Exporting GIS Features to CAD Drawings

Alex LeReaux
Agenda

• Anatomy of the Export to CAD tool
• Standard output
  - Extended output for AutoCAD drawings
  - Demo
• Customizing output
  - Generate specific drawing layers
  - Export attributes as CAD text
  - Export point features as AutoCAD blocks
  - Demo
The Export To CAD tool
The Export To CAD tool

Feature layers/classes, and shapefiles to V8 DGN and DWG/DXF formats.

Field = DocPath
Standard output
### Standard output

#### Out of the box results

**ArcGIS**

- Shapefiles
- GDB features

**Export To CAD**

**MyDrawing.DWG (or DGN)**

- Drawing layer for each input feature class or layer
- Native CAD geometry georeferenced to x,y (0,0)
- Base data contained in the seed file (optional)

<table>
<thead>
<tr>
<th>Shape type</th>
<th>Output DWG/DXF</th>
<th>Output to V8 DGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point</td>
<td>Point</td>
<td>Zero-length line</td>
</tr>
<tr>
<td>Polyline</td>
<td>LWPolyline, line, arc, circle, or ellipse</td>
<td>Complex chain, line, arc, or curve</td>
</tr>
<tr>
<td>Polygon</td>
<td>Closed LWPolyline</td>
<td>Complex shape</td>
</tr>
<tr>
<td>Annotation</td>
<td>Text</td>
<td>Text</td>
</tr>
</tbody>
</table>
Extended output for AutoCAD drawings
Extended output for AutoCAD drawings

Standard output (continued)

**MyDrawing.DWG (2007 or higher)**

- Coordinate system
- Feature class
- Property filter
- Attributes
- Non-graphic schema
- Drawing layer for each input feature class or layer
- Native CAD geometry georeferenced to x,y (0,0)
- Base data contained in the seed file (optional)

<table>
<thead>
<tr>
<th>Shape type</th>
<th>Output DWG/DXF</th>
<th>Output to V8 DGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point</td>
<td>Point</td>
<td>Zero-length line</td>
</tr>
<tr>
<td>Polyline</td>
<td>LWPolyline, line, arc, circle, or ellipse</td>
<td>Complex chain, line, arc, or curve</td>
</tr>
<tr>
<td>Polygon</td>
<td>Closed LWPolyline</td>
<td>Complex shape</td>
</tr>
<tr>
<td>Annotation</td>
<td>Text</td>
<td>Text</td>
</tr>
</tbody>
</table>
Demo – Exporting standard output
Customizing output
Customizing Output

Workflow

Seed file (optional)

MyDrawing.DWG (or DGN)

Feature class table

Add fields (Reserved) → Calculate fields → Export To CAD

Add Field

Name: LyrColor
Type: Short Integer

Field Properties

<table>
<thead>
<tr>
<th>Alias</th>
<th>Allow NULL Values</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTID_12</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Shape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>propaddr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>proptype</td>
<td></td>
<td></td>
</tr>
<tr>
<td>appraisal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shape_Length</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Generating specific drawing layers

Reserved fields Layer (as text) and LyrColor (as an integer)

Feature class table

Add Field → Field Calculator → Export To CAD
Exporting attributes as CAD text

A point feature and fields CADType (as text) and TxtValue (as field value)
Exporting point features as AutoCAD blocks

Fields CADType and RefName, and a seed file with AutoCAD blocks
Demo - Exporting customized output
Exporting GIS Features to CAD Drawings

Review

- One tool: Export To CAD
- Georeferenced geometry and a drawing layer for each input feature
- Standard output to AutoCAD drawing includes the coordinate system, feature class schema, and attaches attribute values to geometry
- CAD professionals can use ArcGIS for AutoCAD or custom .NET and/or AutoLISP.
- Customize output with reserved CAD fields and a seed files
Thank You

- Please fill out evaluations at www.esri.com/sessionevals