Maintenance Management Information Exchange Model (MMIXM)

MMIXM Diagram Report for MMIXM Final Release Version 3.0.0

11 August 2023

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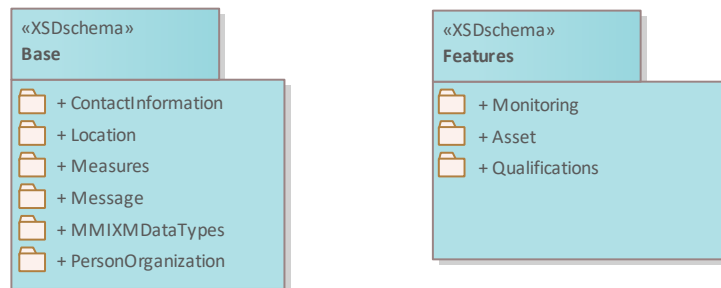
Figure 1: MMIXM

Base Packages diagram

Class diagram in package 'Base'

Base Packages
Version 3.0.0
FAA created on 7/20/2016. Last modified 12/20/2022

«XSDschema»
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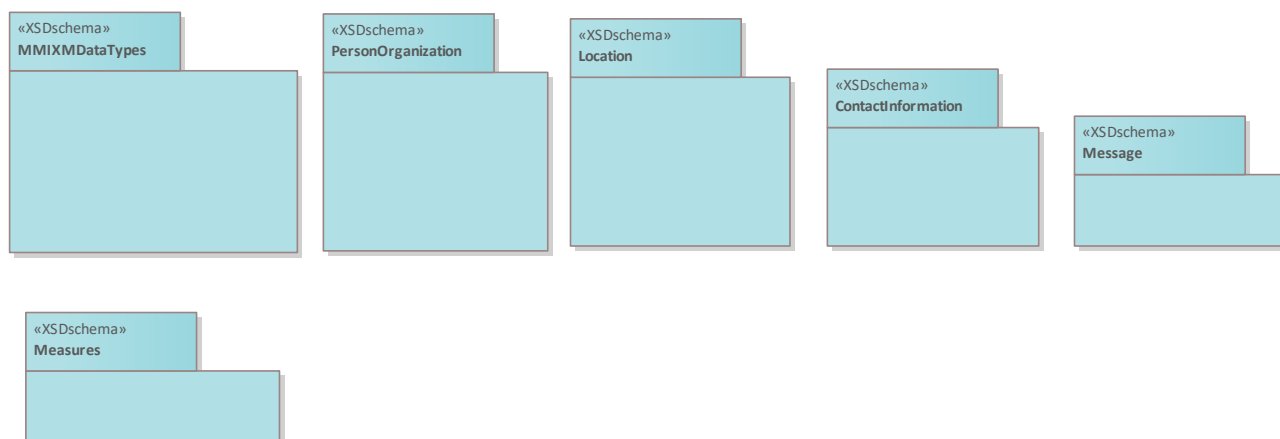
Figure 2: Base Packages

ContactInformation diagram

Class diagram in package 'ContactInformation'

ContactInformation
Version 3.0.0
FAA created on 7/20/2016. Last modified 12/20/2022

«XSDcomplexType»
ContactInformation

+   email: string [0..1]

+postalAddress   0..99

«XSDcomplexType»
PostalAddress

+   addressCategory: string [0..1]
+   administrativeArea: string [0..1]
+   city: string [0..1]
+   countryCode: string [0..1]
+   countryName: string [0..1]
+   deliveryPoint: string [0..1]
+   postalCode: PostalCodeType [0..1]

+telephoneContact   0..99

«XSDcomplexType»
TelephoneContact

+   phoneCategory: string [0..1]
+   voice: TextPhoneType [0..1]

Figure 3: ContactInformation

Location diagram

Class diagram in package 'Location'

Location
Version 3.0.0
FAA created on 6/14/2016. Last modified 12/20/2022

«XSDcomplexType»
Location

+   gsaAddress: String10Type [0..1]

+electronicLocation

«XSDcomplexType»
ElectronicLocation

+   ip: string [0..1]
+   textDescription: string [0..1]
+   url: anyURI [0..1]

0..1

+faaLocation

0..1

«XSDcomplexType»
FaaLocation

+   faaLocationIdentifier: String [0..1]
+   faaLocationType: FaaLocationTypeChoice [0..1]

+geographicLocation

0..1

«XSDcomplexType»
GeographicLocation

+   elevation: integer [0..1]
+   latitude: decimal [0..1]
+   longitude: decimal [0..1]
+   source: string [0..1]

+physicalAddress   0..1

«XSDcomplexType»
PhysicalAddress

+   address: PostalAddress [0..1]
+   description: string [0..1]

«XSDcomplexType»
**MMIXMDataTypes::
FaaLocationTypeChoice**

+locationType

«enumeration»
**MMIXMDataTypes::
CodeFaaLocationType**

AIRPORT
ARTCC
TRACON

+locationOtherType

string

«XSDsimpleType»
**MMIXMDataTypes::
FaaLocationOtherType**

Figure 4: Location

Measures diagram

Class diagram in package 'Measures'

Measures
Version 3.0.0
FAA created on 9/28/2017. Last modified 1/13/2023

«XSDcomplexType»
Angle

«XSDattribute»
+   uom: UomAngle

«XSDcomplexType»
AngularRate

«XSDattribute»
+   uom: UomAngularRate

«XSDcomplexType»
ComputerInformation

«XSDattribute»
+   uom: UomComputerInformation

«XSDcomplexType»
ComputerInformationRate

«XSDattribute»
+   uom: UomComputerInformationRate

«XSDcomplexType»
FlowRate

«XSDattribute»
+   uom: UomFlowRate

«XSDcomplexType»
FlightLevel

«XSDattribute»
+   uom: UomFlightLevel

«XSDcomplexType»
Measure

«XSDattribute»
+   value: double

«XSDcomplexType»
LightIntensity

«XSDattribute»
+   uom: UomLightIntensity

«XSDcomplexType»
Distance

«XSDattribute»
+   uom: UomDistance

«XSDcomplexType»
Pressure

«XSDattribute»
+   uom: UomPressure

«XSDcomplexType»
Volume

«XSDattribute»
+   uom: UomVolume

«XSDcomplexType»
Energy

«XSDattribute»
+   uom: UomEnergy

«XSDcomplexType»
Time

«XSDattribute»
+   uom: UomTime

«XSDcomplexType»
Weight

«XSDattribute»
+   uom: UomWeight

«XSDcomplexType»
ElectricPotential

«XSDattribute»
+   uom: UomElectricPotential

«XSDcomplexType»
Speed

«XSDattribute»
+   uom: UomSpeed

«XSDcomplexType»
Percentage

«XSDattribute»
+   uom: UomPercentage

«XSDcomplexType»
SignalStrength

«XSDattribute»
+   uom: UomSignalStrength

«XSDcomplexType»
ElectricCurrent

«XSDattribute»
+   uom: UomElectricCurrent

«XSDcomplexType»
Frequency

«XSDattribute»
+   uom: UomFrequency

«XSDcomplexType»
Power

«XSDattribute»
+   uom: UomPower

«XSDcomplexType»
Temperature

«XSDattribute»
+   uom: UomTemperature

Figure 5: Measures

UnitsofMeasure diagram

Class diagram in package 'Measures'

UnitsofMeasure
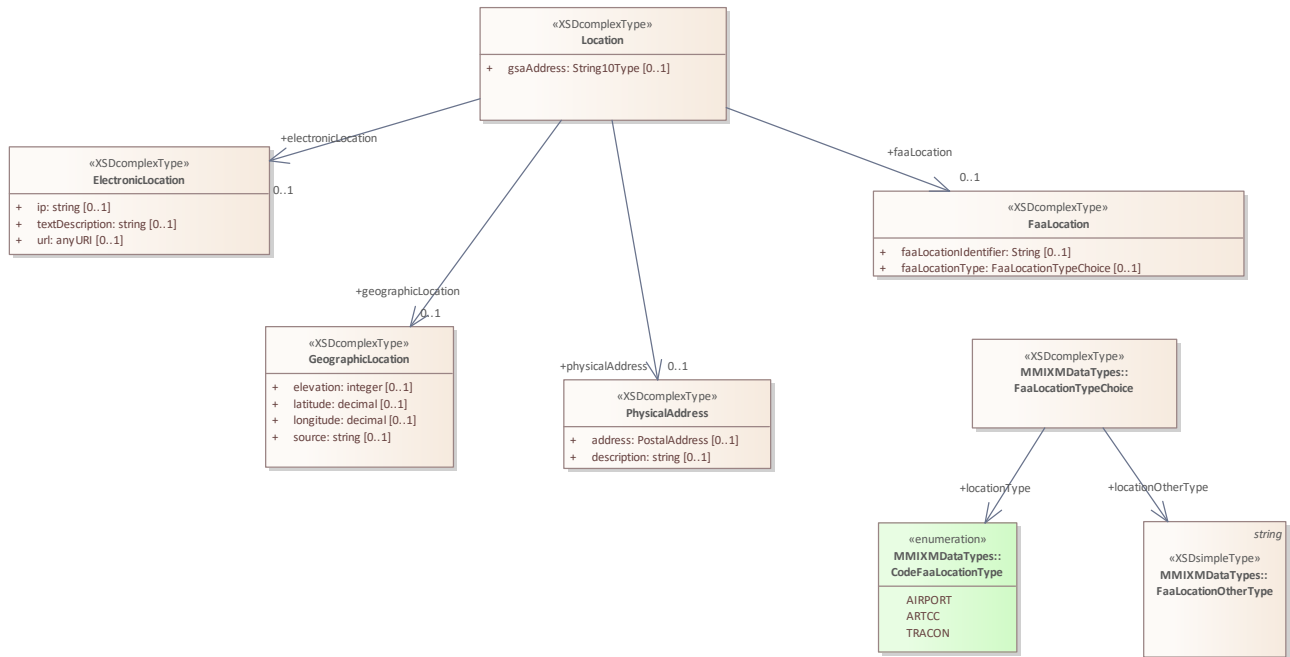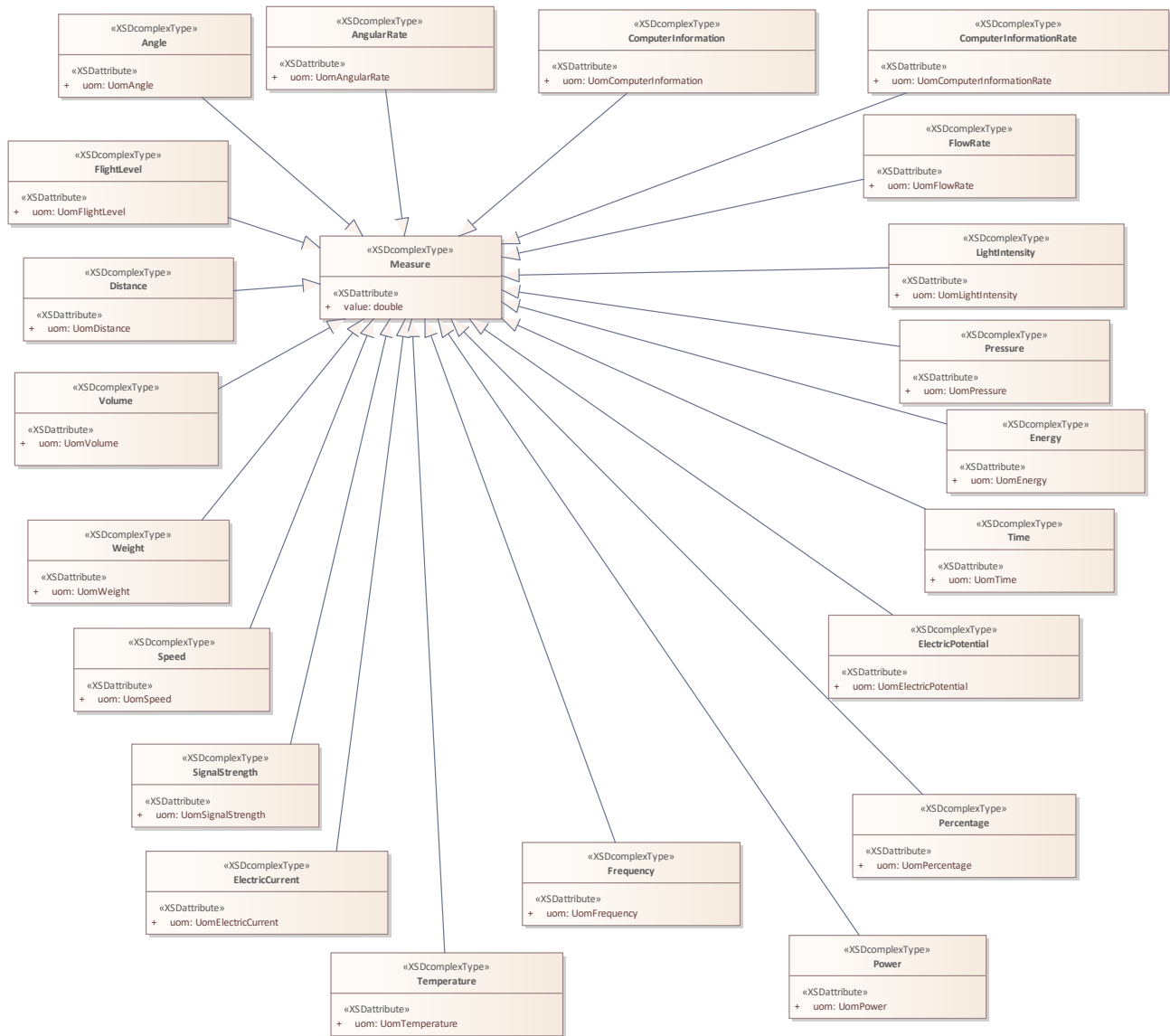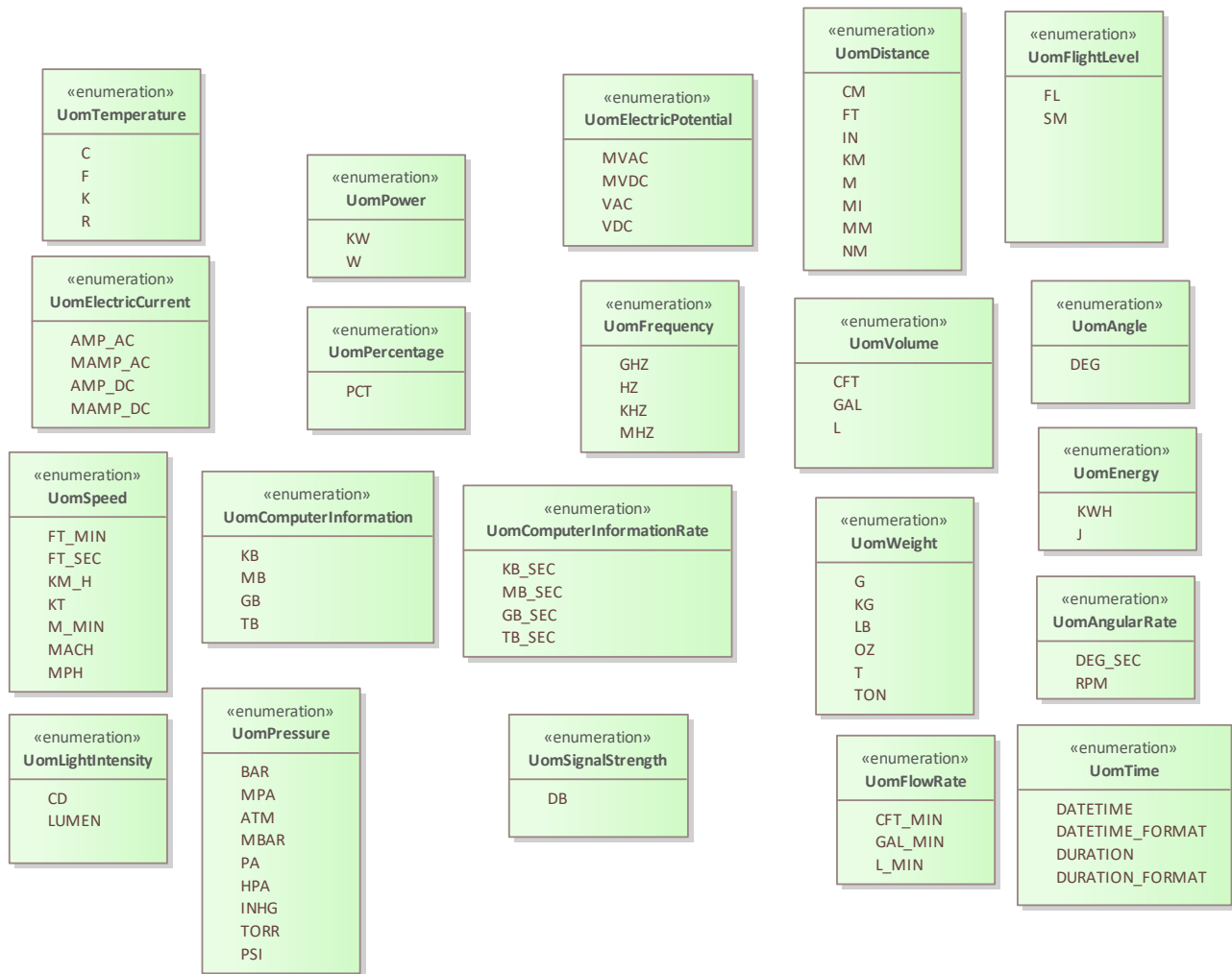Version 3.0.0
FAA created on 9/29/2017. Last modified 1/13/2023

«enumeration» UomTemperature
C
F
K
R

«enumeration» UomElectricCurrent
AMP_AC
MAMP_AC
AMP_DC
MAMP_DC

«enumeration» UomPower
KW
W

«enumeration» UomPercentage
PCT

«enumeration» UomElectricPotential
MVAC
MVDC
VAC
VDC

«enumeration» UomFrequency
GHZ
HZ
KHZ
MHZ

«enumeration» UomDistance
CM
FT
IN
KM
M
MI
MM
NM

«enumeration» UomFlightLevel
FL
SM

«enumeration» UomVolume
CFT
GAL
L

«enumeration» UomAngle
DEG

«enumeration» UomEnergy
KWH
J

«enumeration» UomSpeed
FT_MIN
FT_SEC
KM_H
KT
M_MIN
MACH
MPH

«enumeration» UomComputerInformation
KB
MB
GB
TB

«enumeration» UomComputerInformationRate
KB_SEC
MB_SEC
GB_SEC
TB_SEC

«enumeration» UomWeight
G
KG
LB
OZ
T
TON

«enumeration» UomAngularRate
DEG_SEC
RPM

«enumeration» UomLightIntensity
CD
LUMEN

«enumeration» UomPressure
BAR
MPA
ATM
MBAR
PA
HPA
INHG
TORR
PSI

«enumeration» UomSignalStrength
DB

«enumeration» UomFlowRate
CFT_MIN
GAL_MIN
L_MIN

«enumeration» UomTime
DATETIME
DATETIME_FORMAT
DURATION
DURATION_FORMAT

Figure 6: UnitsofMeasure

Message diagram

Class diagram in package 'Message'

Message
Version 3.0.0
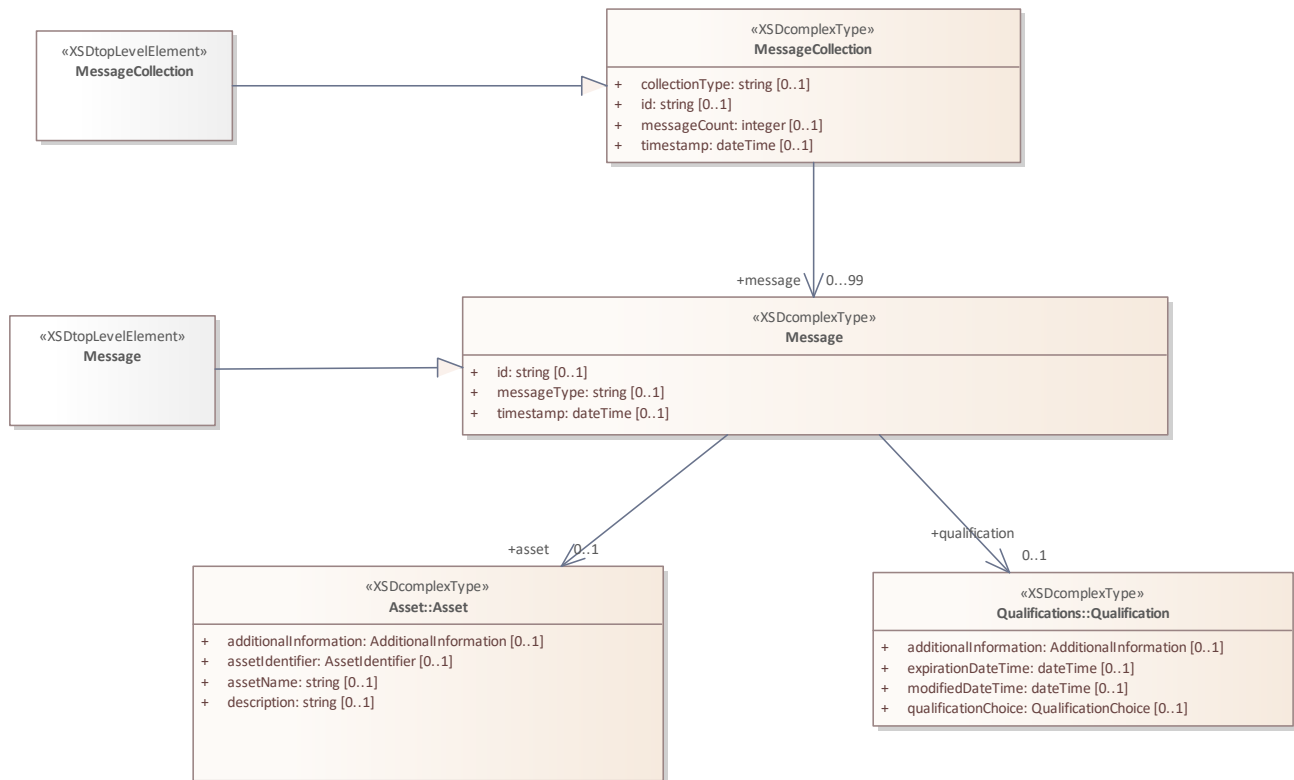FAA created on 2/22/2017. Last modified 12/20/2022

«XSDtopLevelElement»
MessageCollection

«XSDcomplexType»
MessageCollection

+   collectionType: string [0..1]
+   id: string [0..1]
+   messageCount: integer [0..1]
+   timestamp: dateTime [0..1]

+message 0...99

«XSDtopLevelElement»
Message

«XSDcomplexType»
Message

+   id: string [0..1]
+   messageType: string [0..1]
+   timestamp: dateTime [0..1]

+asset   0..1

«XSDcomplexType»
Asset::Asset

+   additionalInformation: AdditionalInformation [0..1]
+   assetIdentifier: AssetIdentifier [0..1]
+   assetName: string [0..1]
+   description: string [0..1]

+qualification
0..1

«XSDcomplexType»
Qualifications::Qualification

+   additionalInformation: AdditionalInformation [0..1]
+   expirationDateTime: dateTime [0..1]
+   modifiedDateTime: dateTime [0..1]
+   qualificationChoice: QualificationChoice [0..1]

Figure 7: Message

MMIXMDataTypes diagram

Class diagram in package 'MMIXMDataTypes'

«enumeration» CodeAssetStatusType
- $
- A
- C
- D
- E
- F
- G
- P
- S
- T
- X
- Y
- Z

«enumeration» CodeCategoryType
- Facility = 1
- System = 2
- SubSystem = 3
- Equipment = 4
- NAPRS Services = 5

«enumeration» CodeAlertPriorityType
- Highest
- High
- Moderate
- Low
- Lowest
- Unknown

«enumeration» CodeFaaLocationType
- AIRPORT
- ARTCC
- TRACON

«enumeration» CodeCertificationType
- Regular
- Remote Regular
- Temporary

«enumeration» CodeFsepClassType
- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 9
- A
- B
- C
- D
- E
- F
- G
- H
- J
- K
- L
- M
- N
- O
- P
- Q
- R
- S
- T
- U
- V
- W
- X
- Y
- Z

«enumeration» CodeAlertSeverityType
- Highest
- High
- Moderate
- Low
- Lowest
- Unknown

«enumeration» CodeResponsibilityType
- #
- 4
- 5
- 6
- 7
- 8
- 9
- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O
- P
- Q
- R
- S
- T
- U
- V
- W
- X
- Y
- Z

«enumeration» CodeHolderStatusType
- Active
- Inactive

«enumeration» CodeOperationalAvailabilityType
- Available
- Partially Available
- Unavailable
- Unknown

«enumeration» CodeManufacturedAssetStatusType
- ACTIVE
- INACTIVE
- IN_SERVICE
- IN_TRANSIT
- MISSING

«enumeration» CodeRatingType
- Automation
- Communication
- Environmental
- NAVAID
- Power
- Surveillance
- Weather

«enumeration» CodeRatingStatusType
- Current
- Historical
- Other
- Pending

«enumeration» CodeCertificationStatusType
- Active
- Inactive
- Revoked

«enumeration» CodeRegionType
- AC
- AL
- CE
- CT
- EA
- GL
- NE
- NM
- SO
- SW
- WA
- WP

«enumeration» CodeTierType
- 111
- 222
- 333
- XXX

«enumeration» CodeConditionType
- REPAIRABLE
- SERVICEABLE
- SURVEY

«enumeration» MonitoringType
- Monitored
- Unmonitored

«enumeration» CodeHolderStatusQualifierType
- In-Training
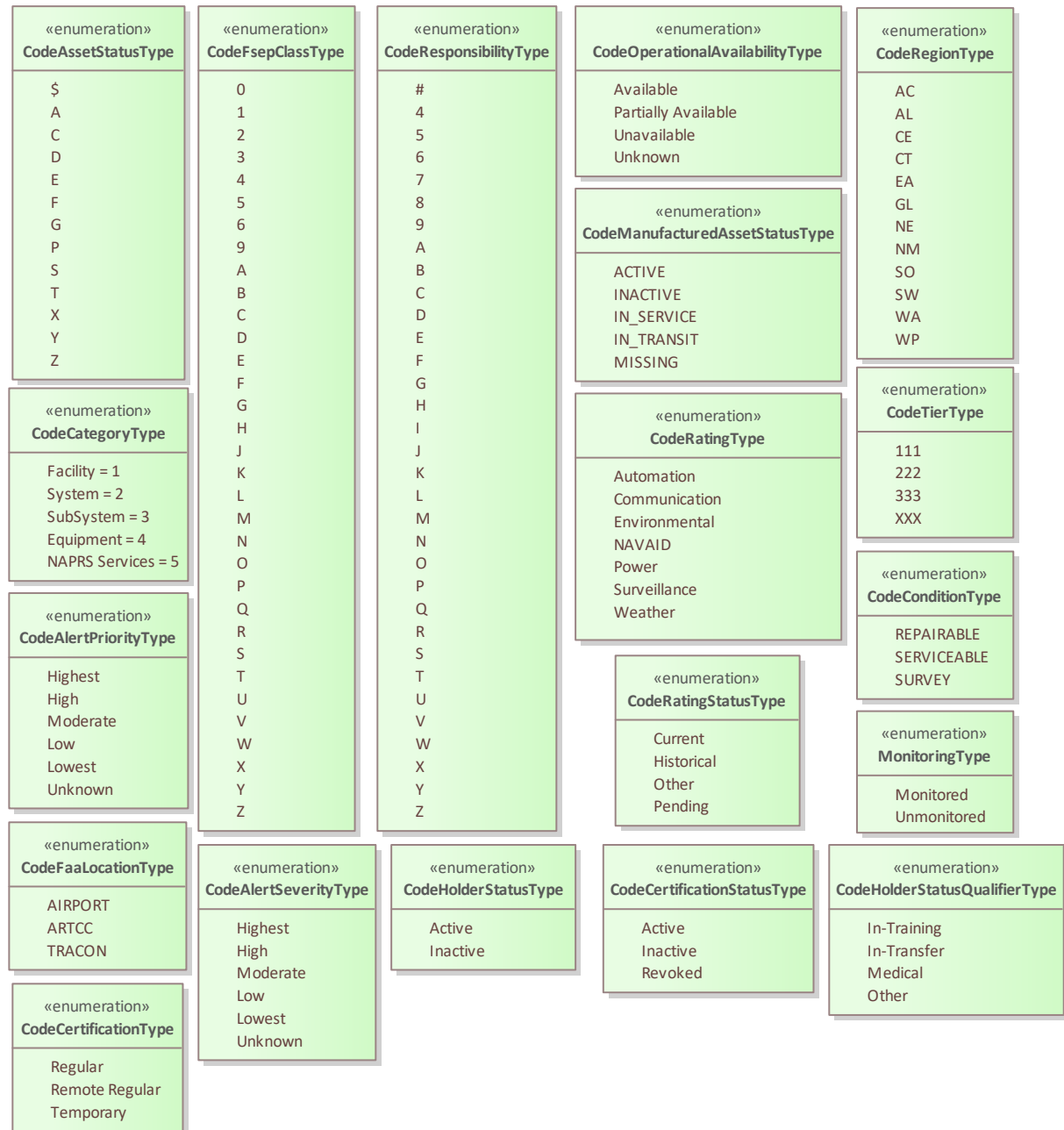- In-Transfer
- Medical
- Other

Figure 8: MMIXMDataTypes

PersonOrganization diagram

Class diagram in package 'PersonOrganization'

PersonOrganization
Version 3.0.0
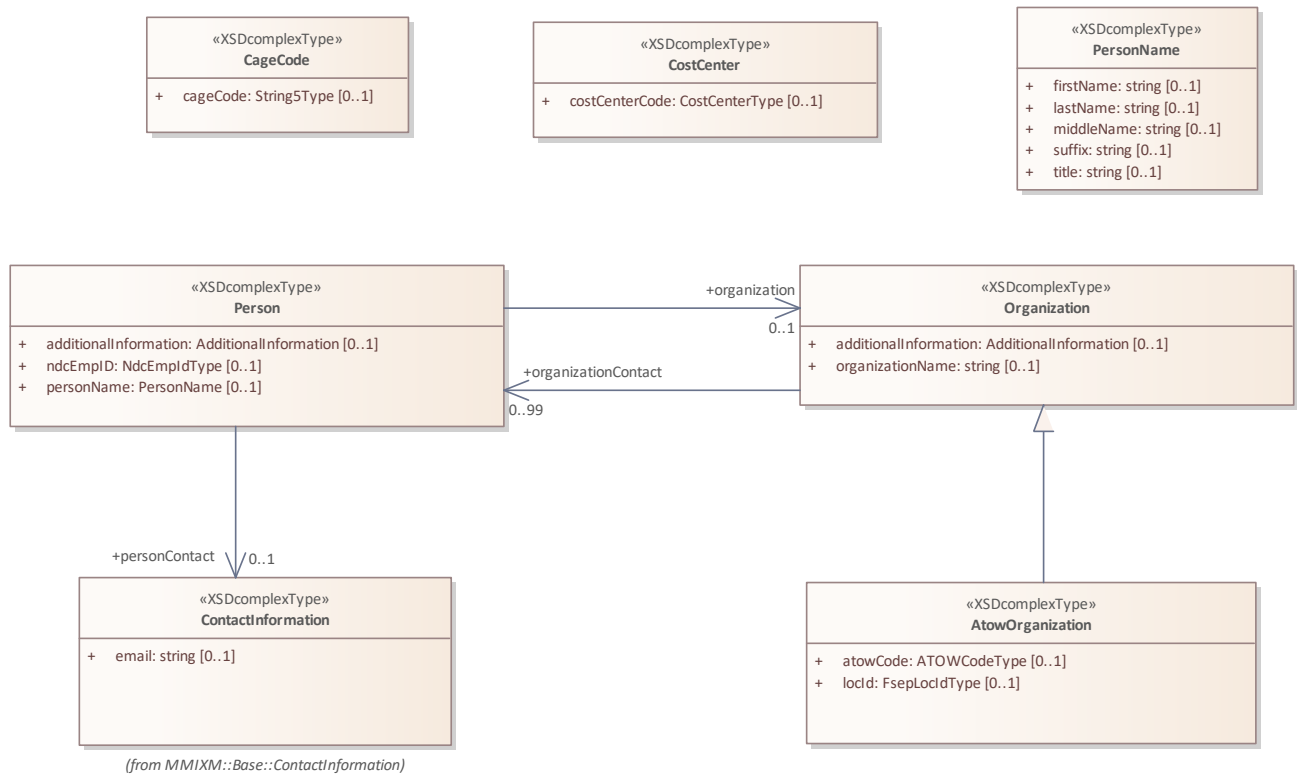FAA created on 7/12/2016. Last modified 12/20/2022

Figure 9: PersonOrganization

Features Packages diagram

Class diagram in package 'Features'

Features Packages
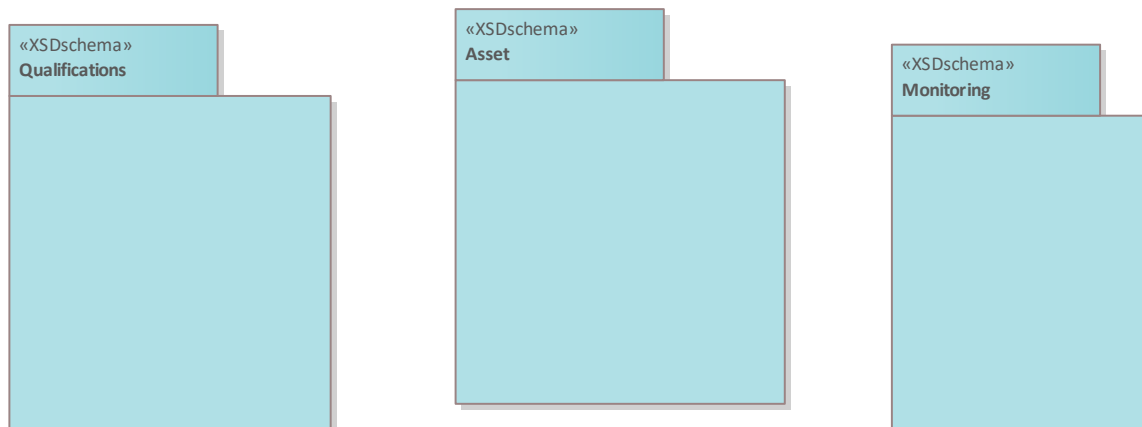Version 3.0.0
FAA created on 7/20/2016. Last modified 12/20/2022

«XSDschema»
Qualifications

«XSDschema»
Asset

«XSDschema»
Monitoring

Figure 10: Features Packages

AssetIdentifier diagram

Class diagram in package 'Asset'

AssetIdentifier
Version 3.0.0
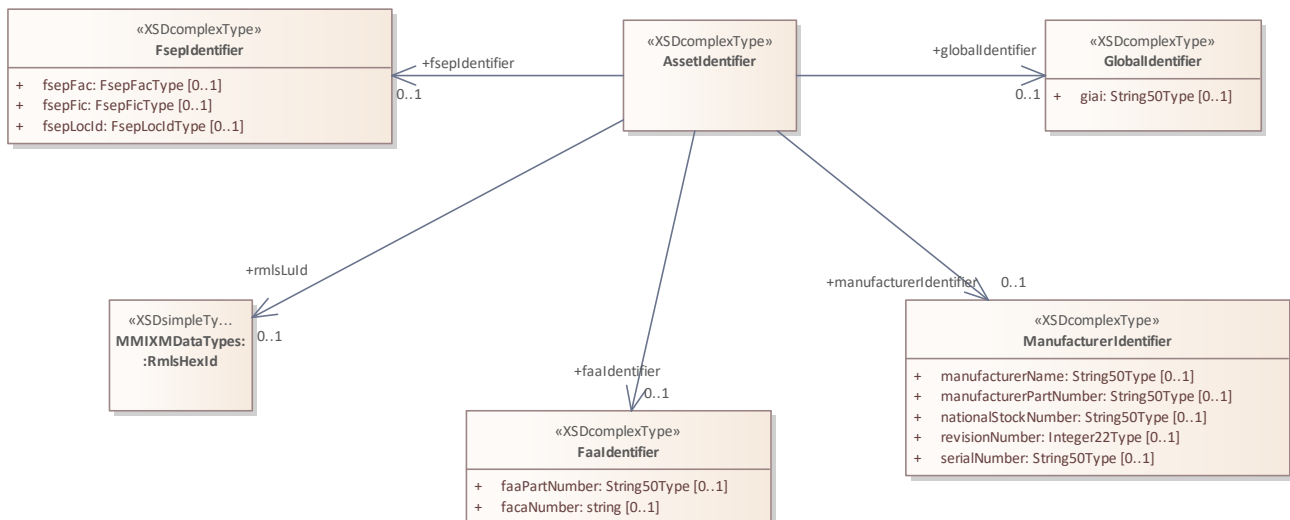FAA created on 7/18/2019. Last modified 12/20/2022

Figure 11: AssetIdentifier

AssetRelationshipHierarchy diagram

Class diagram in package 'Asset'

AssetRelationshipHierarchy
Version 3.0.0
FAA created on 7/19/2019. Last modified 12/20/2022

«XSDcomplexType»
AssetRelationship

+composedOf
0..1

+interfacesWith
0..1

+memberOf
0..1

+rmIsAdjacentTo
0..1

+rmIsColocated
0..1

+rmIsRelatedTo
0..1

+rmIsAssociatedWith
0..1

«XSDcomplexType»
Asset

+	additionalInformation: AdditionalInformation [0..1]
+	assetIdentifier: AssetIdentifier [0..1]
+	assetName: string [0..1]
+	description: string [0..1]

+asset
0...99

Figure 12: AssetRelationshipHierarchy

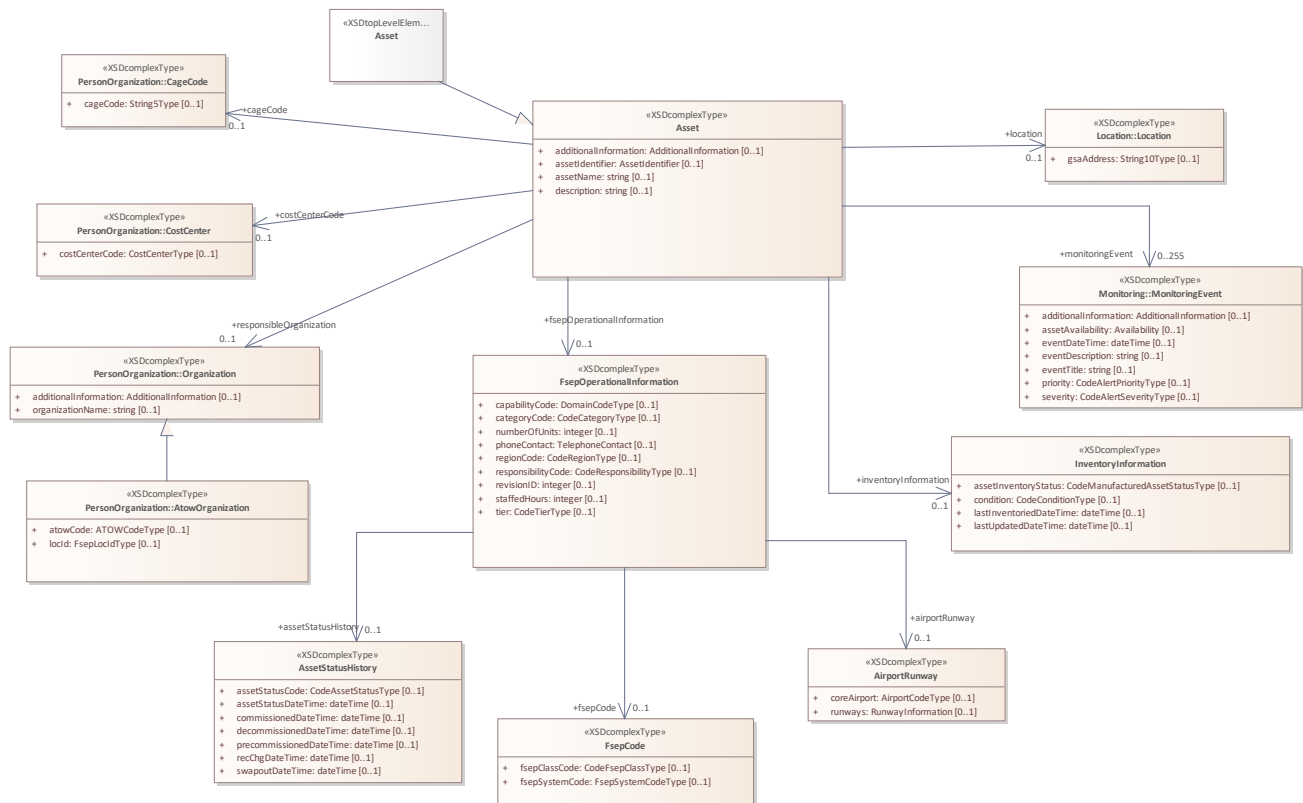# Asset diagram

Class diagram in package 'Asset'

Figure 13: Asset

Monitoring diagram

Class diagram in package 'Monitoring'

Monitoring
Version 3.0.0
FAA created on 3/13/2017. Last modified 1/13/2023

«enumeration»
MMIXMDataTypes::
CodeAlertSeverityType

Highest
High
Moderate
Low
Lowest
Unknown

«enumeration»
MMIXMDataTypes::
CodeAlertPriorityType

Highest
High
Moderate
Low
Lowest
Unknown

«XSDcomplexType»
Asset::Asset

+ additionalInformation: AdditionalInformation [0..1]
+ assetIdentifier: AssetIdentifier [0..1]
+ assetName: string [0..1]
+ description: string [0..1]

«enumeration»
RmlsConditionCodeType

I
N
P
S

«enumeration»
RmlsCriticalityCodeType

1
2
3
4
5
6
7
8
9

+monitoringEvent   0..255

«XSDcomplexType»
SecurityViolation

+ additionalInformation: AdditionalInformation [0..1]
+ violation: string [0..1]
+ violationUserName: string [0..1]

+securityViolation
0..1

«XSDcomplexType»
MonitoringEvent

+ additionalInformation: AdditionalInformation [0..1]
+ assetAvailability: Availability [0..1]
+ eventDateTime: dateTime [0..1]
+ eventDescription: string [0..1]
+ eventTitle: string [0..1]
+ priority: CodeAlertPriorityType [0..1]
+ severity: CodeAlertSeverityType [0..1]

+rmlsDpInformation   0..1

«XSDcomplexType»
RmlsDpInformation

+ conditionCode: RmlsConditionCodeType [0..1]
+ criticality: RmlsCriticalityCodeType [0..1]
+ description: String50Type [0..1]
+ dpId: RmlsHexId [0..1]
+ rawValue: String15Type [0..1]
+ shortName: String10Type [0..1]

+parameter   0..99

«XSDcomplexType»
Parameter

+ additionalInformation: AdditionalInformation [0..1]
+ availability: Availability [0..1]
+ monitored: MonitoringType [0..1]
+ name: string [0..1]

+configuration   0..99

«XSDcomplexType»
Configuration

+ additionalInformation: AdditionalInformation [0..1]
+ availability: Availability [0..1]
+ monitored: MonitoringType [0..1]
+ name: string [0..1]

«XSDcomplexType»
Availability

+ additionalInformation: AdditionalInformation [0..1]
+ currentAvailability: CodeOperationalAvailabilityType [0..1]
+ previousAvailability: CodeOperationalAvailabilityType [0..1]

+parameterState   0..1

«XSDcomplexType»
ParameterState

+ additionalInformation: AdditionalInformation [0..1]
+ currentValue: Measure [0..1]
+ lowerThreshold: Measure [0..1]
+ previousValue: Measure [0..1]
+ upperThreshold: Measure [0..1]

+configurationState   0..1

«XSDcomplexType»
ConfigurationState

+ additionalInformation: AdditionalInformation [0..1]
+ currentValue: string [0..1]
+ previousValue: string [0..1]

«enumeration»
MMIXMDataTypes::
CodeOperationalAvailabilityType

Available
Partially Available
Unavailable
Unknown

«enumeration»
MMIXMDataTypes::
MonitoringType
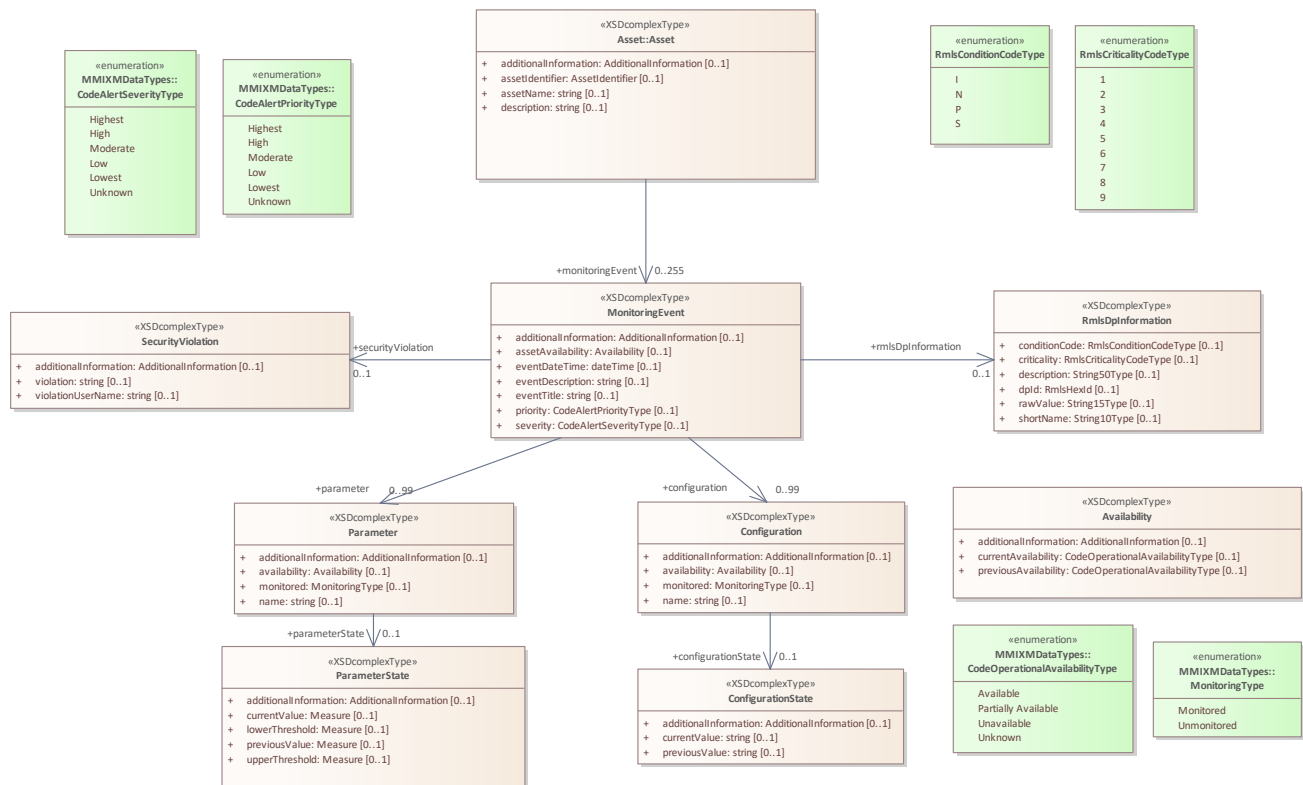
Monitored
Unmonitored

Figure 14: Monitoring

Qualifications diagram

Class diagram in package 'Qualifications'
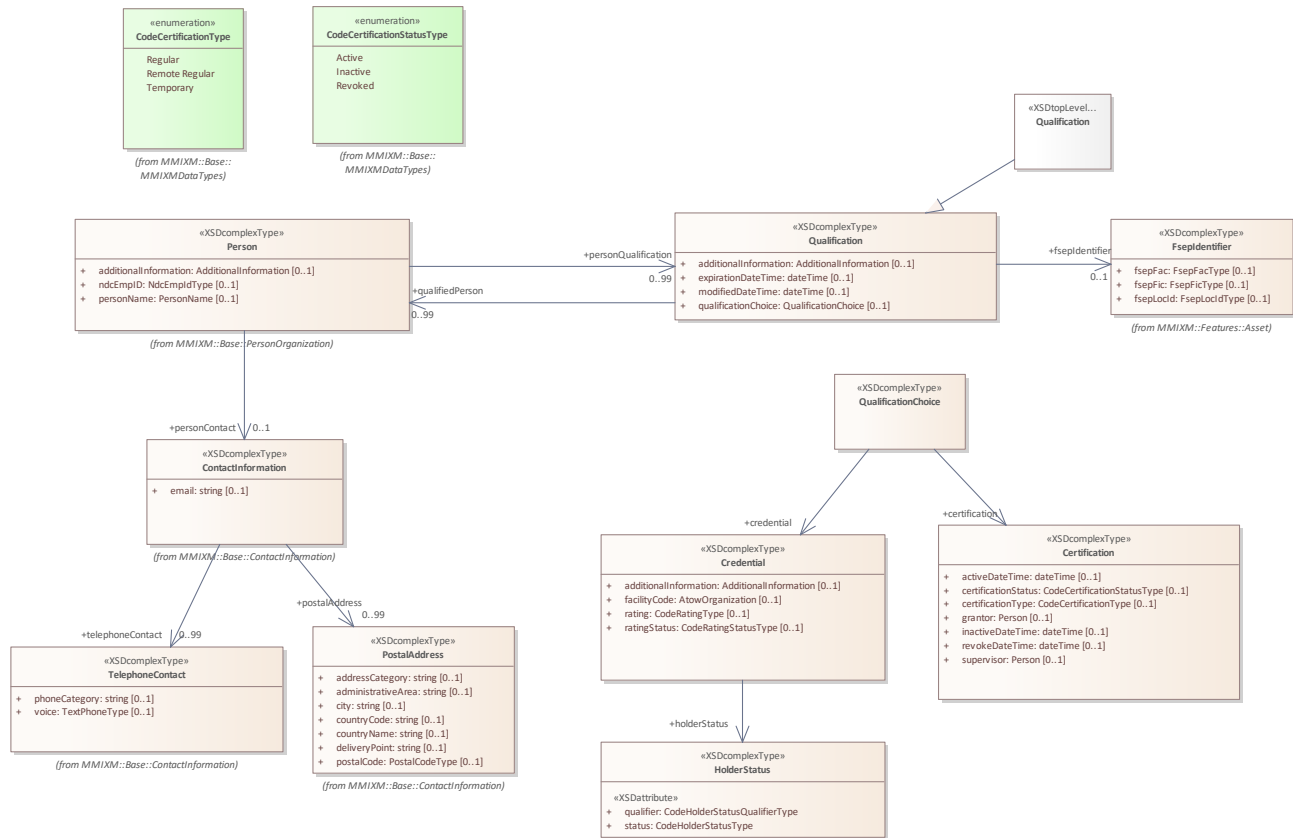
Qualifications
Version 3.0.0
FAA created on 7/12/2016. Last modified 6/20/2023

Figure 15: Qualifications