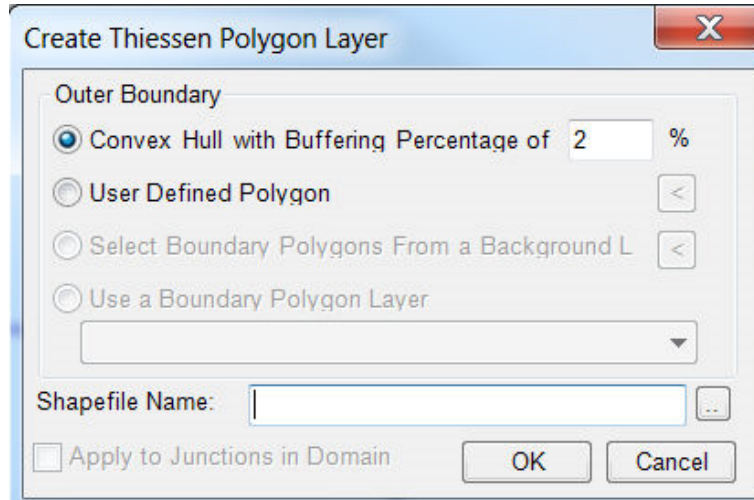


# Create Thiessen Polygon Layer

Use the **Create Thiessen Polygon** button to create Thiessen polygons. Thiessen polygons allow for the automatic creation of polygons through a process known as dynamic segmentation. This means that one polygon will be created around each node selected during the polygon creation process. During the Thiessen polygon creation process, each polygon is automatically attributed with its contributory junction.

In order to reduce the number of Thiessen polygons created, you may wish to first create a domain from select junctions that will represent the demand of the system. If not limited, a polygon will be created for each node in the system which may or may not be appropriate. It is recommended that you select junction nodes, via a domain, that will fairly represent the system demand. You must also take care not to select junctions of pipes that belong to a different pressure zone or area; doing so may incorrectly allocate system demands.




## Outer Boundary

**Convex Hull Technique** - A process that uses a buffering percentage to determine the outer boundary of the final Thiessen polygon layer. A higher number represents a larger outside boundary while a value of zero would mean that the outer boundary is defined as a direct "dot-to-dot" between the outer-most junction nodes. You may need to run different percentages to become satisfied with the final result.

**User Defined Polygon** - Use this technique to manually define your polygon boundary. Use the **Map Select** button to choose a part or the whole of your model to define your polygon boundary. Thiessen polygons are then created inside the user defined area, using your user-defined polygon at the outer-most boundary. To create the polygon, select the vertices with a single left-mouse click and complete the polygon with a double left mouse button click.

**Select Boundary Polygons** - Select the outer boundary from an existing background layer. The existing layer needs to be first added to the project. This layer may consist of a data later that represents a pressure zone boundary or other bounding polygon. Use the **Map Select** button to choose a part or the whole of your model to define your "inner boundary" to create Thiessen polygons within the region bounded between the inner and the outer boundaries. To create the polygon, select the vertices with a single left-mouse click and complete the polygon with a double left-mouse click.

**Use Boundary Polygon Layer** - Use this method to create a boundary from an existing shapefile boundary polygon layer. The existing layer needs to be first added to the InfoWater Pro project. Specify the appropriate layer in the drop-down box.

**Shapefile Name** - Once an outer boundary option has been specified, click on the **Browse**  button adjacent to the Shapefile Name text box. Specify a name and network location to store the newly created Thiessen polygon shapefile.

**Apply to Junctions in Domain** - Use the "Apply to Junctions in Domain" check box to limit the creation of Thiessen polygons to only those junctions that have been selected via the domain manager. Use of this option is recommended in minimizing the number of Thiessen polygons that are created during the dynamic segmentation process.