

# FDO Data Access Technology Top 10 Benefits

*Work seamlessly with your geospatial data whatever the format*

## The Challenge

The growing need for openness and interoperability between traditional geographic information system (GIS) applications and mainstream operational information technology (IT) systems, as well as integration with public or private web mapping services, calls for seamless data access in native formats and platforms. Without it, users face the inefficiency and inaccuracies of having to translate various data sources into the format supported by their GIS application to provide a collective “single view” of the data.

In recent years this problem has become even more challenging. Today’s GIS users have access to geospatial data in a variety of relational databases and file formats and via an increasing number of web-based map services.

## Introducing FDO Data Access Technology

The Autodesk Feature Data Objects (FDO) Data Access Technology provides the solution. Incorporated into Autodesk® Geospatial products, and also available as a stand-alone, open source technology for developers, FDO helps increase productivity and save time by enabling users to work seamlessly on a variety of spatial and nonspatial databases and file formats natively, without the need for translation and risk of data loss.

## Top 10 Benefits at a Glance

1. **Easy access to geospatial data**
2. **In situ editing**
3. **Ability to grow with your requirements**
4. **Rich and consistent data access**
5. **Security**
6. **Instant productivity and return**
7. **Platform and technology neutrality**

8. **Extensibility via open source**
9. **Open to the world**
10. **Ideal for application developers, independent software vendors and solution providers**

## What People Are Saying about Autodesk FDO Data Access Technology

*“Our engineers and designers have instant access to all the information they need, and our Oracle database contains up-to-date information.”*

**J. R. Smith**

Senior GIS Analyst  
City of Tacoma

*“We have found that Autodesk GIS applications work well with data in a variety of GIS, CAD, and database formats.”*

**Roger Johnston**

Chief Cartographer  
National Park Service

*“Making ESRI data work with CAD design data is essential to us. Autodesk Map 3D allows us to work with both data formats efficiently and with very little effort.”*

**Doug Rulison**

Data Management Specialist  
Orange County Sanitation District

*“We have a unified view of our assets. This allows us to manage our bases and events affecting them more proactively. And because we can provide real-time web access to the geospatial data maintained in our database, our common installation picture is always up-to-date.”*

**Michael Gilley**

Geo Integration Officer, 45<sup>th</sup> Space Wing  
United States Air Force

*“ESRI charged more money over the long run. Autodesk MapGuide employs the open standards-based data model we prefer, and we did not have to pay as much. We see the internet-based model as the future, and the Autodesk solution is well proven.”*

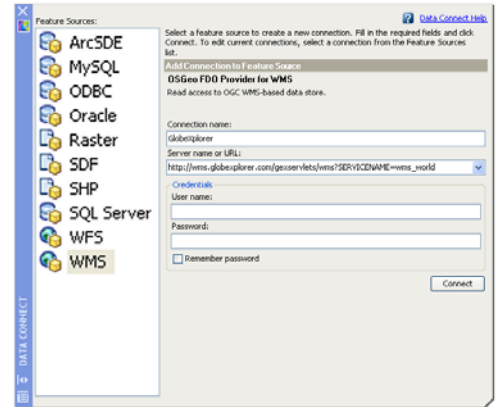
**Charles Kalil**

Information Systems Manager  
City of Garden Grove

# Top 10 Benefits

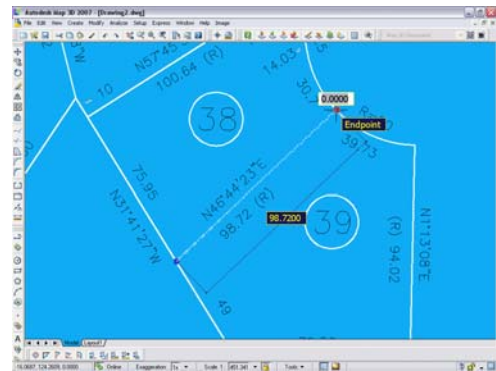
## 1. Easy Access to Geospatial Data

FDO Data Access Technology enables Autodesk's geospatial applications, such as Autodesk Map<sup>®</sup> 3D 2007, Autodesk<sup>®</sup> Civil 3D<sup>®</sup>, Autodesk MapGuide<sup>®</sup> Enterprise, and Autodesk<sup>®</sup> Topobase<sup>™</sup> software, to seamlessly access and share spatial and nonspatial information with minimal effort. For example, the easy-to-use Data Connect dialog box in Autodesk Map 3D 2007 (at right) provides access to your geospatial data. Simply select from the data formats in the list, provide connection parameters and credentials (if required) and click Connect.



## 2. In Situ Editing

Most vector-based FDO Feature Sources can be edited directly without the need for translation between formats, which means less chance for errors. An FDO Feature Source is any source of feature data that has been accessed using an FDO Provider. It can be a file, such as an ESRI<sup>®</sup> SHP or Autodesk<sup>®</sup> SDF; a relational database, such as Microsoft<sup>®</sup> SQL Server, Oracle<sup>®</sup> Spatial, and MySQL; or middleware, such as ESRI<sup>®</sup> ArcSDE<sup>®</sup>. These data sources may contain a single feature type, such as parcel or street centerline, or may contain a complex data model with multiple features and attribute tables.



## 3. Ability to Grow with Your Requirements

Whatever your need, FDO Data Access Technology supports your data access requirements. With an FDO Data Provider, you can access data in

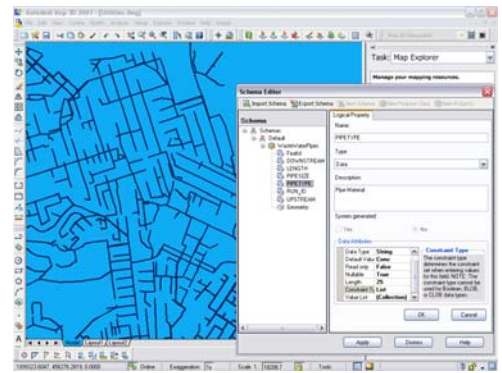
- Flat files (for example, ESRI SHP and Autodesk SDF)
- Raster formats (numerous)
- Web services (Web Mapping Servers and Web Feature Servers)
- GIS middleware (for example, ESRI ArcSDE)
- Spatial relational databases (for example, Oracle Spatial, MySQL, and Microsoft SQL Server)



### 4. Rich and Consistent Data Access

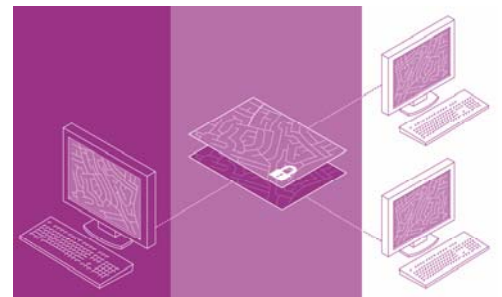
FDO Data Access Technology provides a generic interface to several back-end data source technologies for storing, retrieving, and updating GIS data. This technology frees users from having to understand differences in underlying data stores and enables the use of the same commands no matter what the underlying data store. In addition, FDO Data Access Technology provides an impressive list of built-in capabilities:

- Schema creation and management
- Ability to query using complex filters and expressions on vector data
- Data editing: Create, Delete, Update both attributes and geometry
- Transaction control for multiuser concurrency
- Persistent locking and Optimistic concurrency
- Long transaction versioning
- SQL pass-through
- API (application programming interface) to advertise specific capabilities of individual providers



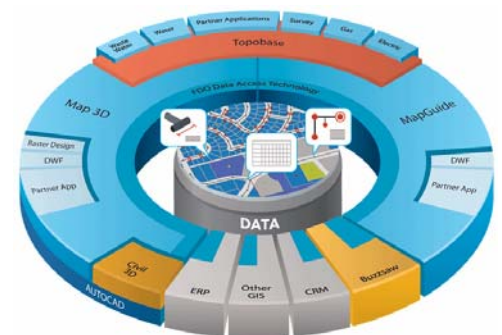
### 5. Security

Data is a crucial asset to most organizations. FDO Data Access Technology conforms to existing data store security parameters, helping to ensure that data is being accessed, viewed, or edited only by users with the requisite permissions. This capability is especially useful when multiple users are accessing and sharing the same data source(s) in relational spatial databases or from web services.



### 6. Instant Productivity and Return

Because FDO Data Access Technology is embedded in Autodesk Geospatial products, including Autodesk Map 3D, Autodesk MapGuide Enterprise, Autodesk Civil 3D, and Autodesk Topobase, there's nothing extra to install or purchase. Simply open the application, connect, and start accessing and sharing your spatial and nonspatial information with minimal effort.



### 7. Platform and Technology Neutrality

FDO Data Access Technology is developed to run on both Microsoft® Windows® and Linux® operating systems. The FDO Providers can access data sources in a heterogeneous environment supporting a variety of operating systems and platforms.



### 8. Extensibility via Open Source

To help make it easier for developers to extend capabilities of the FDO Data Access Technology, Autodesk has released FDO Data Access Technology as an open source project under the Open Source Geospatial Foundation™ (OSGeo™). This initiative enables developers all over the world to tap into powerful web mapping and geospatial data access technology and provides the following benefits:

- Ability to extend FDO Data Access Technology with new FDO Providers for data stores not currently supported
- Faster innovation of web mapping solutions
- More frequent software releases
- Lower cost of entry and ownership



Download the open source version of FDO Data Access Technology from <https://fdo.osgeo.org>.

### 9. Open to the World

FDO Data Access Technology conforms wherever possible to the evolving Open Geospatial Consortium (OGC) standards, specifically Simple Features and Web Map Services (WMS)/Web Feature Services (WFS) specifications allowing interoperability with other conforming GIS systems. This technology enables you to connect with numerous public and private data services via the Internet for up-to-date data from a variety of organizations.



### 10. Ideal for Application Developers, Independent Software Vendors (ISVs) and Solution Providers

FDO Data Access Technology enables application developers, ISVs and solution providers to free development resources from creating proprietary data store access functions to focus on developing specific business functionality. By using FDO Data Access Technology, you can develop industry focused solutions that can create, capture, and maintain data irrespective of format.



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