order:　　　　Receive

Dimensions:

Semantics:　　　*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager federate to another federate requesting that it create an object instance of a particular type. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*
ObjectClass *Inherited from CreateObjectRequest in Simulation Management*	UnsignedInteger32	*The class of object to be created.*
AttributeValueSet *Inherited from CreateObjectRequest in Simulation Management*	AttributeValuePairStructArray1Plus	*The set of attributes, and associated values, to be used to initialize the object.*
RequestIdentifier *Inherited from CreateObjectRequest in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.34. **CreateObjectResult**

RPRnoteSIMAN15

Full Name:　　　　HLAinteractionRoot.CreateObjectResult

Sharing:　　　　Publish/Subscribe

Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of a CreateObjectRequest from a Simulation Manager federate and to inform the Simulation Manager federate whether the object creation was successful or not.*

Parameters:

Name	Datatype	Semantics
CreateObjectResult	ResponseFlagEnum16	*Indicates ability to comply.*
RequestIdentifier	UnsignedInteger32	*This field matches this response with the specific CreateObject interaction sent by the simulation manager.*

13.1.35. **CreateObjectResultR**

RPRnoteSIMAN10

Full Name:	HLAinteractionRoot.CreateObjectResult.CreateObjectResultR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of a CreateObjectRequest from a Simulation Manager federate and to inform the Simulation Manager federate whether the object creation was successful or not. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
CreateObjectResult *Inherited from CreateObjectResult in Simulation Management*	ResponseFlagEnum16	*Indicates ability to comply.*
RequestIdentifier *Inherited from CreateObjectResult in Simulation Management*	UnsignedInteger32	*This field matches this response with the specific CreateObject interaction sent by the simulation manager.*

13.1.36. **RemoveObjectRequest**

RPRnoteSIMAN20

Full Name:	HLAinteractionRoot.RemoveObjectRequest
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager to request that one or more specified objects be removed from the simulation.*

Parameters:

Name	Datatype	Semantics
ObjectIdentifiers	RTIobjectIdArray	*The IDs of the objects to be removed.*
RequestIdentifier	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.37. **RemoveObjectRequestR**

RPRnoteSIMAN7

Full Name:	HLAinteractionRoot.RemoveObjectRequest.RemoveObjectRequestR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction, sent from a Simulation Manager to request that one or more specified objects be removed from the simulation.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for a transaction*

Name	Datatype	Semantics
ObjectIdentifiers *Inherited from RemoveObjectRequest in Simulation Management*	RTIobjectIdArray	*The IDs of the objects to be removed.*
RequestIdentifier *Inherited from RemoveObjectRequest in Simulation Management*	UnsignedInteger32	*The Request ID is a monotonically increasing integer identifier inserted by the Simulation Manager into all Simulation management interactions. It is used as a unique identifier to identify the latest in a series of competing requests and identifying acknowledgements.*

13.1.38. **RemoveObjectResult**

RPRnoteSIMAN20

Full Name:	HLAinteractionRoot.RemoveObjectResult
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of a RemoveObjectRequest interaction, and to inform the Simulation Manager federate whether the removal was successful or not.*

Parameters:

Name	Datatype	Semantics
RemoveObjectResult	ResponseFlagEnum16	*Indicates ability to comply.*
RequestIdentifier	UnsignedInteger32	*This field matches this response with the specific RemoveObject interaction sent by the simulation manager.*

13.1.39. **RemoveObjectResultR**

RPRnoteSIMAN7

Full Name:	HLAinteractionRoot.RemoveObjectResult.RemoveObjectResultR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction designed to acknowledge receipt of a RemoveObjectRequestR interaction, and to inform the Simulation Manager federate whether the removal was successful or not.*

Parameters:

Name	Datatype	Semantics
RemoveObjectResult *Inherited from RemoveObjectResult in Simulation Management*	ResponseFlagEnum16	*Indicates ability to comply.*
RequestIdentifier *Inherited from RemoveObjectResult in Simulation Management*	UnsignedInteger32	*This field matches this response with the specific RemoveObject interaction sent by the simulation manager.*

13.1.40. **ActionRequestToObject**

RPRnoteSIMAN17

Full Name: HLAinteractionRoot.ActionRequestToObject

Sharing: Publish/Subscribe

Transportation type: HLAbestEffort

Order: Receive

Dimensions:

Semantics: *A Simulation Management (SIMAN) interaction sent from a Simulation Manager federate to one or more specific object instances to request that they perform a specified action.*

Parameters:

Name	Datatype	Semantics
ObjectIdentifiers	RTIobjectIdArray	*The list of objects that are the intended recipients of this interaction.*
ActionRequestCode	ActionEnum32	*The action that the recipient(s) are intended to perform.*

13.1.41. **ActionRequestToObjectR**

RPRnoteSIMAN3

Full Name: HLAinteractionRoot.ActionRequestToObject.ActionRequestToObjectR

Sharing: Publish/Subscribe

Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction sent from a Simulation Manager federate to one or more specific object instances to request that they perform a specified action. The Simulation Manager federate specifies the acknowledgement protocol to be used.*

Parameters:

Name	Datatype	Semantics
AcknowledgementProtocol	AcknowledgementProtocolEnum8	*The acknowledgement protocol to be used for this transaction*
ObjectIdentifiers *Inherited from ActionRequestToObject in Simulation Management*	RTIobjectIdArray	*The list of objects that are the intended recipients of this interaction.*
ActionRequestCode *Inherited from ActionRequestToObject in Simulation Management*	ActionEnum32	*The action that the recipient(s) are intended to perform.*

13.1.42. **ActionResponseFromObject**

RPRnoteSIMAN17

Full Name:	HLAinteractionRoot.ActionResponseFromObject
Sharing:	Publish/Subscribe
Transportation type:	HLAbestEffort
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of an ActionResponseToObject interaction from a Simulation Manager federate and to inform the Simulation Manager federate whether the object has implemented the request.*

Parameters:

Name	Datatype	Semantics
ActionResult	ActionResultEnum32	*The status of the request that the recipient has been asked to perform.*

13.1.43. **ActionResponseFromObjectR**

Full Name:	HLAinteractionRoot.ActionResponseFromObject.ActionResponseFromObjectR
Sharing:	Publish/Subscribe
Transportation type:	HLAreliable
Order:	Receive
Dimensions:	
Semantics:	*A Simulation Management (SIMAN) interaction designed to acknowledge receipt of an ActionResponseToObjectR interaction from a Simulation Manager federate and to inform the Simulation Manager federate whether the object has implemented the request.*

Parameters:

Name	Datatype	Semantics
ActionResult *Inherited from ActionResponseFromObject in Simulation Management*	ActionResultEnum32	*The status of the request that the recipient has been asked to perform.*

13.2. Datatypes

13.2.1. Array Datatypes

AttributeValuePairStructArray1Plus

Element
Type: AttributeValuePairStruct

Cardinality: [1..2147483647]

Encoding: HLAvariableArray

Semantics: *Array of AttributeValuePairStruct.*

DatumIdentifierLengthlessArray

Element
Type: DatumIdentifierEnum32

Cardinality: Dynamic

Encoding: RPRlengthlessArray

Semantics: *Array of DatumIdentifierEnum32.*

FixedDatumStructLengthlessArray

Element
Type: FixedDatumStruct

Cardinality: Dynamic

Encoding: RPRlengthlessArray

Semantics: *Array of FixedDatumStructs.*

RecordSetStructArray1Plus

Element
Type: RecordSetStruct

Cardinality: [1..2147483647]

Encoding: HLAvariableArray

Semantics: *Array of RecordSetStruct*

RecordStructArray

Element Type:	RecordStruct
Cardinality:	Dynamic
Encoding:	HLAvariableArray
Semantics:	*Array of RecordStruct*

VariableDatumStructArray

Element Type:	VariableDatumStruct
Cardinality:	Dynamic
Encoding:	HLAvariableArray
Semantics:	*Array of VariableDatumStruct*

13.2.2. Fixed Record Datatypes

AttributeValuePairStruct

Encoding: HLAfixedRecord

Semantics: *Pair of an AttributeHandle identifying an attribute and data for that attribute.*

Name	Type	Semantic
AttributeHandle	UnsignedInteger32	*AttributeHandle identifying attribute.*
NumberOfBytes-A-Value	OctetArray	*Value for the specified attribute.*
PaddingTo32 [RPRnoteSIMAN23]	OctetPadding32Array	*Brings the record length to a 32-bit boundary*

FixedDatumStruct

Encoding: HLAfixedRecord

Semantics: *Identifier and value for a fixed datum.*

Name	Type	Semantic
FixedDatumIdentifier	DatumIdentifierEnum32	*The identifier for this fixed datum.*
FixedDatumValue [RPRnoteSIMAN14]	UnsignedInteger32	*The value for this fixed datum.*

RecordSetStruct [RPRnoteSIMAN22]

Encoding: HLAfixedRecord

Semantics: *A set of records and record details.*

Name	Type	Semantic
RecordSetIdentifier	DatumIdentifierEnum32	*This field shall specify the data structure used to convey the parameter values of the record for each record.*
RecordSetSerialNumber	UnsignedInteger32	*This field shall specify the serial number of the first record in the array.*
NumberOfRecords-A-RecordValues	RecordStructArray	*This field contains the records of the format specified by the Record ID field.*

RecordStruct

Encoding: HLAfixedRecord

Semantics: *Record data.*

Name	Type	Semantic
NumberOfBits	UnsignedInteger32	*Number of bits of data.*
NumberOfBytes-A-RecordData	OctetArray	*Data.*
PaddingTo32 ^{RPRnoteSIMAN23}	OctetPadding32Array	*Brings the record length to a 32-bit boundary*

13.3. Notes

RPRnoteSIMAN1

Semantics: *See DIS 4.5.11 for a description of the acknowledgement protocols (called reliability services in that document).*

RPRnoteSIMAN2

Semantics: *The ActionResponseR interaction should be sent in response to an ActionRequestR interaction by the receiving federate.*

RPRnoteSIMAN3

Semantics: *The ActionResponseFromObjectR interaction should be sent in response to an ActionRequestToObjectR interaction by the receiving federate.*

RPRnoteSIMAN4

Semantics: *The AttributeChangeResultR interaction should be sent in response to an AttributeChangeRequestR interaction by any object that is mentioned in the associated object list. The AttributeChangeResult parameter should indicate the success or failure of the object to implement the requested changes. If the object can implement the changes then the AttributeChangeResult parameter should be set to successful and the AttributeValueSet shall be empty.*

If the object cannot immediately comply with the request, but is likely to be able to comply in the future then the AttributeChangeRequest parameter shall be set to pending and the AttributeValueSet shall be empty. When the object complies with the request (or fails to implement the request) then another AttributeChangeResultR interaction shall be sent informing the initiating federate of the result of the request.

If the object cannot comply with the request then the AttributeChangeResult parameter shall indicate the reason why the object cannot comply with the request, The AttributeValueSet shall contain the attributes which have been not been set and the current values of those attributes.

RPRnoteSIMAN5

Semantics: *The AcknowledgeR interaction is issued in response to the CreateEntityR, RemoveEntityR, StartResumeR, and StopFreezeR interactions. See (DIS 4.4.11.3.5 Acknowledge-R PDU) and (DIS 5.3.12.5 Acknowledge-R PDU).*

RPRnoteSIMAN6

Semantics: *The DataR interaction should be sent in response to a DataQueryR interaction by the receiving federate.*

RPRnoteSIMAN7

Semantics: *The standard acknowledgement protocol is identical to the requirements of SIMAN in DIS 1278.1-1995 (i.e. it acts identically to the parent interaction) - see DIS 4.5.5. The other acknowledgement protocols are described in DIS 4.5.11 (they are called reliability services in that document).*

RPRnoteSIMAN8

Semantics: *The DataR interaction should be sent in response to a SetDataR interaction by the receiving federate.*

RPRnoteSIMAN9

Semantics: *The RecordR interaction should be sent in response to a SetRecordR interaction by the receiving federate.*

RPRnoteSIMAN10

Semantics: *The CreateObjectResultR interaction should be sent in response to an CreateObjectRequestR interaction by the receiving federate.*

RPRnoteSIMAN11

Semantics: *The AttributeChangeResult interaction should be sent in response to an AttributeChangeRequest interaction by any object that is mentioned in the associated object list. The AttributeChangeResult parameter should indicate the success or failure of the object to implement the requested changes. If the object can implement the changes then the AttributeChangeResult parameter should be set to successful and the AttributeValueSet shall be empty.*

If the object cannot immediately comply with the request, but is likely to be able to comply in the future then the AttributeChangeRequest parameter shall be set to pending and the AttributeValueSet shall be empty. When the object complies with the request (or fails to implement the request) then another AttributeChangeResult interaction shall be sent informing the initiating federate of the result of the request.

If the object cannot comply with the request then the AttributeChangeResult parameter shall indicate the reason why the object cannot comply with the request, The AttributeValueSet shall contain the attributes which have been not been set and the current values of those attributes.

RPRnoteSIMAN12

Semantics: *The Acknowledge interaction is issued in response to the CreateEntity, RemoveEntity, StartResume, and StopFreeze interactions. See (DIS 4.4.5.4.5 Acknowledge PDU) and (DIS 5.4.6.5 Acknowledge PDU)."*

RPRnoteSIMAN13

Semantics: *If the EntityNumber field is set to RQST_ASSIGN_ID (hex FFFE) then the receiving application should assign the entity number. Entity identifications shall be in accordance with DIS 5.2.14.2.*

RPRnoteSIMAN14

Semantics: *The units of the FixedDatumValue field is determined by the value of the FixedDatumIdentifier field. The units, etc., for each of the FixedDatumIdentifier enumeration values are to be derived from the federation agreements, which could refer to SISO-REF-010.*

RPRnoteSIMAN15

Semantics: *The CreateObjectResult interaction should be sent in response to an CreateObjectRequest interaction by the receiving federate.*

RPRnoteSIMAN16

Semantics: *The ActionResponse interaction should be sent in response to an ActionRequest interaction by the receiving federate.*

RPRnoteSIMAN17

Semantics: *The ActionResponseFromObject interaction should be sent in response to an ActionRequestToObject interaction by the receiving federate.*

RPRnoteSIMAN18

Semantics: *The Data interaction should be sent in response to a DataQuery interaction by the receiving federate.*

RPRnoteSIMAN19

Semantics: *The Data interaction should be sent in response to a SetData interaction by the receiving federate.*

RPRnoteSIMAN20

Semantics: *The RemoveObjectResult interaction should be sent in response to an RemoveObjectRequest interaction by the receiving federate.*

RPRnoteSIMAN21

Semantics: *The RecordR interaction should be sent in response to a RecordQueryR interaction by the receiving federate.*

RPRnoteSIMAN22

Semantics: *The type of the RecordStruct is determined by the value of the RecordSetIdentifier field. The types and associated units, etc., for each of the RecordSetIdentifier enumeration values The values for the individual fields are to be derived from the federation agreements, which could refer to SISO-REF-010.*

RPRnoteSIMAN23

Semantics: *All padding fields shall be set to the value 0*

14. Module Switches

Information

Name:	SISO-STD-001.1-2015 - Real-time Platform Reference Switches FOM Module
Type:	FOM
Version:	2.0
Modification Date:	2015-08-10
Security Classification:	Unclassified
Purpose:	The RPR FOM supports interoperability for real-time, platform oriented defense simulation.
Application Domain:	All domains
Description:	This module contains the switches, required by the HLA standard to be part of a complete FOM.
Use Limitation:	

Other:	Copyright © 2015 by the Simulation Interoperability Standards Organization, Inc. P.O. Box 781238 Orlando, FL 32878-1238, USA All rights reserved. Schema and API: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for all purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." Should a reader require additional information, contact the SISO Inc. Board of Directors. Documentation: SISO hereby grants a general, royalty-free license to copy, distribute, display, and make derivative works from this material, for noncommercial purposes, provided that any use of the material contains the following attribution: "Reprinted with permission from SISO Inc." The material may not be used for a commercial purpose without express written permission from the SISO Inc. Board of Directors. SISO Inc. Board of Directors P.O. Box 781238 Orlando, FL 32878-1238, USA

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References

Dependency	MIM
Text Document	Standard for Guidance, Rationale, and Interoperability Modalities for the Real-time Platform Reference Federation Object Model (RPR FOM) SISO-STD-001-2015 10 August 2015
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1-1995 September 21, 1995
Text Document	IEEE Standard for Distributed Interactive Simulation - Application Protocols IEEE Std 1278.1a-1998 19 March 1998

14.2. Switches

Auto Provide	Disabled
Convey Region Designator Sets	Disabled
Convey Producing Federate	Disabled
Attribute Scope Advisory	Disabled
Attribute Relevance Advisory	Disabled
Object Class Relevance Advisory	Disabled
Interaction Relevance Advisory	Disabled
Service Reporting	Disabled
Exception Reporting	Disabled
Delay Subscription Evaluation	Disabled
Automatic Resign Action	CancelThenDeleteThenDivest