

USER GUIDE

GISLink

Version 5.7



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GETTING STARTED WITH GISLINK

When you first start GISLink no project files will be selected.

OVERVIEW

► To start updating data using GISLink,

1. Configure a database connection to your Inform CAD databases.
2. Define how the source data relates to the Inform CAD data fields and finally.
3. Create a differences file that GISLink uses to store added, modified, and deleted records.

The GISLink Project File (.vts) stores Inform CAD database settings and any associated Translation Specifications. TriTech Software Systems recommends the creation of separate GISLink project files for each environment (for example, training, test, and live).

► To create GISLink project files

1. [Create a GISLink project file \(.vts\)](#) see page 16.
2. [Define the relationship between the Streets source data and Inform CAD](#) see page 17.
3. [Create the Streets differences file](#) see page 19.
4. [Set Streets shape comparison options](#) see page 19.
5. [Define the relationship between the Response Areas and Inform CAD](#) see page 17.
6. [Create the Response Area Polygon Differences file](#) see page 19.
7. [Set the Response Area Polygon shape comparison options](#) see page 19.

GIS SOURCE DATA REQUIREMENTS

Before setting up GISLink, the GIS source data must be in the standardized format required by GISLink. The following tables describe the attributes that are needed to compare existing data with what already exists in the Inform CAD. In some cases, you can use expressions in your Translation Specification to define fields that do not exist in the source data. For example, if all of the streets reside in the same state, you could use an expression to define a constant string with the correct state abbreviation for the left and right state fields.

STREET ATTRIBUTES USED IN GISLINK

The attributes described in the following table are as shown in the GISLink Translation Specification. Some fields are optional. If you choose not to maintain these attributes in your source data, you must use an expression in the Translation Specification to define a default constant value for each field.

FIELD	DESCRIPTION	DATA TYPE	REQUIRED
StreetID	The StreetID field is displayed as a Read Only field in the Translation Specification. It cannot be updated using GISLink.	Int	Only appears in exports.
ExternalStreetKey	A unique key used to link a street in your source data with the corresponding street in your Inform CAD database. This key must contain numbers or letters only and should be standardized to use	String (36)	Yes

	either only uppercase letters or only lowercase letters. This is the same as the Original Segment ID that was used in Map Import.		
Shape	Polyline shape geometry.	Geometry	Yes (Empty shapes are not supported)
StreetName	Complete street name (Directional + Street Name + Street Type). Unnamed streets should be stored as UNNAMED STREET.	Char (100)	Yes, for geovalidation and driving directions.
LeftFromAddress	The address on the left side of the street at the from-node.	Int	Yes, for geovalidation
LeftToAddress	The address on the left side of the street at the to-node.	Int	Yes, for geovalidation
RightFromAddress	The address on the right side of the street at the from-node.	Int	Yes, for geovalidation
RightToAddress	The address on the right side of the street at the to-node.	Int	Yes, for geovalidation
LeftParity	Field to be used in future versions of GISLink to maintain address parity. In the current version of GISLink, values in this field must contain an R.* An expression can be used in the Translation Specification so that the field does not have to be added to the source data.	String (1)	Yes
RightParity	Field to be used in future versions of GISLink to maintain address parity. In the current version of GISLink, values in this field must contain an R.* An expression can be used in the Translation Specification so that the field does not have to be added to the source data.	String (1)	Yes
LeftCityCode	City code (as defined in the Cities table in the Streets database) corresponding to the left side of the street.	String (10)	Yes, for geovalidation
RightCityCode	City code (from the Cities table) corresponding to the right side of the street.	String (10)	Yes, for geovalidation
Note: Both city codes are required. If you do not store a separate left and right city code in your source, link the same city code field to both the left and right city codes in the destination.			
LeftCountyCode	County code (from the Counties table) corresponding to the left side of the street.	String (5)	Yes, for geovalidation
RightCountyCode	County code (from the Counties table) corresponding to the right side of the street.	String (5)	Yes, for geovalidation

Note: Both county codes are required. If you do

	not store a separate left and right county code in your source, link the same county code field to both the left and right county codes in the destination.		
LeftState	State abbreviation corresponding to the left side of the street.	String (3)	Yes, for geovalidation
RightState	State abbreviation corresponding to the right side of the street	String (3)	Yes, for geovalidation
	Note: Both state abbreviations are required. If you do not store a separate left and right state abbreviation in your source, link the same state abbreviation field to both the left and right states in the destination.		
FeatureTypeCode	TriTech-defined street type code (for example, A10, A30, A40). See Street Codes for a list of valid codes.	String (3)	Yes
SpeedLimit	If speed limits are not assigned in your source data, use those associated with the TriTech-defined street type codes.	Int	Yes, for routing
	Note: Any streets with a speed limit of zero will be considered un-routable.		
LeftZipCode	ZIP code corresponding to the left side of the street. If ZIP codes are not used, use an expression to define an empty string value in your GISLink Translation Specification.	String (10)	No (Used in reporting and billing)
	Note: An empty string is defined by two single quotes '' in GISLink.		
RightZipCode	ZIP code corresponding to the right side of the street. If ZIP codes are not used, use an expression to define an empty string value in your GISLink Translation Specification.	String (10)	No (Used in reporting and billing)
	Note: An empty string is defined by two single quotes '' in GISLink. Note: If you do not store a separate left and right ZIP code in your source, link the same ZIP code field to both the left and right ZIP codes in the destination.		
OneWayCode	Value used to indicate the direction of travel for a street.	String (1)	Yes, for routing.

	<p>If one way values are not used, use an expression to define a default value of B in your GISLink Translation Specification.</p> <p>B = travel in both directions</p> <p>F = travel only in the direction of the from-node to the to-node</p> <p>T = travel only in the direction of the to-node to the from-node</p>		
FromElevation	<p>Logical Elevation value at the from-node. This value is not actual elevation. Nodes that connect with the same logical elevation value are considered connected and routable.</p> <p>If elevation values are not used, use an expression to define a value of zero in your GISLink Translation Specification.</p>	Int	Yes, for routing.
ToElevation	<p>Logical Elevation value at the to-node. This value is not actual elevation. Nodes that connect with the same logical elevation value are considered connected and routable.</p> <p>If elevation values are not used, use an expression to define a value of zero in your GISLink Translation Specification.</p>	Int	Yes, for routing.
LocationName	<p>Special field used to describe an address range.</p> <p>If this field is not used, use an expression to define an empty string value in your GISLink Translation Specification.</p>	String (30)	Yes if using the <i>right of way</i> feature.
Note: An empty string is defined by two single quotes ' ' in GISLink.			
Left Response Area (field name as configured for each agency)	<p>External key of the response area assigned to the left side of the street.</p> <p>A separate field can be created for each agency, for example, EMS_Left, PD_Left, Fire_Left. This must be configured by Technical Services during the installation of GISLink.</p>	String (11)	No
Note: This field contains the name of the response area only if you have upgraded from GISLink 1.0			
Right Response Area (field name as configured for each agency)	<p>External key of the response area assigned to the right side of the street.</p> <p>A separate field can be created for each agency, for example, EMS_Right, PD_Right, Fire_Right. This must be configured by Technical Services during the installation of GISLink.</p>	String (11)	No
Note: This field contains the name of the response area only if you have upgraded			

from GISLink 1.0. If not, use the response area external key as described in the following table.

RoutingStreetExtKey	The right-of-way feature allows any street (specifically designed for one that is to be used as a ROW) to be assigned to use another street for routing. If this field contains a value other than empty string, it indicates the external street key of the street feature that should be used for routing instead of this street feature. If left as an empty string, the default behavior will be in effect for this street feature: If a location is geovalidated to this street feature, the system will try to route to/from a point using this street feature.	String (36)	Yes, for routing.
LeftServiceProviderAreaExtKey	If Service Provider Area is not available used, use an expression to define an empty string value in your GISLink Translation Specification.	String (36)	Required only if using the Service Provider Rotation Feature, otherwise use an empty string " (two single quotes).
RightServiceProviderAreaExtKey	If Service Provider Area is not available used, use an expression to define an empty string value in your GISLink Translation Specification.	String (36)	Required only if using Service Provider Rotation Feature, otherwise use an empty string " (two single quotes).
L<attributeName> R<attributeName>	Extended Street Attributes Additional fields are added per configured Extended Street Attribute, one with L_ prepended for the left side of the street and the other with R_ prepended for the right side of the street.	String (50)	No (Presence depends on Configuration)

* "R" which indicates "derive parity from the address range". The value should always be "R", for both LeftParity and RightParity.

ADDRESS POINT ATTRIBUTES USED IN GISLINK

The attributes described in the following table are as shown in the GISLink Translation Specification. Some fields are optional. If you choose not to maintain these attributes in your source data, you must use an expression in the Translation Specification to define a default constant value for each field.

FIELD NAME	DESCRIPTION	DATA TYPE	REQUIRED
AddressPointID		Int	
ExternalKey	A unique key used to link an address point in your source data with the corresponding address point in	String (36)	Required

your Inform CAD database. This key must contain numbers or letters only and should be standardized to use either only uppercase letters or only lowercase letters.

Note: The external street key field is 36 characters in databases installed with Inform CAD Command 4.3 SP4 or later. Earlier versions have a 16 character external street key field.

LocationName	<p>Special field used to describe an address range. It is recommended that this field be populated for address points to help VisiCAD users distinguish address point records from street records in the call-taking screen.</p> <p>If this field is not used, use an expression to define an empty string value in your GISLink Translation Specification.</p> <p>Note: An empty string is defined by two single quotes '' in GISLink.</p>	String (254)	No
StreetName	<p>Complete street name (Directional + Street Name + Street Type).</p> <p>Unnamed streets should be stored as UNNAMED STREET.</p>	String (100)	Yes, for Geovalidation
Address	The single address number for the address point.	Int	Yes, for Geovalidation
Building	Optional field to identify the building to which the address point record refers. If Building is not available used, use an expression to define an empty string value in your GISLink Translation Specification.	String (10)	No
Apartment	Optional field to identify the apartment to which the address point record refers. If Apartment is not available used, use an expression to define an empty string value in your GISLink Translation Specification.	String (10)	No
CityCode	City code (as defined in the Cities table in the Streets database) identifying the city in which the address point resides.	String (10)	Yes, for Geovalidation
ZipCode	ZIP code associated with the address point record. If ZIP codes are not used, use an expression to define an empty string value in your GISLink Translation Specification. If ZipCode is not available used, use an expression to define an empty string value in your GISLink Translation Specification.	String (10)	No
ServiceProviderAreaExtKey	If Service Provider Area is not available used, use an expression to define an empty string value in your	String (36)	Required only if using

GISLink Translation Specification.			the Service Provider Rotation Feature, otherwise use an empty string " (two single quotes).
CountyCode	County code (from the Counties table) identifying the county in which the address point resides.	String (5)	Yes, for Geovalidation
State	State abbreviation identifying the state in which the address point resides.	String (3)	Yes, for Geovalidation
RoutingStreetExtKey	The Right-of-Way Feature, allows any address point to use a street segment for routing. The street will need to be assigned the value of "ROW" in the "LocationName" field. If this field contains a value other than an empty string, it will indicate the external street key of the street feature used for routing instead of the address point. If populated with an empty string, the default behavior will be in effect for this street feature. If a location is geovalidated to this street feature, the system will try to route to /from an point using this street feature.	String (36)	Routing (as needed)
L<attributeName> R<attributeName>	Extended Street Attributes Additional fields are added per configured Extended Street Attribute, one with L_ prepended for the left side of the street and the other with R_ prepended for the right side of the street.	String (50)	No (Presence depends on Configuration)

GEOGRAPHIC AREA ATTRIBUTES USED IN GISLINK

The attributes described in the following table are as shown in the GISLink Translation Specification. Some fields are optional. If you choose not to maintain these attributes in your source data, you must use an expression in the Translation Specification to define a default constant value for each field.

FIELD NAME	DESCRIPTION	DATA TYPE	REQUIRED
RegionID	The internal SQL ID of the Geographic Area record in the SQL database (system.dbo.regiontype table).	Int	Only appears in exports.
ExternalKey	A unique key used to link a geographic area in your source data with the corresponding geographic area in your VisiCAD database. This key must contain numbers or letters only and should be standardized to use either only uppercase letters or only lowercase letters.	String (36)	Yes

Shape	Polygon shape geometry (empty shapes are not supported).	String (36)	Yes
Description	Text description, or name, of geographic area.	String (30)	Yes
Code	An alphanumeric abbreviation associated with the description of the geographic area.	String (5)	Yes
Color	Integer Value indicating the RGB (Red, Green, Blue) color for display in VisiCAD Explorer or GEO. The value is calculated from separate RGB values as follows: $\text{Color} = R + (G * 256) + (B * 65536)$.	Int	Yes
IsGeoFence	Boolean field to designate if a geographic area is used as a GeoFence. 0 indicates it is not. 1 indicates it is. If this is not available, use an expression to define 0 as the value for this field in your GISLink Translation Specification.	SmallInteger	Yes, only for the GeoFence feature

RESPONSE AREA POLYGON ATTRIBUTES USED IN GISLINK

The attributes described in the following table are as shown in the GISLink Translation Specification. Some fields are optional. If you choose not to maintain these attributes in your source data, you must use an expression in the Translation Specification to define a default constant value for each field.

The GIS source data may contain different field names.

FIELD	DESCRIPTION	DATA TYPE	REQUIRED
ExternalKey	A unique key used to link a response area in your source data with the corresponding response area in your Inform CAD database. This key must contain numbers or letters only and should be standardized to use either only uppercase letters or only lowercase letters. When GISLink is installed, it will add this field if it does not already exist. If the field is not already populated, GISLink will initialize the new field to either Name, Code, or ID as selected by the installer. For ongoing maintenance you can assign external keys as desired.	String (11)	Yes
Shape	Polygon shape geometry.	Geometry	Yes
Name	Response area name. The response area name must be unique within each agency.	String (30)	Yes
Note: This field must be unique and is NOT case sensitive.			
Code	Response area code.	String (5)	Yes
SortOrder	Integer value indicating the sort order of the response area. This field is used to indicate priority in the case of overlapping polygons. Polygons with a lower sort order (that is, with a	Int	Yes

higher priority) are displayed on top.

BattalionCode	Code corresponding to the battalion in which the response area resides within the Inform CAD hierarchy.	String (5)	Yes
Color	Integer Value indicating the RGB (Red, Green, Blue) color for display in Inform CAD Explorer. The value is calculated from separate RGB values as follows: Color = R + (G * 256) + (B * 65536).	Int	No
<p>Note: Geo does not currently support direct display of response areas with the color specified in this field. To control the color of response areas in Geo, values in this field need to be set to one of a fixed set of values and the symbology for the response area layer in the Geo map document must correctly display each of those values using the matching color.</p>			
IsActive	Integer Value. Must be either 0 or 1. Zero means the response area should be inactive in Inform CAD. One means the response area should be active in Inform CAD.	Int	Yes

Note: The ResponseAreaID field is displayed as a Read Only field in the Translation Specification. It cannot be updated using GISLink.

Note: If your source data contains trailing spaces or null values, you may want to set an expression using the TRIM function to eliminate these spaces ([Functions](#) on page 28). Trailing spaces in the city code, county code, state abbreviation, street names or feature type code will cause differences that are difficult to detect because nothing will appear visually different.

CONFIGURE A GISLINK PROJECT FILE

The GISLink project file contains a set of Translation Specifications configured for a single Inform CAD database connection. The project file can contain different Translation Specifications for updating streets, address points, geographic areas, and each agency's response areas. It is recommended to set up separate project files for each environment. There are a number of steps to creating a new project file.

► To create the new project file (setting the DB sources):

1. Click **File > New** from the main menu.
2. Click **Set Inform CAD DB Connection**.
3. Click **Streets DB**.
4. On the Provider tab and select *Microsoft OLE DB Provider for SQL Server*.
5. Click **Next**.
6. On the Connection tab, click **Refresh**.
7. Select the server that contains your Inform CAD databases from the drop-down list.