Setting up a SQL Server Based Enterprise Industry Model, Part 1

Introduction:

This paper represents the first in a series on using SQL Server to hold an enterprise industry model in Map 3D. Here, we will look at the SQL Server installation and the creation of an enterprise model.

Author’s Note: This document is meant as a guide to help with the creation and maintenance of an enterprise industry model. It is not, for the most part, original research, as parts of this procedure have been documented with varying degrees of clarity in a number of installation notes. My aim here is to provide a complete, and hopefully more understandable document, to take anyone tasked with creating an enterprise industry model through the process. Because I have changed up the wording, paraphrased or provided a more simple explanation, I apologize for not noting source materials. I’m not trying to deny additional contributors, my goal with this series is to consolidate the existing knowledge and add notes.

Setting up a SQL Server Based Enterprise Industry Model

SQL Server uses the term “databases” instead of “users”. In contrast to Oracle, users and databases are independent and are mapped and linked using security settings.

SQL Server industry models vary slightly from those created within Oracle. The following features are not supported by SQL Server industry models:

- Jobs
- Oracle data import into enterprise industry models using attribute mapping
- Profiles
- Oracle Schema Converter
- Security Administrator
- SQL Sheet
- 3D-enabled functionality
- The ability to work offline by moving data into a SQLite-based file

Working with SQL Server

Check the system requirements for SQL Server

At this point, we will assume that SQL Server has been installed with at least the default instance. Check the Autodesk documentation for the specific version requirements and the disk space required for Map 3D and the Infrastructure extensions.

- Make sure the SQL Server services are running.
- Install and activate AutoCAD Map 3D and Infrastructure Administrator.
Collect the necessary login credentials for the SQL Server setup

As you go through the setup process, you will need to log in as various users or using specific roles. Copy this worksheet or make something similar to collect that information.

<table>
<thead>
<tr>
<th>Role</th>
<th>User name</th>
<th>Password</th>
<th>Service Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL Server Administrator*</td>
<td>Default</td>
<td>Yours</td>
<td>Default</td>
</tr>
<tr>
<td>Industry Model Administrator User</td>
<td>ADMINISTRATOR</td>
<td>(Blank)</td>
<td>N/A</td>
</tr>
<tr>
<td>Industry Model System User</td>
<td>MAPSYS</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: Passwords generally are case-sensitive.
SQL Server usually has no specific system user, because SQL Server should always be used with Active Directory security. Windows users are used and mapped to server roles, like sysadmin. Therefore, each Windows user can become an Administrator. Access to the master database is required for this.

Connect to the SQL Server database

Make sure that SQL Server Services are running and you have your authentication credentials available.

Start the Setup application.

Click Start menu > Programs > Autodesk > Autodesk Infrastructure Administrator 2014 > Autodesk Industry Model Setup 2014.

Under the heading: **1. Connect to enterprise industry mode server**, specify your industry model type as Microsoft SQL Server.

Specify whether to use Windows or SQL Server authentication (Microsoft suggests using Windows authentication, if possible).

If you are using SQL Server authentication, enter a user name and password.

For the Server Name, enter the server that will host the MAPSYS database.

Click Next to establish the connection.
Set up the MAPSYS user for a SQL Server system

MAPSYS is the enterprise industry model System user. This user has full Administrator rights.

1. In the Autodesk Industry Model Setup Wizard, under the heading: 2. Manage System User, click Create.

2. In the Create a New Map System User dialog box, enter the name of the database for MAPSYS and click OK.

The system creates the new MAPSYS user. This can take a few minutes. If you enter a database name that already exists, either having been created through the Industry Administrator, or through SQL Server, you will see a message like the one below. Choose a different database name. This only works if the application can create a new database.
3. Click **Next**. You will see the following message, because you have not yet designed any industry models in the database you have just created. Click **Close** to exit.

If you look at the service in SQL Server Management Studio, you will see the database in the object explorer.

Creating a Project and its Industry Models

We are now at the point where we can create a project and the industry models within it. A project is a way of grouping industry models for a particular situation, such as a new development or a maintenance project. For example, you might create a new project for a site that includes groundwater analyses, remediation and tracking of surface pollutants industry models. You can create multiple projects, and each project can contain multiple industry models. An industry model can be referenced by more than one project

In the next part of this series, we’ll look at creating projects and the industry models within them.

**About the Author: Jeff Morrow**

Jeff, a senior civil and geospatial consultant with IMAGINiT, has over thirty years’ experience in the mining and engineering sectors. He has been involved with AutoCAD and the Autodesk civil software applications since their earliest days, and has consulted on the development of standards and procedures, CAD management, database and technical applications, training and implementation, and project management. Jeff is recognized for his work in mineral exploration, minesite reclamation and environmental issues. He is a graduate of McGill University, and is an AutoCAD Civil 3D Implementation Certified Expert. You can reach him at jmorrow@rand.com.