SimplyRhino

sales, training and support

Exporting Solid Geometry from Rhino to Revit

- Get the latest Service Release of Rhino 4.0 at http://www.rhino3d.com/sr/.
- Save as ACIS (*.sat).
- Make sure Rhino geometry is optimized. Curves drawn to create surfaces should contain the minimum number of control points that will accurately describe the intended shape.
- Consider rebuilding surfaces after their initial creation to reduce control point count. Experiment with the number of control points and use the Preview and Max Deviation buttons to arrive at the preferred balance between point reduction and deviation from the original surface.
- Avoid three sided surfaces and singularities – Acis/SAT does not support this type of surface. For example when creating a planar surface from three open surface edges use Cap Planar Holes – this will create a trimmed rectangular surface.
- Acis/SAT recognizes only solids. Make sure you have closed polysurfaces and check for open edges using the Naked Edge display (Analyze > Edge Tools > Show Edges) tool.
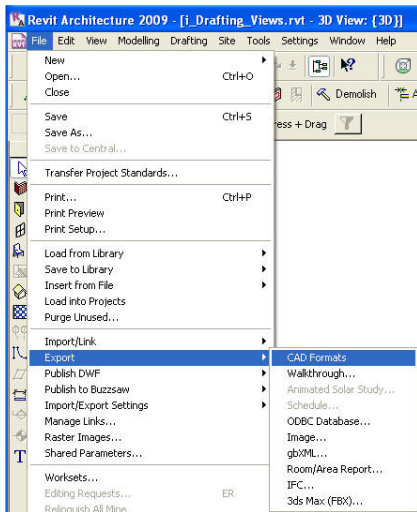
Exporting Solid Geometry from Revit to Rhino

There are two options for bringing in data from Revit to Rhino:

- Purchase the DATAKIT (www.datakit.com) Acis/SAT import plug in for Rhino
- Or use AutoCAD as a bridge between Revit and Rhino

Using the DATAKIT Translator

1. In **Revit**, export the data as **ACIS/SAT.**
   Go to the **Files** menu and select **Export** and **CAD Formats.**

2. From the File dialog, in the **Files of Type** list control, select **ACIS/SAT**.
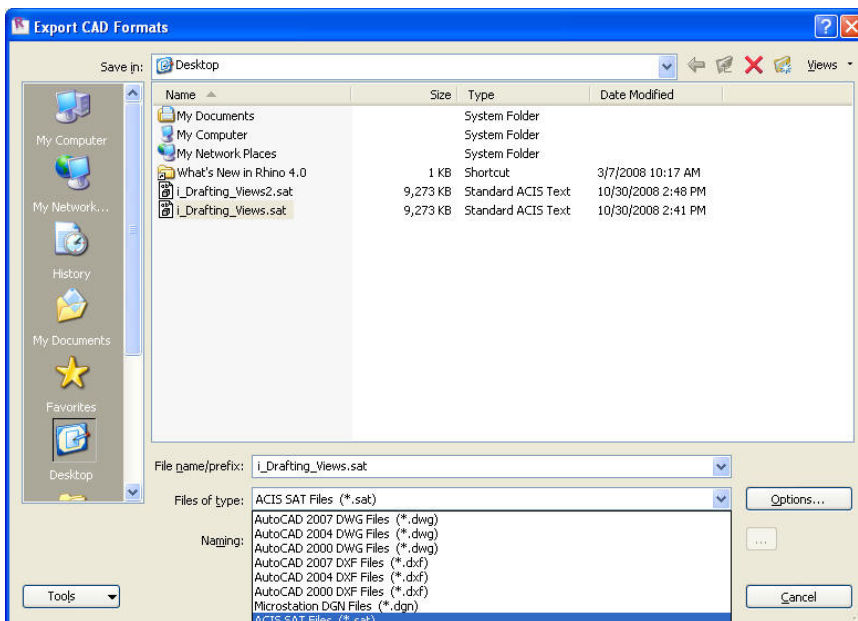
3. Type file name. The **SAT** file will be created.
4. Open the **SAT** file with in the **Datakit** translator and save to the Rhino **3dm** format

Using AutoCAD As A Bridge Between Revit and Rhino

1. In Revit, save the data out as ACIS/SAT. GGo to the **Files** menu and select **Export** and **CAD Formats.**
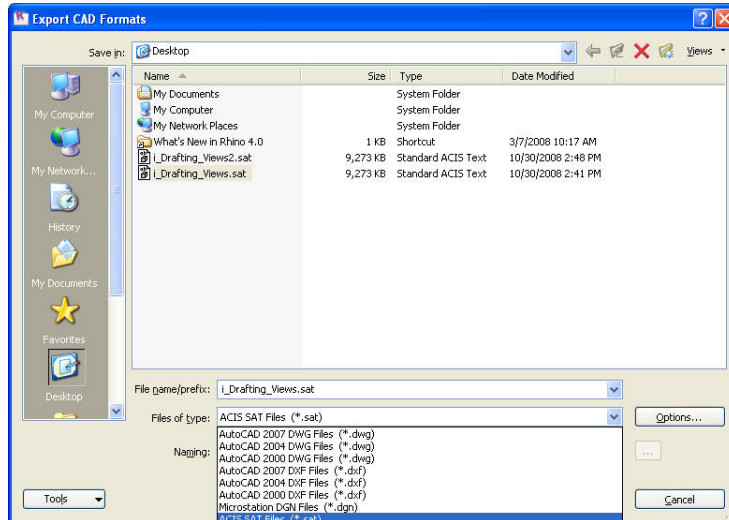
2. From the File dialog, in the **Files of Type** list, select **ACIS/SAT**.
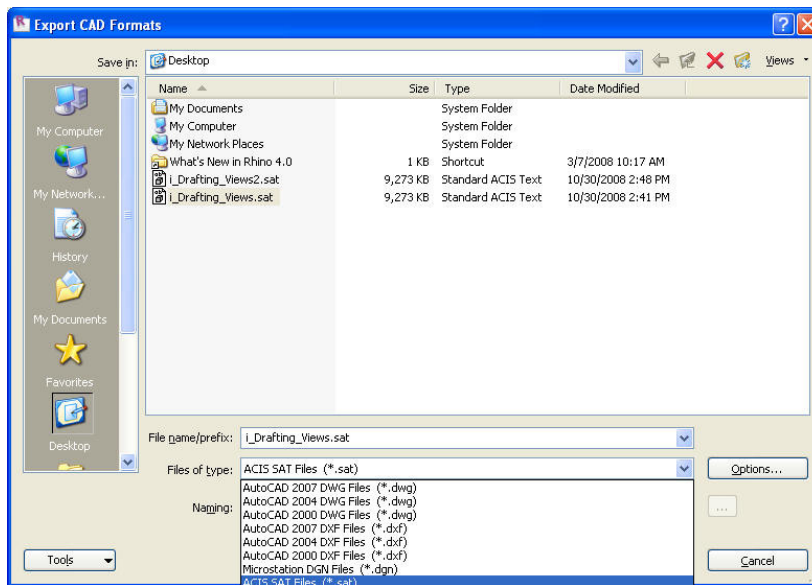
3. Type in a file name. The **SAT** file will be created.
4. Open **AutoCAD** and at the command prompt type **ACISIN**.
5. Select the **SAT** file.
6. After the **SAT** file is imported into AutoCAD, **SAVE** the file in AutoCAD's native **DWG** file format.
7. Open the **DWG** in **Rhino**.
   Scale is maintained and solid objects come into Rhino as polysurfaces.

Checking Data After Importing Into Rhino:

- If Solid volumes come through into Rhino as 'Block Instances', use the **Explode** command to convert the block instance to a closed polysurface (solid).
- If Solid volumes from Revit have inconsistent surface normals, use **Explode** again to break the polysurface into individual surfaces and re-join using the **Join** command. This will fix the surface normals issue.
- Layers and object colours might not be maintained in the **ACIS/SAT** format. Consider breaking large models down into smaller models and importing one at a time into Rhino, creating separate layers as you proceed if this is the case.

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