Utility Network Object Model General

Esri® ArcGIS® Pro SDK 3.6

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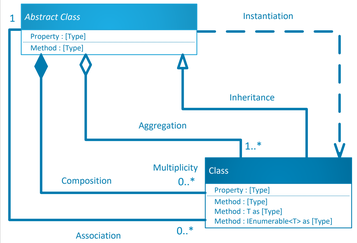


Types of Classes

An **Abstract Class** is a specification for instances of subclasses (through type inheritance.)

A **Class** specifies an object with properties and methods, and can be created either through a public constructor or from a method from another class. Static classes cannot be instantiated.

Types of Relationships

Inheritance is a relationship in which objects from subclasses share properties and methods with objects from the base class, but also may contain additional properties and methods.

Instantiation is a relationship in which one object from one class has a method that creates an object from another class.

Association is a relationship between objects of classes in which neither object has ownership over the other.

Composition is a relationship in which objects from the 'whole' class own the 'part' class, and the 'part' class cannot meaningfully exist without the 'whole' class.

Aggregation is a relationship in which objects from the 'whole' class own the 'part' class, but the 'part' class can exist independently of the 'whole' class.

A **Multiplicity** is a constraint on the number of objects that can be associated with another object. Association, composition, and aggregation relationships have multiplicities on both sides. This is the notation for multiplicities:

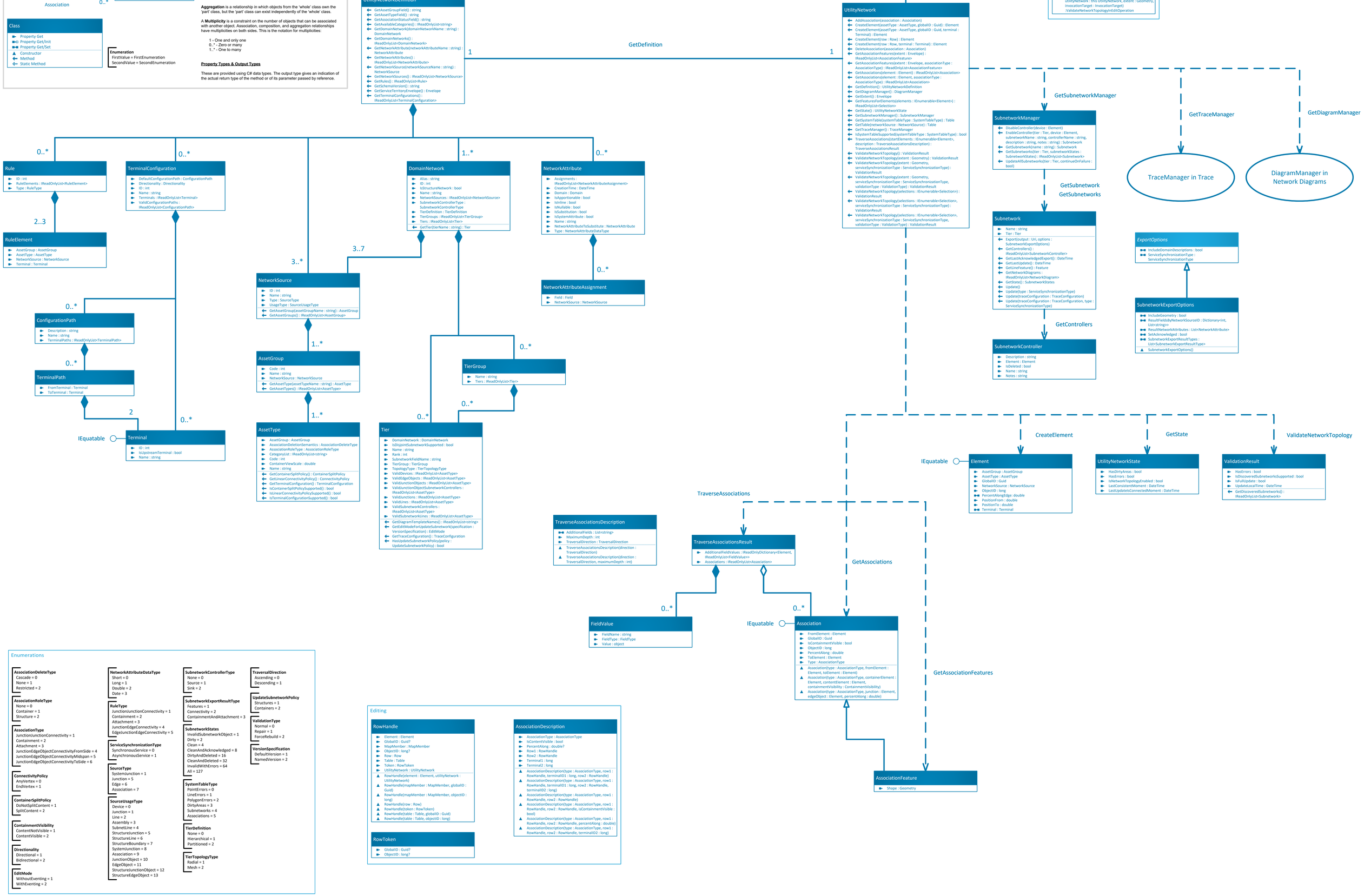
1 - One and only one
0..* - Zero or many
1..* - One to many

Property Types & Output Types

These are provided using C# data types. The output type gives an indication of the actual return type of the method or of its parameter passed by reference.

Class
- Property Get
- Property Get/Init
- Property Get/Set
- Constructor
- Method
- Static Method

Enumeration
FirstValue = FirstEnumeration
SecondValue = SecondEnumeration



Enumerations

AssociationDeleteType
Cascade = 0
None = 1
Restricted = 2

AssociationRoleType
None = 0
Container = 1
Structure = 2

AssociationType
JunctionJunctionConnectivity = 1
Containment = 2
Attachment = 3
JunctionEdgeConnectivity = 4
EdgeJunctionEdgeConnectivity = 5
JunctionEdgeObjectConnectivityFromSide = 4
JunctionEdgeObjectConnectivityMidspan = 5
JunctionEdgeObjectConnectivityToSide = 6

ConnectivityPolicy
AnyVertex = 0
EndVertex = 1

ContainerSplitPolicy
DoNotSplitContent = 1
SplitContent = 2

ContainmentVisibility
ContentNotVisible = 1
ContentVisible = 2

Directionality
Directional = 1
Bidirectional = 2

EditMode
WithoutEventing = 1
WithEventing = 2

NetworkAttributeDataType
Short = 0
Long = 1
Double = 2
Date = 3

RuleType
JunctionJunctionConnectivity = 1
Containment = 2
Attachment = 3
JunctionEdgeConnectivity = 4
EdgeJunctionEdgeConnectivity = 5

ServiceSynchronizationType
SynchronousService = 0
AsynchronousService = 1

SourceType
SystemJunction = 1
Junction = 5
Edge = 6
Association = 7

SourceUsageType
Device = 0
Junction = 1
Line = 2
Assembly = 3
SubnetLine = 4
StructureJunction = 5
StructureLine = 6
StructureBoundary = 7
SystemJunction = 8
Association = 9
JunctionObject = 10
EdgeObject = 11
StructureJunctionObject = 12
StructureEdgeObject = 13

SubnetworkControllerType
None = 0
Source = 1
Sink = 2

SubnetworkExportResultType
Features = 1
Connectivity = 2
ContainmentAndAttachment = 3

SubnetworkStates
InvalidSubnetworkObject = 1
Dirty = 2
Clean = 4
CleanAndAcknowledged = 8
DirtyAndDeleted = 16
CleanAndDeleted = 32
InvalidWithErrors = 64
All = 127

SystemTableType
PointErrors = 0
LineErrors = 1
PolygonErrors = 2
DirtyAreas = 3
Subnetworks = 4
Associations = 5

TierDefinition
None = 0
Hierarchical = 1
Partitioned = 2

TierTopologyType
Radial = 1
Mesh = 2

TraversalDirection
Ascending = 0
Descending = 1

UpdateSubnetworkPolicy
Structures = 1
Containers = 2

ValidationType
Normal = 0
Repair = 1
ForceRebuild = 2

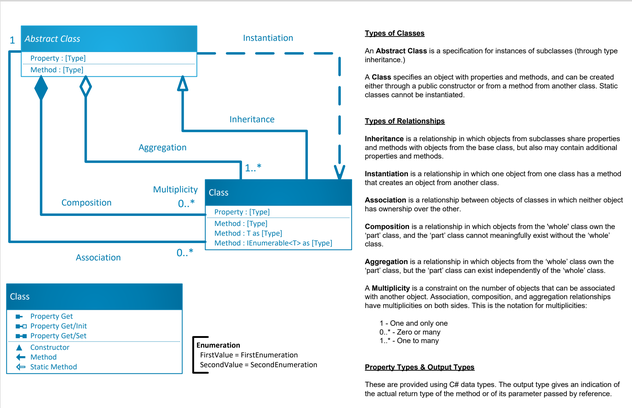
VersionSpecification
DefaultVersion = 1
NamedVersion = 2

Editing

RowHandle
- Element : Element
- GlobalID : Guid?
- MapMember : MapMember
- ObjectID : long?
- Row : Row
- Table : Table
- Token : RowToken
- UtilityNetwork : UtilityNetwork
- RowHandle(element : Element, utilityNetwork : UtilityNetwork)
- RowHandle(mapMember : MapMember, globalID : Guid)
- RowHandle(mapMember : MapMember, objectID : long)
- RowHandle(row : Row)
- RowHandle(token : RowToken)
- RowHandle(table : Table, globalID : Guid)
- RowHandle(table : Table, objectID : long)

RowToken
- GlobalID : Guid?
- ObjectID : long?

AssociationDescription
- AssociationType : AssociationType
- IsContentVisible : bool
- PercentAlong : double?
- Row1 : RowHandle
- Row2 : RowHandle
- Terminal1 : long
- Terminal2 : long
- AssociationDescription(type : AssociationType, row1 : RowHandle, terminalID1 : long, row2 : RowHandle)
- AssociationDescription(type : AssociationType, row1 : RowHandle, terminalID1 : long, row2 : RowHandle, terminalID2 : long)
- AssociationDescription(type : AssociationType, row1 : RowHandle, row2 : RowHandle)
- AssociationDescription(type : AssociationType, row1 : RowHandle, row2 : RowHandle, isContainmentVisible : bool)
- AssociationDescription(type : AssociationType, row1 : RowHandle, row2 : RowHandle, percentAlong : double)
- AssociationDescription(type : AssociationType, row1 : RowHandle, row2 : RowHandle, terminalID2 : long)



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Utility Network Object Model Trace

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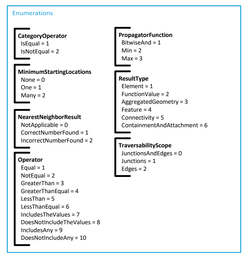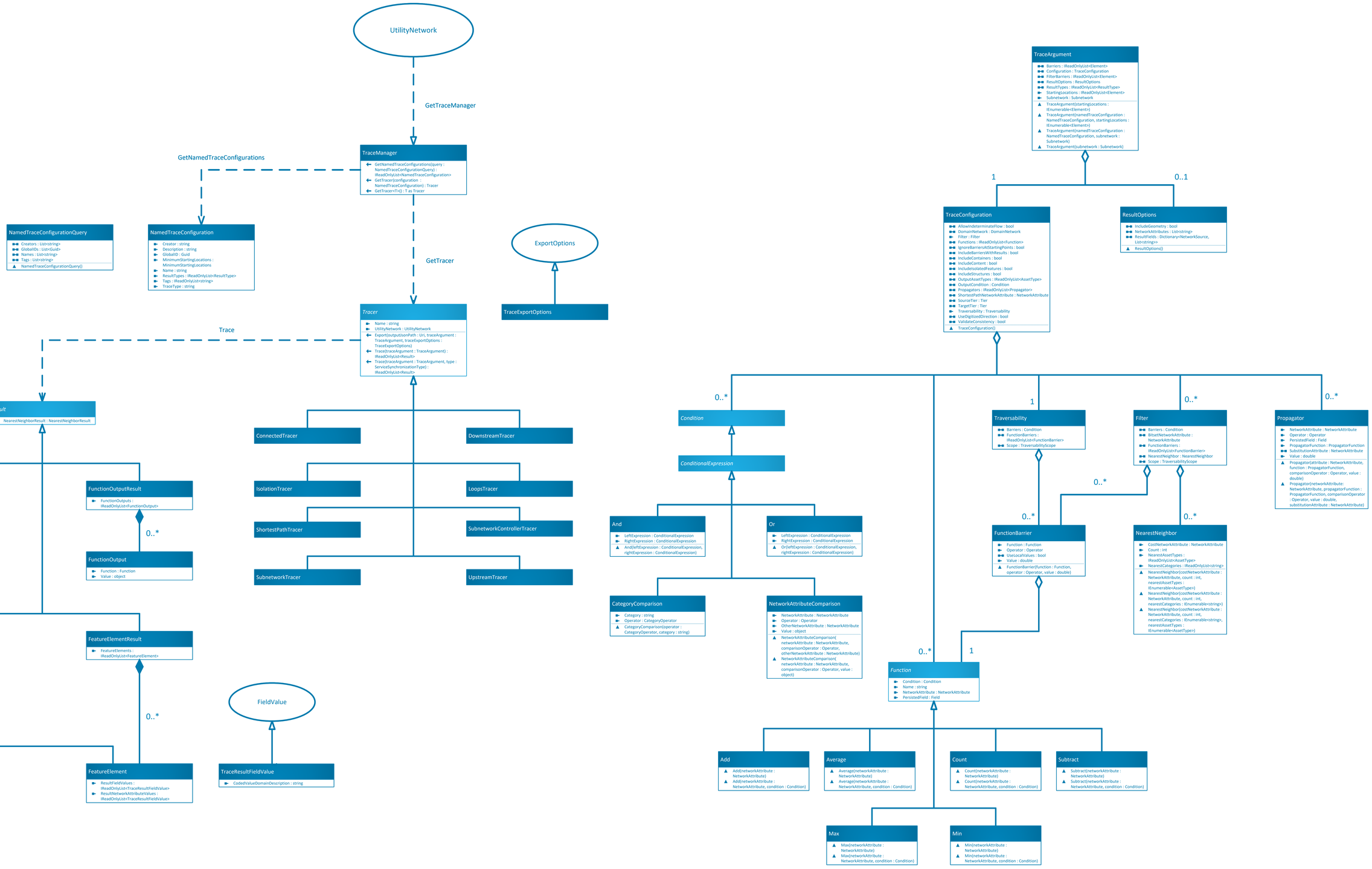
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