Introduction to the asset package

An asset package is a file geodatabase that models the schema, properties, related layers, related tables, and data of a utility network. Components of a utility network that are modeled with an asset package include domain networks, asset groups and asset types, attributes and domains, terminals, categories, network attributes, association rules, edge connectivity policies, tiers and subnetworks, rules, attribute rules, and diagram templates. Each asset package models one utility network, including the structure network, and one or more domain networks. An asset package is additive. Changing a value in the asset package and applying it again will not change that property in a utility network.

Asset package schema

The required components of an asset package are a dataset with the structure and domain network feature classes and a number of tables corresponding to components of a utility network.

The following table describes the dataset and tables of an asset package:

UtilityNetwork dataset	Contains feature classes to define the properties of domain networks and the structure network of a utility network.
_Version	Table used to store metadata about the asset package.
A_DomainNetwork	Table used to define the domain networks in a utility network.
B_AssociationRole	Table used to define the association roles for assembly and structure features.
B_AttributeIndex	Table used to define the attribute indexes in a utility network.
B_AttributeIndex_Field	Table used to define the attribute indexes fields in a utility network.
B_AttributeRules	Table used to define the attribute rules for a utility network.
B_DatabaseSequence	Table used to maintain an enterprise database sequence.
B_DiagramTemplate	Table used to define the diagram templates for a utility network.
B_EdgeConnectivity	Table used to assign edge connectivity in a utility network.
B_NetworkAttribute	Table used to define network attributes in a utility network.
B_NetworkAttribute_Assignment	Table used to define the network attributes that are assigned in a utility network.
B_NetworkCategory	Table used to define categories in a utility network.
B_NetworkCategory_Assignment	Table used to assign categories to an asset type in the domain networks.

B_Rules	Table used to assign rules to a utility network.
B_Subnetwork_ConditionBarriers	Table used to define the condition barriers of subnetwork traces.
B_Subnetwork_Devices	Table used to define devices at an asset group/asset type combination that will be considered valid for a subnetwork.
B_Subnetwork_Diagrams	Table used to define the diagram template that will be used to generate subnetwork system diagrams for each subnetwork in a tier.
B_Subnetwork_EdgeObjects	Table used to define edge objects.
B_Subnetwork_FunctionBarriers	Table used to define the function barriers of subnetwork traces.
B_Subnetwork_JunctionObject	Table used to define junction objects.
B_Subnetwork_Junctions	Table used to define junctions.
B_Subnetwork_Lines	Table used to define lines at an asset group/asset type combination that will be considered valid lines in a subnetwork.
B_Subnetwork_Propagators	Table used to define network attributes to propagate.
B_Subnetwork_Summaries	Table used to define the summary attribute fields and properties to store function results when intersecting or updating subnet line features.
B_TerminalConfiguration	Table used to define terminal configurations in a utility network.
B_TerminalConfiguration_Assignment	Table used to define the terminal configurations that will be assigned to a device in a utility network.
B_TerminalConfiguration_Terminals	Table used to define the terminals for each terminal configuration.
B_TerminalConfiguration_ValidPaths	Table used to define the valid paths in a device that a commodity can travel for each terminal configuration.
B_Tier	Table used to define tiers.
B_TierGroup	Table used to define the tier groups in a subnetwork.
B_TraceConfigurations	Table used to define the trace configurations.
C_Associations	Table used to specify junction-junction connectivity, structural attachments, and containment associations for a utility network.

C_SubnetworkControllers	Table used to define the subnetwork controllers, which are locations where the subnetwork originates (sources) or terminates (sinks).
D_Configurations	Table used to define what properties are associated with different categories.
D_Rename	Table used to allow users to rename items in the asset package.

Utility Network dataset

The Utility Network dataset is a series of feature classes that define the asset groups, asset types, and attributes of the corresponding feature classes in a utility network. For each domain network, excluding the structure network, in the utility network, assembly, device, junction, line, and subnet line feature classes are prefixed with the domain network name. If multiple domain networks are in the utility network, multiple versions of these layers are included with a prefix for the specific domain.

Domain network feature classes

Five feature classes in the Utility Network dataset correspond to the feature classes of a domain network that participates in a utility network. Each feature class is prefixed with the name of the domain network.

For example, the `ElectricDistributionAssembly` feature class defines the properties of the assembly feature class in the electric distribution domain in a utility network. Additional feature classes that are part of the Utility Network dataset correspond to the device, junction, line, and subnet line feature classes in a domain network.

The domain network features classes define the asset group, asset types, and attributes of a domain network in a utility network.

Asset groups are defined using subtypes to the feature classes. A subtype with a code of zero (0) is reserved for an Unknown asset group, which is required and automatically added when creating a utility network.

For each asset group, an attribute domain defines the asset type values for the asset type field. If creating your own asset groups in the asset package, follow a standard naming convention, such as `AssetType_ElectricDistributionAssembly_<Asset Group Name>`.

Attributes for all asset groups and asset types are defined in the feature class.

Structure network feature classes

Three feature classes in the Utility Network dataset (`StructureBoundary`, `StructureJunction`, and `StructureLine`) correspond to the structure network of a utility network.

As with the domain network feature classes, the structure network feature classes define the asset groups, asset types, and attributes.

Asset groups are defined using subtypes to the feature classes. A subtype with a code of zero (0) is reserved for an Unknown asset group, which is required and automatically added when creating a utility network.

For each asset group, an attribute domain defined the asset type values for the asset type field. If creating your own asset groups in the asset package, follow a standard naming convention, such as `AssetType_StructureBoundary_<Asset Group Name>`.

Attributes for all asset groups and asset types are defined in the feature class.

Service Territory feature class

The `Service Territory` feature class and utility network supports either a single polygon, multiple polygons, a multipart polygon, or many multipart polygons. Multiple feature classes are not supported.

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Version

The _Version table is used to store metadata about the asset package.

Note:

This table is compressed and not designed to be edited.

Field	Description
Schema Version	The version of the asset package
Pro Version	The version of ArcGIS Pro the asset package was created with
untools Version	The version of untools used to create the asset package
Date Exported	The date the asset package was exported, if applicable

A_DomainNetwork

The A_DomainNetwork table is used to define the [domain networks](#) that participate in a utility network.

Field	Description
Target Domain Network	The domain network that will be added to a utility network.
Tier Definition	The tier definition for the domain network. The following are valid inputs: • HIERARCHICAL—A hierarchical tier definition. In hierarchical domain networks, tiers are nested within one another so features existing in subnetworks for a lower tier naturally participate in all higher tiers. For example, in a gas network, a valve Isolation zone is within a Pressure zone that in turn exists in a System zone. A feature in the Isolation zone also exists in the Pressure zone and the System zone. • PARTITIONED—A partitioned tier definition. Features in partitioned domain networks only exist in one tier. The relationship between tiers is ordered and linear. Features can exist in one or multiple subnetworks with one tier.
Subnetwork Controller Type	The subnetwork controller category for the new domain network. The following are valid inputs: • SUBNETWORK SOURCE—The subnetwork controller category is a set of sources. A source is an origin of the resource delivered. For example, in an electric system, sources of electricity are power generated stations and substations. • SUBNETWORK SINK—The subnetwork controller category is a set of sinks. A sink is the definition of the gathered resource.
Domain Network Alias Name	You can optionally choose to give your domain network an alias name. This name is used to give a more descriptive name to the domain network.

B_AssociationRole

The B_AssociationRole table is used to define the association roles for assembly and structure features. For each asset group/asset type combination in an assembly or structural feature class, the asset type must be set as a container or structure.

Field	Description
Target Domain Network	The domain or structure network of which the assembly or structure feature belongs.
Feature Class	The utility network assembly feature class or structure feature class that contains the asset type on which an association role is set. The following are valid inputs: • Assembly • Device • Junction • Line • StructureLine • StructureJunction • StructureBoundary
Asset Group	The asset group that contains the asset type on which an association role is set.
Asset Type	The asset type on which the association role is set.
Role Type	The type of association role to assign the asset type. The following are valid inputs: • CONTAINER • STRUCTURE
Delete Semantics	The type of delete semantic for the association role. The following are valid inputs: • CASCADE • RESTRICTED • SET_TO_NONE
View Scale	The scale value used to open the container view for features. The scale is set using an integer. For example, a View Scale value of 200 would open a containment view at a scale of 1:200. For association roles that are structures, the View Scale value is set to null.
Split Content	Specifies what happens to the associated content of a container if the container feature is split. This is only relevant for containers that are line features.

B_AttributeIndex

The B_AttributeIndex table is used to define the attribute indexes of a utility network.

Note:

This table is reserved for future use.

Field	Description
Input Table	Input table containing the attribute indexes.
Index Name	Name of the index.
Unique	Defines whether the attribute index is unique.
Ascending	Defines whether the attribute index is in ascending order.

B_AttributeIndex_Field

The B_AttributeIndex_Field table is used to define the attribute index fields.

Note:

This table is reserved for future use.

Field	Description
Index Name	Name of the index.
Fields to Index	Fields to index.

B_AttributeRules

The B_AttributeRules table is used to define the attribute rules for features in a utility network.

Field	Description
Input Table	The table or feature class that will have the rule applied.
Name	The name of the attribute rule.
Description	A description of the rule. The description is limited to 256 characters.
Type	The type of attribute rule to add. The following are valid inputs: • CALCULATION—Automatically populates attribute values for features when another attribute is set on a single feature or another related feature. When adding multiple calculation rules, the order in which the rules are added is important. These rules are applied when a feature is created or updated. This is the default. • CONSTRAINT—Specifies permissible attribute configuration on a feature. When the constraint rule is violated, an error is generated when storing the features. • VALIDATION—Check for existing features with a batch validation process. Rules are evaluated at a user-defined time.
Subtype	The subtype to which the rule will apply if the input table or feature class has subtypes.
Field	The field in the asset package that will have an attribute rule applied to it.
Is Editable	Defines whether the field is editable. To define a field as editable, set the value to **True**.
Trigger on Insert	Defines whether the attribute rule will be triggered when a feature is added.
Trigger on Delete	Defines whether the attribute rule will be triggered when a feature is deleted.
Trigger on Update	Defines whether the attribute rule will be triggered when a feature is updated.
Script Expression	The expression that defines how the field will be populated when the attribute rule is triggered.
Error Number	The error number that will be returned when the rule is violated.
Error Message	The error message that will be returned when the rule is violated. A descriptive message will help the editor understand the violation.

Exclude from Application Evaluation	Specifies whether the rule will be evaluated before edits are applied. Because not all clients may have the capability to run all the available rules, you can choose to flag a rule.
Batch	Specifies whether the rule will be executed in batch mode.
Severity	The severity of the error. A value within the range of 1 through 5 can be chosen to define the severity of the rule. A value of 1 is high, being the most severe, and a value of 5 is low, being the least severe.
Tags	A set of tags to identify the rule (searchable and indexable) as a way to map to a functional requirement in a data model. To enter multiple tags, use a semicolon delimiter, for example, Tag1;Tag2;Tag3.
Is Enabled	Determines if a rule is enabled after creation. To disable, set to **False**.
Evaluation Order	When rules are evaluated, the order controls the sequence in which rules are evaluated. For calculation rules, the order in which rules are evaluated on a dataset is important, as this can cause the result of the rule evaluation to differ.
Category	A system-generated integer value that defines the rule category, if applicable.
Check Parameters	A system-generated JSON value that defines the configuration of a Data Reviewer-based rule.
Script Expression Backup	The fully qualified database name and schema for all Arcade script expressions found in the database.

B_DatabaseSequence

The B_DatabaseSequence table is used to add database sequence information to an enterprise geodatabase.

Note:

When applying the schema in the asset package only, the Sequence Start ID is used as the starting value. When applying data with your schema, the Sequence Current Value plus Sequence Increment Value is used as the starting value.

Field	Description
Sequence Name	The name of the database sequence. The name must meet sequence name requirements for the database platform you're using and must be unique in the database. Be sure to remember this name, as it's the name you'll use in your custom applications and expressions to invoke the sequence.
Sequence Start ID	The starting number for the sequence.
Sequence Increment Value	Describes how the sequence numbers will increment. For example, if the sequence starts at 10 and the increment value is 5, the next value in the sequence is 15, and the value after that is 20.
Sequence Current Value	The current value in the sequence.

B_DiagramTemplate

The B_DiagramTemplate table is used to define the diagram templates of a utility network.

Field	Description
Diagram Template Name	Name of the diagram template.
Rules and Layouts Definition File	Network diagram rules and layouts definition file (.ndbd) of the diagram template.
Diagram Layer Definition File	Diagram layer definition file (.ndbd) of the diagram template.

B_EdgeConnectivity

The B_EdgeConnectivity table is used to assign edge connectivity, where points can be located, for line asset types in a utility network.

Field	Description
Target Domain Network	The domain or structure network of which the assembly or structure feature is a part.
Asset Group	The asset group that contains the asset type for which you set edge connectivity. Valid asset groups are those from the domain or structure line classes.
Asset Type	The asset type for which the edge connectivity is set.
Edge Connectivity	The locations where point features can connect to lines. The following are valid inputs: • AnyVertex • EndVertex

B_NetworkAttribute

The B_NetworkAttribute table is used to specify [network attributes](#) in a utility network.

Field	Description
Attribute Name	The name of the network attribute that will be added to a utility network.
Attribute Type	The type of attribute. The following are valid inputs: • SHORT • LONG • DOUBLE • DATE
Domain Name	The attribute domain with which the network attribute is associated with. This value is optional and only required when the network attribute is defined as an inline network attribute. If specified, the attribute domain must be a coded value domain with sequential codes starting at zero (0).
Network Attribute to Substitute	The network attribute to use for substitution. Substitutions are encoded based on the number of bits in the network attribute being propagated. The network attribute must be in-line and an integer field type less than or equal to 8 bits.
Nullable	Specified if this network attribute supports null values.
Apportionable	Specifies whether the network attribute will be apportioned across multiple edges belonging to the same feature.
Is Overridable	At the current version of the utility network, the overwrite capability is not implemented.

B_NetworkAttribute_Assignment

The B_NetworkAttribute_Assignment table is used to define what network attributes are assigned in a utility network.

Fields	Description
Target Domain Network	The domain network that the feature class participates in.
Feature Class	The feature class in the domain network that will be assigned the network attribute. The following are valid inputs: • Device • Junction • Line • Assembly • StructureJunction • StructureLine • StructureBoundary
Field	The field in the feature class that will be the network attribute field.
Attribute Name	The name of the network attribute.

B_NetworkCategory

The B_NetworkCategory table is used to specify all categories in a utility network.

Field Name	Description
Category name	The name of the category to be created.

B_NetworkCategory_Assignment

The B_NetworkCategory_Assignment table is used to assign categories to an asset type in a domain network.

Field	Description
Target Domain Network	The domain network that the asset group/asset type combination that will be assigned a network category participates in.
Feature Class	The domain network feature class which contains the asset type to set network categories for. The following are valid inputs: • Device • Junction • Line • Assembly • StructureJunction • StructureLine • StructureBoundary
Asset Group	The asset group which contains the asset type to set a network category for.
Asset Type	The asset type which the network category will be set for.
Category Name	The name of the category to be assigned to the asset group/asset type combination.

B_Rules

The B_Rules table is used to assign [rules](#) to a utility network. Rules can be configured based on a feature class's asset groups, asset types, and terminals (if applicable).

Field	Description
Rule Type	The type of rule that will be created. The following are valid inputs: • Junction Junction Connectivity • Junction Edge Connectivity • Containment • Structural Attachment • Edge Junction Edge Connectivity
From Domain Network	The domain or structure network that the asset group/asset type combination that will be assigned the rule participates in.
From Feature Class	The feature class that will be included in the rule. The following are valid inputs: • Device • Junction • Line • Assembly • StructureJunction • StructureLine • StructureBoundary
From Asset Group	The asset group to create a rule for.
From Asset Type	The asset type to create a rule for. If the rule applies to all asset types in an asset group, this is denoted with an asterisk (*).
From Terminal	If the rule a connectivity rule for a line or point to connect to a feature with terminals, a terminal is specified. If a rule is applied to all terminals, this is denoted with an asterisk (*). This field includes a value when there is the following types of rules: • Junction Junction Connectivity • Junction Edge Connectivity • Edge Junction Edge Connectivity All devices need a terminal definition, which can be either the terminal name or an asterisk (*).

To Domain Network	The domain or structure network that the asset group/asset type combination that is included in the rule participates in.
To Feature Class	The feature class that will be included in the rule. The following are valid inputs: • Device • Junction • Line • Assembly • StructureJunction • StructureLine • StructureBoundary
To Asset Group	The asset group to create a rule for.
To Asset Type	The asset type to create a rule for. If the rule applies to all asset types in an asset group, this is denoted with an asterisk (*).
To Terminal	If the rule a connectivity rule for a line or point to connect to a feature with terminals, a terminal is specified. If a rule is applied to all terminals, this is denoted with an asterisk (*). This field includes a value when there is the following types of rules: • Junction Junction Connectivity • Junction Edge Connectivity • Edge Junction Edge Connectivity All devices need a terminal definition, which can be either the terminal name or an asterisk (*).
Via Domain Network	The domain or structure network that the asset group/asset type combination that is included in the rule participates in.
Via Feature Class	The feature class that will be included in the rule. This field is populated when a rule type of Edge Junction Edge Connectivity. The following are valid inputs: • Device • Junction • StructureJunction
Via Asset Group	The asset group to create a rule for. This field is populated when a rule type of Edge Junction Edge Connectivity.
Via Asset Type	The asset type to create a rule for. This field is populated when a rule type of Edge Junction Edge Connectivity.

| Via Terminal | The terminal to create a rule for. This field is populated when a rule type of Edge Junction Edge Connectivity.

All devices need a terminal definition, which can be either the terminal name or an asterisk (*). |
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B_Subnetwork_ConditionBarriers

The B_Subnetwork_ConditionBarriers table is used to define condition barriers of a subnetwork, which are used to configure the subnetwork trace.

Field	Description
Tier Name	The subnetwork name. The Name value is the same as one of the tier names in the B_Tier table.
Name	Name of the network attributes or `Catagory`.
Operator	The operator used on the network attribute to set the condition barrier. The following are valid inputs: • IS_EQUAL_TO • DOES_NOT_EQUAL • IS_GREATER_THAN • IS_GREATER_THAN_OR_EQUAL_TO • IS_LESS_THAN • IS_LESS_THAN_OR_EQUAL_TO • INCLUDES_THE_VALUES • DOES_NOT_INCLUDE_THE_VALUES • INCLUDES_ANY • DOES_NOT_INCLUDE_ANY
Type	Defines if the condition barrier is for all features with the network attribute or a specific value. The following are valid inputs: • SPECIFIC_VALUE • NETWORK_ATTRIBUTE
Value	The value of the network attribute used to set the condition barrier or the name of the category.
Combine Using	When configuring multiple condition barriers for one subnetwork, this field can be used to define how network attributes are combined when running a subnetwork trace. The following are valid inputs: • AND • OR

B_Subnetwork_Devices

The B_Subnetwork_Devices table is used to define devices at an asset group/asset type combination that will be considered valid devices and controllers for a subnetwork.

Field	Description
Tier Name	The name of the tier that includes a device with the defined asset group and asset type. The Tier Name value must be defined in the B_Tier table.
Asset Group	The asset group of the domain network's device class.
Asset Type	The asset type of the device's asset group.
Valid Subnetwork Controllers	Defines if the device is a subnetwork controller, which are devices with more than one terminal configuration and have a network category of subnetwork controller. If the subnetwork device is a subnetwork controller in the tier, the field value is set to True.

B_Subnetwork_Diagrams

The B_Subnetwork_Diagrams table is used to define the diagram template that will be used to generate subnetwork system diagrams for each subnetwork within a tier.

Field	Description
Tier Name	The name of the tier that includes the diagram template. The Tier Name value must be defined in the B_Tier table. The diagram template must be defined in the B_DiagramTemplate table if the diagram template is not a default template.
Subnetwork Diagram Templates	The name of the diagram template to create that will be assigned to the tier.

B_Subnetwork_EdgeObjects

The B_Subnetwork_EdgeObjects table is used to define edge objects at an asset group/asset type combination that will be considered valid edge objects for a subnetwork.

Field	Description
Tier Name	The name of the tier that includes an edge object with the defined asset group and asset type. The Tier Name value must be defined in the B_Tier table.
Asset Group	The asset group of the domain network's edge object table.
Asset Type	The asset type of the edge object's asset group.

B_Subnetwork_FunctionBarriers

The B_Subnetwork_FunctionBarriers table is used to define function barriers of a [subnetwork](#), which are used to configure the subnetwork trace and terminate the subnetwork.

Field	Description
Tier Name	The name of the tier that terminates at these devices. The Tier Name value must be defined in the [B_Tier table](#).
Function	The type of function used to set the function barrier. The following are valid inputs: • AVERAGE • COUNT • MAX • MIN • SUBTRACT • ADD
Attribute	The network attribute used to set the function barrier. The Attribute is the same as one of the attributes in the [B_NetworkAttribute table](#) or `Category` to define a network category as a function barrier.
Operator	The operator used on the network attribute to set the function barrier. The following are valid inputs: • IS_EQUAL_TO • DOES_NOT_EQUAL • IS_GREATER_THAN • IS_GREATER_THAN_OR_EQUAL_TO • IS_LESS_THAN • IS_LESS_THAN_OR_EQUAL_TO • INCLUDES_THE_VALUES • DOES_NOT_INCLUDE_THE_VALUES • INCLUDES_ANY • DOES_NOT_INCLUDE_ANY
Value	The value of the network attribute or name of the category used to set the functional barrier.
Use Local Values	Defines if local values are used when configuring the function barrier. If using local values, the field value is set to `True`.

B_Subnetwork_JunctionObjects

The B_Subnetwork_JunctionObjects table is used to define junction objects at an asset group/asset type combination that will be considered valid junction objects and controllers for a subnetwork.

Field	Description
Tier Name	The name of the tier that includes a junction object with the defined asset group and asset type. The Tier Name value must be defined in the B_Tier table.
Asset Group	The asset group of the domain network's junction object table.
Asset Type	The asset type of the junction object's asset group.
Valid Subnetwork Controllers	Defines if the junction object is a subnetwork controller, which are junction objects with more than one terminal configuration and have a network category of subnetwork controller. If the subnetwork junction object is a subnetwork controller in the tier, the field value is set to True.

B_Subnetwork_Junctions

The B_Subnetwork_Junctions table is used to define junctions at an asset group/asset type combination that will be considered valid junctions for a subnetwork.

Field	Description
Tier Name	The name of the tier that includes a junction with the defined asset group and asset type. The Tier Name value must be defined in the B_Tier table.
Asset Group	The asset group of the domain network's junction class.
Asset Type	The asset type of the junction's asset group.

B_Subnetwork_Lines

The B_Subnetwork_Lines table is used to define domain network lines at an asset group/asset type combination that are considered valid lines and are aggregated for the subnetwork line feature in a subnetwork.

Field	Description
Tier Name	The name of the tier that includes a line with the defined asset group and asset type. The tier name value must be defined in the B_Tier table.
Asset Group	The asset group of the domain network's line feature class.
Asset Type	The asset type of the line's asset group.
Aggregated Lines for SubnetLine Feature Class	Defines if the asset group/asset type combination will be aggregated to generate the Subnet Line features. If the configured subnetwork line will be aggregated for the Subnet Line, the field value is True.

B_Subnetwork_Propagators

The B_Subnetwork_Propagators table is used to define network attributes to propagate. Propagated attributes denote the key values, or attributes, on subnetwork controllers that are applied to the rest of the features in a subnetwork.

Field	Description
Tier Name	The name of the tier that the propagator is applied to. The Tier Name value must be defined in the B_Tier table.
Attribute	The network attribute propagated to features in a subnetwork. The network attribute must be defined in the B_NetworkAttribute table.
Substitute Attribute	Use a substituted value instead of bitset network attribute values. Substitutions are encoded based on the number of bits in the network attribute being propagated.
Operator	The operator used in the filtering of subnetwork analytics. The following are valid inputs: • IS_EQUAL_TO • DOES_NOT_EQUAL • IS_GREATER_THAN • IS_GREATER_THAN_OR_EQUAL_TO • IS_LESS_THAN • IS_LESS_THAN_OR_EQUAL_TO • INCLUDES_THE_VALUES • DOES_NOT_INCLUDE_THE_VALUES • INCLUDES_ANY • DOES_NOT_INCLUDE_ANY
Function	The type of propagation calculation to be applied. The following are valid inputs: • PROPAGATE_BITWISE_AND • PROPAGATE_MIN • PROPAGATE_MAX
Value	The value of the network attribute causing termination based on the operator value.
Propagated Attribute	The field in your network class(es) that is used to store the calculated propagated value. The field type should be the same as the field defined against the network attribute specified in the Attribute field of the table.

B_Subnetwork_Summaries

The B_Subnetwork_Summaries table is used to define the summary attribute fields and properties to store function results when updating Subnet Line features in a subnetwork.

Field	Description
Tier Name	The name of the tier that the summary is applied to. The Tier Name value must be defined in the B_Tier table.
Function	The type of summary calculation applied in the summary. The following are valid inputs: • AVERAGE • COUNT • MAX • MIN • SUBTRACT • ADD
Attribute	The network attribute used to filter the summary.
Filter Name	The attribute name to filter the function result by.
Filter Operator	The operator used in the filtering for the summary. The following are valid inputs: • IS_EQUAL_TO • DOES_NOT_EQUAL • IS_GREATER_THAN • IS_GREATER_THAN_OR_EQUAL_TO • IS_LESS_THAN • IS_LESS_THAN_OR_EQUAL_TO • INCLUDES_THE_VALUES • INCLUDES_ANY • DOES_NOT_INCLUDE_ANY
Filter Type	The type of filter. Valid inputs: • SPECIFIC_VALUE • NETWORK_ATTRIBUTE
Filter Value	The value of the input field attribute.
Summary Attribute	The field in the Subnet Line feature class that persists the function results. Depending on the selected function and network attribute type, only the applicable type of user-added subnetwork attributes will be valid for this parameter.

B_TerminalConfiguration

The B_TerminalConfiguration table is used to define terminal configurations in a utility network. To learn more about terminals, refer to the [terminal management](#) help topic.

Field	Description
Configuration Name	The name of the terminal configuration to be added to a utility network.
Directionality	The directionality of the terminal configuration. The following are valid inputs: • DIRECTIONAL • BIDIRECTIONAL
Default Path	The default path assigned to new features that have the terminal configuration assigned to their asset type. The following are valid inputs: • All • None • Name of a terminal's valid path

B_TerminalConfiguration_Assignment

The B_TerminalConfiguration_Assignment table is used to define the terminal configurations that will be assigned on a device by asset group/asset type combination. To learn more about terminals, refer to the [terminal management](#) help topic.

Field	Description
Target Domain Network	The name of the domain network containing the device.
Asset Group	The asset group of the domain network's device class.
Asset Type	The asset type of the device's asset group.
Configuration Name	The name of the terminal configuration to be assigned to the asset group/asset type combination. The terminal configuration must be defined in the [B_TerminalConfiguration table](#).

B_TerminalConfiguration_Terminals

The B_TerminalConfiguration_Terminals table is used to define the terminals for each terminal configuration. Each terminal configuration required a minimum of two terminals. No more than eight terminals can be configured for a terminal configuration. To learn more about terminals, refer to the terminal management help topic.

Field	Description
Configuration Name	The name of the terminal configuration. The terminal configuration must be defined in the B_TerminalConfiguration table.
Name	The terminal name.
Upstream	Defines if the terminal is upstream or downstream. If the terminal is upstream, the field value is True. If the terminal is downstream, the field value is False.

B_TerminalConfiguration_ValidPaths

The B_TerminalConfiguation_ValidPaths table is used to define the valid paths within a device a commodity can travel for each terminal configuration in the asset package. To learn more about terminals, refer to the [terminal management](#) help topic.

Field	Description
Configuration Name	The name of the terminal configuration. The terminal configuration must be defined in the [B_TerminalConfiguration table](#).
Name	The name of the valid path configuration.
Value	The path configuration. The following are valid inputs: • All - indicates all paths are valid • None - indicated no paths are valid • A terminal pair - indicates a single path from one terminal to another • A collection of terminal pairs - indicates a collection of paths from one terminal to another

B_Tier

The B_Tier table is used to define tiers, which are a collection of subnetworks that share the same level, name restriction, and topology type. Tiers are required for subnetwork management.

Field	Description
Target Domain Network	The network domain with which the tier is created in.
Tier Name	The tier name.
Rank	The rank of the tier being added. Ranking among tiers controls the order or hierarchy of the subnetworks. Valid inputs for this field are integers 1-n, with one being the highest level in the hierarchy.
Topology Type	The tier's topology type. The following are valid inputs: • MESH • RADIAL
Tier Group Name	The existing tier group for which the new tier will be added.
Subnetwork Field Name	The name of the field that the subnetwork name for this tier is stored in.
Support Disjoint Subnetwork	Defines if the tier supports disjointed subnetworks. Disjointed subnetwork are subnetworks that belong in the same tier, have the same subnetwork, but are not traversable. If supporting disjointed subnetworks, the field value is set to True.
Include Barrier Features	Defines whether the traversability barrier features are included in the trace results. Traversability barriers are optional even if they have been preset in the subnetwork definition. If including barriers, set the field value to True.
Apply Traversability To	The type of traversability to enforce. Traversability scope dictates whether traversability is enforced at junctions, edges, or both. • BOTH_JUNCTIONS_AND_EDGES - Apply traversability to both junctions and edges. • JUNCTIONS_ONLY - Apply traversability to only junctions. • EDGES_ONLY - Apply traversability to only edges.
Update Structure Network Containers	Specifies whether the update subnetwork process will update the supported subnetwork name attribute for structure network containers.

Update Domain Network Containers	Specifies whether the update subnetwork process will update the supported subnetwork name for domain network containers.
Edit Mode for Default Version	Specifies the edit mode for subnetwork updates on the default version and with file geodatabases.
Edit Mode for Named Version	Specifies the edit mode for subnetwork updates on a named version.
Manage IsDirty	Specifies whether the Is dirty attribute in the subnetworks table will be managed by the update subnetwork operation. If no subnetwork controllers are defined for the tier, this parameter uses the default option NOT_MANAGE.
Include Containers	Specifies whether the container features and objects will be included in the trace results.
Include Content	Specifies whether the trace will return content of containers in the results.
Include Structures	Specifies whether structure features and objects will be included in the trace results.
Validate Locatabitity	Specifies whether an error will be returned during a trace or update subnetwork operation if nonspatial junction or edge objects are encountered without the necessary containment, attachment, or connectivity association in their association hierarchy of the traversed objects. This option ensures that nonspatial objects returned by a trace or update subnetwork operation can be located through an association with features or other locatable objects.

B_TierGroup

The B_TierGroup table is used to define a [tier group](#) of the domain network(s) of a utility network .

Field	Description
Target Domain Network	The network domain which the tier group is created in.
Tier Group Name	The name of the tier group added to the domain network.

B_TraceConfigurations

The B_TraceConfigurations table allows you to define trace configurations.

Field	Description
Trace Configuration Name	The name of the trace configuration.
Creator	The user that will own the trace configuration in the target utility network.
Trace Type	Specifies the type of trace that will be configured. <table><tr><td>Name</td><td>Description</td></tr><tr><td>Connected</td><td>A connected trace that begins at one or more starting points and spans outward along connected features will be used. This is the default.</td></tr><tr><td>Subnetwork</td><td>A subnetwork trace that begins at one or more starting points and spans outward to encompass the extent of the subnetwork will be used.</td></tr><tr><td>Subnetwork_Controllers</td><td>A subnetwork controllers trace that locates sources and sinks on subnetwork controllers associated with a subnetwork will be used.</td></tr><tr><td>Upstream</td><td>An upstream trace that discovers features upstream from a location in the network will be used.</td></tr><tr><td>Downstream</td><td>A downstream trace that discovers features downstream from a location in the network will be used.</td></tr><tr><td>Loops</td><td>Loops are areas of the network where flow direction is ambiguous. A loops trace that spans outward from the starting point based on connectivity will be used.</td></tr><tr><td>Shortest_Path</td><td>A shortest path trace that identifies the shortest path between two starting points will be used.</td></tr><tr><td>Isolation</td><td>An isolation trace that discovers features that isolate an area of a network will be used.</td></tr></table>
Description	The description of the trace configuration.
Tags	A set of tags used to identify the trace configuration. The tags can be used in search and indexing.
Trace Configuration	A Json object representing the collection of trace configuration parameters.
Result Types	A Json object representing the types of results to return.

C_Associations

The C_Associations table is used to specify junction-junction connectivity, structural attachments, and containment associations for a utility network.

Field	Description
Association Type	The type of association. The following are valid inputs: • Junction Junction Connectivity • Containment • Structural Attachment
From Domain	The domain or structure network that the asset group/asset type combination that will be assigned an association participates in.
From Feature Class	The feature class of the respective asset group/asset type combination that will be assigned an association. The following are valid inputs: • Device • Junction • Line • Assembly • StructureJunction • StructureLine • StructureBoundary
From Asset Group	The asset group of the asset group/asset type combination to add an association to. The asset group name is the same as the asset group subtype description in the asset package.
From Asset Type	The asset type of the asset group/asset type combination to add an association to. The asset type name is the same as the domain description in the corresponding asset type domain in the asset package.
From Global ID	The feature's Global ID.
From Terminal	The terminal of the asset group/asset type combination. Terminals should be specified when adding a junction-junction connectivity association. Containment and structural attachment association rules do not require terminals.
To Domain	The domain or structure network that the asset group/asset type combination that will be included in the association participates in.
To Feature Class	The feature class that will be included in the association. The following are valid inputs: • Device • Junction • Line

	• Assembly • StructureJunction • StructureLine • StructureBoundary
To Asset Group	The asset group of the asset group/asset type combination to create an association fo. The asset group name is the same as the asset group subtype description in the asset package.
To Asset Type	The asset type of the asset group/asset type combination to create an association for. The asset type name is the same as the domain description in the corresponding asset type domain in the asset package
To Global ID	The Global ID field of the asset group/asset type combination.
To Terminal	The terminal of the asset group/asset type combination. Terminals are specified when adding a junction-junction connectivity association. Containment and structural attachment association rules do not require terminals.
Is Content Visible	Defines if the content of the association is visible. Content is visible when the field value is True.

C_SubnetworkControllers

The C_SubnetworkControllers table is used to define the [subnetwork controllers](#), which are locations where the subnetwork originates (in the case of sources) or terminates (in the case of sinks).

Field	Description
Subnetwork Controller Name	The name of the subnetwork controller.
Feature Global ID	The subnetwork controller global ID.
Target Domain Network	The domain network that includes the subnetwork controller device feature class.
Feature Asset Group	The asset group of the subnetwork controller device.
Feature Asset Type	The asset type of the subnetwork controller device.
Feature Terminal	The subnetwork controller's terminal.
Tier Name	The name of the tier the subnetwork controller feature belongs to.
Subnetwork Name	The name of the parent subnetwork.
Description	The description given when setting the subnetwork controller using the **Modify Controller** pane.
Notes	Notes about the subnetwork controller feature.

D_Configurations

The D_Configurations table defines the properties that are associated with different configurations. To add a new configuration column, a user must add a new short field with the AP_Configure_Categories domain and a prefix of **category_**. If the prefix is **Category_Off** the configuration option will be check off by default. The end user will be presented with an alias of the field name in the Apply Asset Package tool.

The AP_Configure_Categories domains and descriptions are listed below:

• 0: Not Evaluated—This row will be ignored.

• 1: Evaluated—This row will be removed of all configurations when **Evaluated** is unchecked at runtime.

• 2: Exclusive—This row will be removed if at least one configuration with **Exclusive** is unchecked at runtime.

Field	Description
Property Type	The type of item that can be configured. The following are valid inputs: • AttributeRule • CodedValue • Diagram Template • Domain • FeatureClass • Field • FieldGroups • Network Attribute • Network Category • RelationshipClass • Rule • Subtype • Table • Tier • Tier Group • Trace Configuration
Hierarchy	The location of the item to include in a configuration. This field is only populated when the Property Type value is a Subtype, Field, or CodedValue.
Name	The name of the item in the asset package.

D_Rename

The D_Rename table allows you to rename items during the creation of the utility network. To add a new rename field, a user must add a new text field with a length of 1000, and a prefix of **rename_**. The end user will be presented with an alias of the new field name in the Apply Asset Package tool.

Field	Description
Property Type	The type of item that will be renamed. The following are valid inputs: • Domain Code Description • Table Alias • Field Alias • Subtype • Field Group • Attribute Rule Name • Attribute Rule Error Message • Domain Network Alias • Tier Group • Tier • Diagram • Terminal Configuration • Terminal • Terminal Path • Network Category • Network Attribute
Hierarchy 1	The primary qualifier for the item to be renamed. For example a Subtype or Table Alias.
Hierarchy 2	A secondary qualifier to specify the item to be renamed. For example, Feature Class name is specified in Hierarchy 1, and Field Name is defined in Hierarchy 2.
Current Name	The name of the item to be renamed.
Bypass Rename	Set the value to True in order to ignore an item during apply.