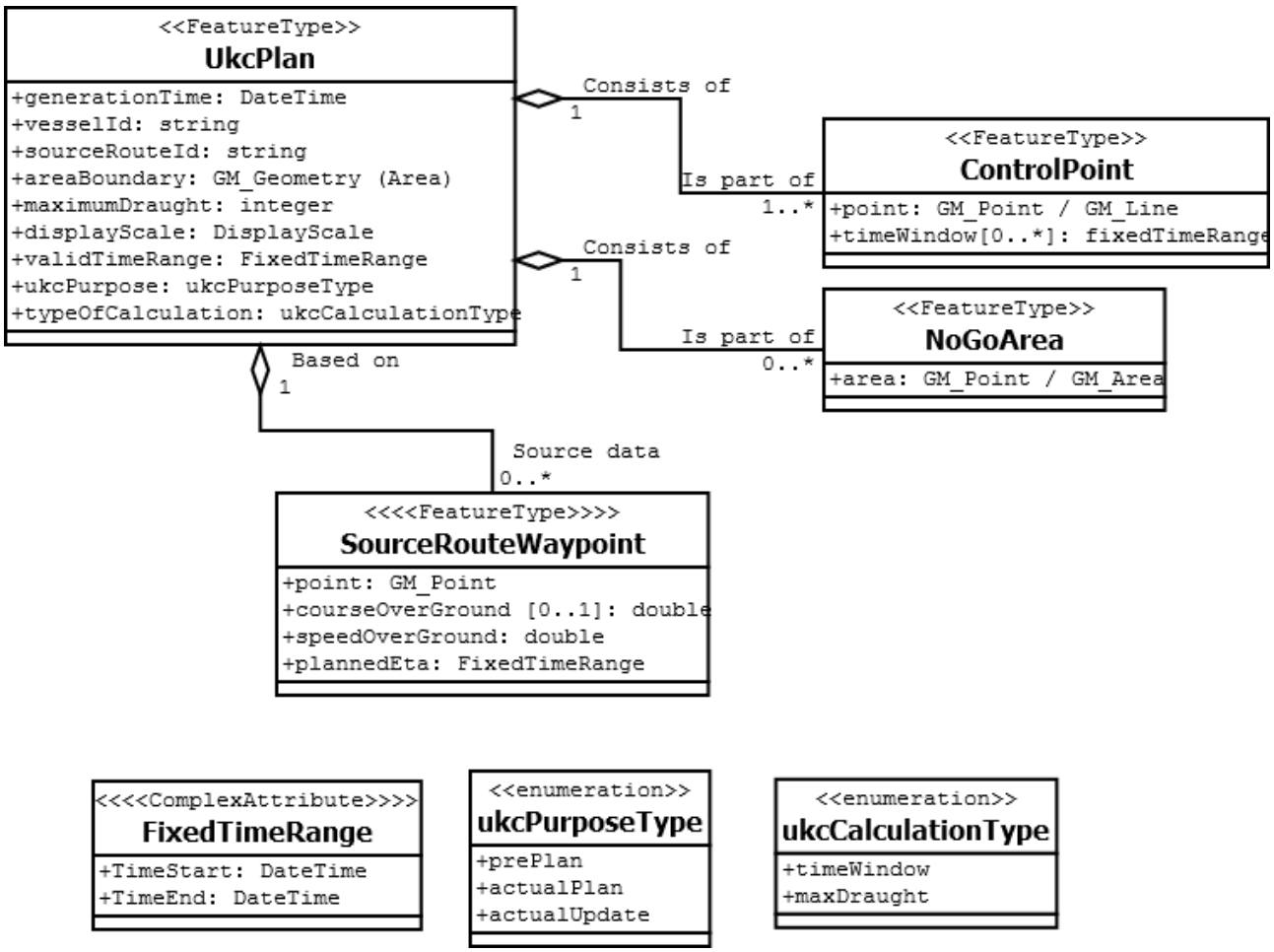
Output of the Data Model and Metadata drafting group

2.9.2016

Content

UML-presentation



Context tables

UkcPlan

Role	Name	Description	Multiplicity	dataType	Remarks
Class	UkcPlan	A UKC plan calculated for a particular vessel and a particular passage		FeatureType	*Preplan might include options.*
Attribute	generationTime	Time the plan was generated	1	DateTime	
Attribute	vesselId	Unique identification of the vessel used for the calculation	1	string	
Attribute	sourceRouteId	Identification of the route used as a source for the calculation	0..1	string	*Route might also be generated by system*
Attribute	ukcAreaBoundary	Boundaries of the UkcArea (dataset bounding box?)	1	GM_Area	*Part of METAdata instead?*
Attribute	maximumDraught	The maximum draught in meters, used as base for the calculation	1	double	*This is feedback or a result*
Attribute	displayScale	Display range for ECDIS	1	C	
Attribute	validTimeRange	Validity range of the current calculation	1	FixedTimeRange	
Attribute	ukcPurpose	The purpose (usecase) of current calculation	1	ukcPurposeType	
Attribute	typeOfCalculation	The type of calculation	1	ukcCalculationType	

ControlPoint

Role	Name	Description	Multiplicity	dataType	*Remarks*
Class	ControlPoint	Especially selected critical passage point or line.		FeatureType	
Attribute	point	Point or line geometry describing the critical passage	1	GM_Point/GM_Line	
Attribute	timeWindowPass	Time windows assigned to vessel for this controlpoint	0..*	FixedTimeRange	*NULL = incomplete calculation*

NoGoArea

Role	Name	Description	Multiplicity	dataType	*Remarks*
Class	NoGoArea	An area of depth less than the calculated safe limit.		FeatureType	*2D, is displayed time-dependent*
Attribute	area	An area object, calculated with a time-dependent value	1	GM_Area	

SourceRouteWaypoint

Role	Name	Description	Multiplicity	dataType	*Remarks*
Class	SourceRouteWaypoint	The waypoints used as source for the calculation		FeatureType	*Needed If we also have an area?*
Attribute	point	Waypoint position	1	GM_Point	
Attribute	courseOverGround	Course to the next waypoint	0..1	double	*Prob. COG, not HDG.*
Attribute	speedOverGround	Speed to the next waypoint	1	double	*SOG or STW ??*
Attribute	plannedEta	The ETA for the waypoint used for calculating NoGoAreas	1	DateTime	

FixedTimeRange

Role	Name	Description	Multiplicity	dataType	*Remarks*
Complex	FixedTimeRange	A timerange described by a start and end.			
Attribute	TimeStart		1	DateTime	
Attribute	TimeEnd		1	DateTime	

ukcPurposeType

Role	Name	Description	Multiplicity	dataType	*Remarks*
Enumeration	ukcPurposeType	Description of the purpose of the dataset			
Literal	prePlan	A preplan may contain only one control point, with one or several TimeWindows			
Literal	actualPlan	The actual plan should have only one TimeWindow for each control point			
Literal	actualUpdate	Technically an update of an actualPlan or actualUpdate			

ukcCalculationType

Role	Name	Description	Multiplicity	dataType	*Remarks*
Enumeration	ukcCalculationType	Indication of how the plan was calculated			*A preplan could be a request for maximum draught*
Literal	TimeWindow	UkcPlan returns available TimeWindow(s) for given draught			
Literal	MaxDraught	UkcPlan returns maximum draught for given TimeWindow			

Use cases

Request for preplan

The request for a preplan is usually made days, weeks or months before the actual passage. The request is either for a maximum draught for one given time, or a request for available passing times with a given draught. For a preplan, usually result contain times given only for one point (entry into the area), although the full route needs to be considered before this result can be obtained.

Request for maximum draught at a given time

- The UkcPlan is returned with one ControlPoint
    - ukcPurposeType=preplan
    - ukcCalculationType=maxdraught
- The ControlPoint will contain one TimeWindow, that corresponds to the initial request
- The attribute maximumDraught will contain the actual result (calculated maximum static draught?)
- Speed, -Do we need feedback of speed used for calculation?
- How should the speed be handled in this case? Now speed is an attribute of each SourceRouteWaypoint. Is it enough to return one planned/max/avg speed for the full plan, or should we include one or several SourceRouteWaypoints with speed parameter given also for the preplan?

Request for TimeWindows during a time period at a given draught

- The UkcPlan is returned with one ControlPoint
    - ukcPurposeType=preplan
    - ukcCalculationType=timeWindow
- The ControlPoint will contain all TimeWindows available during the requested period.
- The attribute maximumDraught will contain the static draught used for calculation
- Speed? (Same questions as above)

Request for actual plan (always given draught)

This request is producing a passage usually with several ControlPoints, but only one (the next available) TimeWindow given for each ControlPoint, but. The result might contain area-objects.

A route is added to the request, or created by the service. Speeds during separate parts of the passage are retrieved from route-data.

- The UkcPlan is returned with one or several ControlPoints
    - ukcPurposeType=actualPlan
    - ukcCalculationType=timeWindow
- Each ControlPoint will contain one TimeWindow
- The attribute maximumDraught will contain the static draught used for calculation
- The route-data used for calculation (regardless if provided as a part of the request or created by the system) shall be included as one(?) or several SourceRouteWaypoints, including the positions, ETA and leg speeds used for calculation of the NoGoAreas. Course over ground between the waypoints might be added. (Question: where do we need COG/HDG)

- NoGoAreas might be included. Areas are calculated based on the SourceRouteWaypoints, and their associated ETA. If NoGoAreas are included, also the sourceRouteWaypoints used for calculation must be included.

Request for updated plan (always given draught)

This request produces the same output as the actual plan.

- The UkpcPlan is returned with one ControlPoint
  - ukcPurposeType=updatePlan
  - ukcCalculationType=timeWindow
- The rest of content is similar to the request for actual plan.