

Flow of Events for Use Case – Propose Distribution Services

Change Log	
08/10/2004	Renamed from UC-ProposeDistributionServices
31/10/2004	Finalized for pre-integrated model

Overview

Defines and locates proposed distribution services on a map (situation plan).

For further detail on the context of a distribution service, please refer to the use case ‘Show Distribution Services’

Process

Preconditions

- Terrain must be specified
- Constructions must be defined and located
- Road layout must be defined and located

Actors

Applicant

Main Flow

Flow	Entity
1. Specify the type of (named) distribution system to be proposed using an instance of IfcSystem (or IfcElectricalCircuit as the subtype of IfcSystem for electrical systems) and the Name attribute. Note that the range of names from which system types may be selected may be constrained by a local system name classification.	IfcSystem IfcElectricalCircuit
2. Define the components of the system progressively using appropriate subtypes of IfcDistributionElementType (for type specifications) and appropriate subtypes of IfcDistributionElement (for occurrences).	IfcDistributionElementType <i>(see subtypes below)</i> IfcDistributionElement
3. For the initial instance of an IfcFlowSegment, determine the height/depth of the start point either by reference to the terrain at that point or by reference to a datum point.	IfcFlowSegment
4. Having selected the end point (X,Y) of the segment, Determine its height/depth using gradient information supplied (e.g. 0:100 = level, 1:100, 1:50 etc.)	
5. Further instances of IfcFlowSegment can be located continuously from that point.	IfcFlowSegment
1. The geometric representation of a flow segment is expected to be defined as an IfcCurve. For proposed elements, the representation identifier is:	IfcCurve IfcShapeRepresentation.RepresentationIdentifier = 'Proposed'

<ul style="list-style-type: none"> IfcShapeRepresentation.RepresentationIdentifier = 'Proposed' 	
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Post Conditions

Proposed services are defined, identified and precisely located.

IFC Usage and Extension Requirements

Existing Entity/Class Usage

<i>Entity Class Name</i>	<i>Usage</i>
IfcFlowSegment	An instance of a flow segment of a particular type
IfcCableSegmentType	Enables identification of different types of cable segment used
IfcCableCarrierSegmentType	Enables identification of different types of segments used for cable support/carriage (e.g. for conduit)
IfcPipeSegmentType	Enables identification of different types of pipe segment used.
IfcFlowFitting	An instance of a flow fitting of a particular type
IfcCableCarrierFittingType	Enables identification of different types of fittings used for cable support/carriage
IfcJunctionBoxType	Enables identification of different types of junction connection between flow segments of an electrical system
IfcPipeFittingType	Enables identification of different types of different types of pipe fitting used
IfcFlowController	An instance of a flow controller of a particular type
IfcFlowMeterType	Enables identification of different types of flow meter used (gas, electric etc)
IfcValveType	Enables identification of different types of valve used
IfcFlowMovingDevice	An instance of a flow moving device (pump) of a particular type
IfcPumpType	Enables identification of different types of pump used
IfcFlowStorageDevice	An instance of a flow storage device (tank) of a particular type
IfcTankType	Enables identification of different types of tank used
IfcFlowTerminal	An instance of a flow terminal (hydrant or breeching inlet) of a particular type
IfcFireSuppresisonTerminalType	Enables identification of hydrant and breeching inlet as enumerated types of IfcFireSuppressionTerminalTypeEnum
IfcEnergyConversionDevice	An instance of an energy conversion device of a particular type
IfcTransformerType	Enables identification of different types of transformer used for changing the voltage of electrical supplies
IfcDistributionPort	May be used to define connectivity between different elements of a distribution system
IfcElectricalCircuit	Grouping of elements that defines an electrical system specifically
IfcRelAggregates/IfcRelNests	Aggregation of elements in a whole/part decomposition structure
IfcRelAssignsToGroup	A relationship class that makes the assignment of elements to a system
IfcRelDefinesByType	Definition of the type that characterizes a distribution element instance.
IfcSystem	Grouping of elements that defines a system generally (other than an electrical circuit as defined above).

Existing Property Set Usage

<i>Property Set Name</i>	<i>Usage</i>
	Many existing property sets may be used in the Propose Diistribution Services use case. The particular list of property sets that may be required and the extent to which the may be modified or new property sets required in this connection is not shown at this stage. It is anticipated that further detail will be elaborated at the model integration stage.

Issue List

<i>Question</i>	<i>Answer</i>