AUTODESK'S ENTRY INTO OPEN SOURCE

QUESTIONS AND ANSWERS FOR CUSTOMERS

MARCH 2006 UPDATE – UPDATES IN BLUE

1.0 General

1.1 What's the background?

In late 2005, several groups, developers and individuals joined together to initiate discussions around the formation of a nonprofit foundation for open source geospatial software. These discussions, with community input and involvement, resulted in an initial announcement in November 2005 and a broader announcement in February 2006 for the formation in early 2006 of the Open Source Geospatial Foundation (www.osgeo.org).

Initial foundation activities include participation from several existing open source projects, including GDAL, GRASS, MapBender, MapBuilder, and MapGuide Open Source, among others.

The foundation is a nonprofit organization whose mission is to foster and support the ongoing development and promotion of open source geospatial technologies. The foundation provides a common development environment and promotes community activities. The foundation also serves as an independent legal entity to which community members can contribute code and other resources, knowing their contributions will be maintained for public benefit.

In addition to helping organize the foundation, Autodesk has contributed their new map server product (previously code named "Tux") to the open source community as "MapGuide Open Source". The software is being made available under an open source license that benefits the open source web mapping community while balancing the business interests of Autodesk and our partners.

1.2 Why is Autodesk making MapGuide Open Source available as open source?

Our developers and customers have been demanding:

- Faster innovation of our web mapping solutions
- More frequent software releases
- Lower cost of entry and ownership

Autodesk wants to help make map serving technologies more readily available for widespread adoption. Our conclusion was that joining and supporting the existing open geospatial community and open sourcing our next-generation web mapping platform was the best approach.

1.3 Who will MapGuide Open Source appeal to the most?

We anticipate that MapGuide Open Source will be of particular interest to:

- Developer and end user organizations using proprietary web mapping technology who feel trapped or are unhappy with initial licensing and ongoing support costs
- Government agencies that are turning to, or mandated to use open source technology and are seeking a more open architecture for their geospatial solutions
- Utilities and communications companies already using Linux and other open source technology to drive down their costs
- Universities, non-profit organizations, and small businesses who can't afford commercial software.

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1.4 Is Autodesk making other software available through open source?

Yes. In addition to MapGuide Open Source, we are open sourcing:

- Our FDO (feature data objects) technology, which provides a powerful API for accessing any type of spatial information.
- Several FDO "providers" that provide access to specific files and databases such as SDF, SHP, ESRI® ArcSDE™, WFS/WMS, ODBC, and MySQL®.

We will continue to evaluate our technology portfolio for other products and components that would thrive as open source projects and benefit the broader CAD, geospatial, or civil engineering industries.

There are no plans to open source Autodesk® AutoCAD® software or other AutoCAD-based products.

1.5 Is DWF™ software also being made available as open source?

DWF™ files are vector-based files that enable you to pan, zoom, turn layers on and off, and plot from within a web browser or DWF-enabled application.

While not included as part of the open source project, the DWF format is an open format. Autodesk publishes a toolkit that allows developers to build applications that read or write multi-sheet 2D or 3D drawings in DWF format. Portions of the DWF Toolkit are also included in the MapGuide Open Source software, but the DWF format will continue to be managed by Autodesk.

The toolkit is available as a free download with a simple license for developers that want to support DWF capabilities as part of their application. For more information on the DWF Toolkit, please go to www.autodesk.com/dwftoolkit.

1.6 Autodesk has contributed MapGuide Open Source as open source. Can Autodesk ever take it back?

No. MapGuide Open Source is licensed under the LGPL (GNU Lesser General Public License). Once code is released under the LGPL, it cannot be withdrawn. Autodesk is firmly committed to the MapGuide Open Source project and has no plans to return to a closed development model for this product. Like other developers working on the MapGuide Open Source project, Autodesk expects to contribute further enhancements to the code base that will be licensed under the LGPL. See Section 7 for more details.

1.7 What's in this for Autodesk? What's the business model?

Our customers demand more frequent software releases, faster support for new standards, faster access to new data sources, and lower cost of ownership for their web mapping solutions.

By better addressing needs of these customers and the broader geospatial community, and helping the overall mapping industry grow, Autodesk hopes to increase demand for our other products used to create and manage spatial information.

Autodesk also plans to offer a commercial version of the MapGuide Open Source product with additional data connectivity options, along with a commercial version of Autodesk MapGuide® Studio. Many customers who are attracted to the advantages of the MapGuide Open Source software but prefer a commercial support model and related services, will choose the commercial version.

1.8 How does Autodesk's participation benefit the open source geospatial community?

Autodesk's participation strengthens the presence, credibility, and long term viability of the existing open source geospatial community by adding technical expertise, sponsorship and business resources to the existing effort. Organizations that may have been reluctant to implement solutions based on open source technology may now be more likely to use them.

Autodesk will cooperate with other Foundation participants to ensure the future growth and success of the open source geospatial community in response to the upcoming opportunities in the web mapping arena.

2.0 About The Open Source Geospatial Foundation

2.1 What is the Open Source Geospatial Foundation?

The Open Source Geospatial Foundation (www.osgeo.org) is an independent non-profit legal entity established to support the needs of the open source web mapping community. The Foundation will serve as an organizing body, a public technology commons, a development community manager, and event sponsor.

The Open Source Geospatial Foundation will provide a legal and administrative framework to better support the ongoing development and promotion of open source geospatial technologies.

2.2 What's the purpose of the Open Source Geospatial Foundation?

The Open Source Geospatial Foundation is a non-profit organization whose goal is to provide an organizational framework for open, collaborative development of geospatial software. The Foundation will provide organizational structure and community support, and will serve as an independent legal entity to which community members can donate code and other resources with the assurance that their contributions will be used for the public benefit.

2.3 What is Autodesk contributing to the Foundation?

Autodesk is assisting with initial funding and resources to help establish the foundation, develop an effective governance model, and provide a robust open source development infrastructure.

In terms of technology, Autodesk is making these contributions into open source:

1) MapGuide Open Source – a new web mapping platform that allows developers to rapidly develop and deploy complex and robust spatial applications.
2) Our FDO (feature data objects) technology - a powerful API for accessing any type of spatial information.
3) Several FDO "providers" – to provide access to specific files and databases such as SDF, SHP, ESRI® ArcSDE™, WFS/WMS, ODBC, and MySQL®.

3.0 About MapGuide Open Source

3.1 What is MapGuide Open Source?

MapGuide Open Source is Autodesk's new web mapping platform that allows developers to rapidly develop and deploy valuable spatial applications. It works with the latest PHP, .NET, and Java™ tools to quickly build powerful applications for Windows or Linux server environments.

Developers can also easily publish spatial views internally, over the web, or using Autodesk's DWF viewing technology for offline portability. Applications built using MapGuide Open Source give customers, internal teams, and the public a faster, easier, and more flexible way to query, analyze, and view critical spatial information.

3.2 What are some of the features of MapGuide Open Source?

MapGuide Open Source enhances users' ability to develop and deploy web-based applications that provide distributed usage of centralized spatial and design data.

MapGuide Open Source features include:

- Linux and Microsoft Windows platform support
- Server-side programming and application delivery using PHP, ASP.NET or Java/JSP
- Plug in access for new data sources without requiring a recompile of the core server
- Support for simultaneous connections (parallel or simultaneous queries) to multiple database servers, residing locally or on Unix or Windows systems accessible via the network.
- A built in access-based security model to support delivery of your data or application to authorized users only
- Scalability: Servers can be added to provide specific services, such as raster map rendering. Takes full advantage of multiprocessor architectures.
- Choice of two viewing tools supporting either vector-based or raster based maps
- Support for digitizing map features using either viewing option
- Support for portable viewing applications using "disconnected" mode
- Opportunity to customize viewing using the DWF Viewer API

3.3 Was this previously known as "MapServer Enterprise"?

Yes. The new names for Autodesk's new web mapping platform (previously code named "Tux") are:

- MapGuide Open Source: Open source version
- Autodesk MapGuide® Enterprise 2007: Commercial version
- Autodesk MapGuide® Studio 2007: Commercial authoring tool

3.4 Why did we change the name?

There are two reasons. First, the open source web mapping community voiced concern about confusion over the existing MapServer project and Autodesk's web mapping product. We listened to and responded to these suggestions.

3.5 What is Autodesk MapGuide Studio?

Autodesk MapGuide Studio is an authoring environment that handles all aspects of collecting and preparing geospatial data for distribution on the Internet. Modeled after popular web development tools, Studio provides a unified environment that enables you to rapidly create spatial applications using an intuitive and familiar interface.

Autodesk MapGuide Studio will work with both MapGuide Open Source and Autodesk MapGuide Enterprise (the commercial version).

3.6 What are some of the features of Autodesk MapGuide Studio?

Autodesk MapGuide Studio provides a developer-friendly authoring environment that puts files and resources close at hand, and provides the ability to preview the application you're creating it. Key features include:

- The ability to perform all aspects of authoring a site, from uploading data files and connecting to databases to creating maps, remotely over the web.
- Automatically create thematic rules based on attributes in the geo-spatial data.
- Preview each resource as it is being created including layers, maps, and the viewer layout.
- The ability to load a number of common file formats, including SDF, SHP, DWG, and raster.
- Intuitive .NET-compatible API to allow automation of common tasks such as load, move, rename, delete, etc.
- Management of server-side resources from altering access permissions to defining OpenGeospatial meta-data.
- Integrate business logic written in PHP, ASP.NET, or Java directly into the application and preview it within Studio.
- Create a single application that works with both the DWF-based viewer and the AJAX viewer.
- Creation and management of symbol libraries

3.7 Who can use MapGuide Open Source?

MapGuide Open Source benefits any organization that needs to integrate and distribute maps and spatial information inside or outside their organization. MapGuide Open Source helps users develop, manage, and distribute GIS (geographical information systems) and design applications on the Internet or an intranet, broadening access to crucial geospatial and digital design data.

3.8 Where can I download MapGuide Open Source and Autodesk MapGuide Studio?

MapGuide Open Source is currently available for download at http://mapguide.osgeo.org. A new preview version (March 2006) of Autodesk MapGuide Studio is available at www.autodesk.com/mapguidestudio

3.9 How can I participate in the MapGuide Open Source project?

Whether you're a software developer, a user, or just someone who wants to know what's going on, you can participate by visiting the project site at http://mapguide.osgeo.org. This site provides a framework for developers interested in joining the project and contributing to MapGuide Source. Users can submit requests and issues, or be informed of project developments or new releases. Several project-related mailing lists and discussion forums are available depending on your needs and interests.

3.10 When will a commercial version of MapGuide Open Source be available?

Autodesk plans to make a commercial version of MapGuide Open Source available in 2006.

3.11 What will the licensing and pricing be?

For new customers of Autodesk MapGuide Enterprise there will be no licensing fee but they will need to buy subscription. This will entitle them to the benefits of the Autodesk subscription program (technical support, software updates, etc.). Subscription pricing will not be announced

until closer to the product release, but it is not expected to be significantly different than current subscription pricing for Autodesk MapGuide 6.5.

4.0 About Autodesk MapGuide

4.1 How is MapGuide Open Source different from Autodesk MapGuide 6.5 software?

Autodesk MapGuide 6.5 can perform a subset of what MapGuide Open Source can. MapGuide Open Source is a different product, providing a new architecture, different programming language support and viewing options, improved data access methods, and broader platform support. Some of the notable technical differences:

- The server component of MapGuide Open Source runs on Linux as well as Windows. (Autodesk MapGuide 6.5 Server runs only on Windows.)
- Applications for MapGuide Open Source are written using PHP, ASP.NET, or Java using a new API on the web tier instead of script code that calls the Autodesk MapGuide 6.5 ActiveX control API on the client tier
- Viewing MapGuide Open Source applications is provided by a DWF-based viewer or AJAX viewer that renders raster-based maps
- Feature geometry in MapGuide Open Source is sent "across the wire" using a DWF-compatible format instead of CGM (Computer Graphics Metafile).
- Use of new FDO technology provides access to a wide and expanding set of spatial and tabular data sources.

4.2 Will Autodesk MapGuide 6.5 software continue to be available?

Yes! We have thousands of successful MapGuide customers worldwide that use MapGuide to deliver maps and design data. Although we don't currently plan to offer a successor version to Autodesk MapGuide 6.5, we do plan to continue selling Autodesk MapGuide 6.5 software and subscription. Subscription customers will continue to receive support and software updates (patches and bug fixes) if and when available pursuant to the terms of the Autodesk Subscription Agreement.

4.3 Can Autodesk MapGuide 6.5 applications run on MapGuide Open Source or MapGuide Enterprise?

No. Because of fundamental differences in the product architectures and programming environments, existing Autodesk MapGuide 6.5 applications need to be rewritten to run on MapGuide Open Source or MapGuide Enterprise. It is not possible to automatically migrate existing Autodesk MapGuide 6.5 applications to the new platform.

4.4 What resources will be available to help Autodesk MapGuide 6.5 users migrate to Autodesk MapGuide Enterprise?

To meet the unique needs of migrating existing Autodesk MapGuide 6.5 applications to Autodesk MapGuide Enterprise, Autodesk plans to make the following tools and programs available:

- **MWF/MWX and data migration tool:** This tool will enable users to convert existing map definitions to the new structure.
- **Migration guide:** To help developers migrate, this guide will illustrate how typical features are implemented in MapGuide 6.5 and how they are implemented in Autodesk MapGuide Enterprise. This will include code samples, documentation. Sample applications will also be available on-line.

- **ADN support:** The Autodesk Developer Network support team will not only support both Autodesk MapGuide 6.5 and Autodesk MapGuide Enterprise but also support developers on migration issues and implementation. This support is available to customers and partners who are part of the Autodesk Developer Network (ADN).
- **ADN training:** Two training courses are now available to ADN members: MapGuide Enterprise 2007 Migration and MapGuide Enterprise API.

4.5 How can existing Autodesk MapGuide 6.5 customers on subscription get Autodesk MapGuide Enterprise?

We want to make it as easy as possible for existing customers to move to the new platform. Current Autodesk MapGuide 6.5 customers on subscription will be able to transfer to an Autodesk MapGuide Enterprise subscription. There will be no administrative fee associated with the transfer of the subscription.

Subscription transfers will be made at the customer's request; they are not automatic. Customers can transfer their subscription at any time. If customers want to transfer during the subscription term, Autodesk will prorate the remaining value and apply this to the new Autodesk MapGuide Enterprise subscription.

Subscription pricing for Autodesk MapGuide Enterprise is expected to be comparable to that for Autodesk MapGuide 6.5. Final pricing for both new licenses and subscriptions will be available at the time of product release.

4.6 What's the difference between Autodesk MapGuide 6.5, MapGuide Open Source and Autodesk MapGuide Enterprise?

	Autodesk MapGuide 6.5	MapGuide Open Source	Autodesk MapGuide Enterprise
Operating System Support	Windows	Windows, Linux	Windows, Linux
Development Environment	Cold Fusion, JavaScript, XML	PHP, .NET, Java (JSP)	PHP, .NET, Java (JSP)
Supported Data Sources	SDF, DWG, ESRI ArcInfo Coverage, Intergraph DGN, MapInfo Interchange (.mif and .mid), ESRI Atlas BNA, Comma-separated values (CSV), Autodesk DXF™ files, Oracle, Microsoft® Access, numerous raster formats, and OLE DB– and ODBC-compatible databases	FDO Technology, basic "providers" – WFS, WMS, SDF, SHP, ArcSDE, MySQL, raster support planned	Additional FDO providers – Oracle Spatial, SQL Server, numerous raster formats
Support	From Autodesk and partners	Available from the community	Available from Autodesk and partners
Localization	English, French, Italian, German, Japanese	English, Japanese.	English, French, Italian, German, Japanese.
Viewing Options	ActiveX control, or Java-based viewer (works on Mac OS X and Sun)	DWF-based viewing of vector maps or viewing of raster maps using AJAX	DWF-based viewing of vector maps or viewing of raster maps using AJAX
Licensing/Pricing	Per server, per processor, per named user	Open source - LGPL	Commercial licensing, pricing to be announced
Authoring Tools	Symbol Manager, Raster Workshop, Dynamic Authoring Toolkit, SDF Loader	Autodesk MapGuide Studio Preview	Autodesk MapGuide Studio (available 2006)
Coordinate System Support	Coordinate System Mapping Library (CS-MAP) from Mentor Software	PROJ.4 - Cartographic Projections Library	Coordinate System Mapping Library (CS-MAP) from Mentor Software
Availability	Now	Early version available now.	In 2006

5.0 About MapGuide Open Source Licensing

5.1 What open source license covers MapGuide Open Source?

MapGuide Open Source is licensed under the LGPL (GNU Lesser General Public License). This license complies with the open source definition set forth by the Open Source Initiative and is on the Open Source Initiative's list of approved open source licenses.

5.2 Why are you using the LGPL?

We have chosen the LGPL for a number of reasons, the most important of which is that we believe the LGPL strikes the best balance between two important yet often competing goals. The LGPL gives MapGuide Enterprise users the assurance that any modifications or enhancements to the source code will remain open and freely available. At the same time, the LGPL allows commercial vendors to build and distribute proprietary applications and systems using MapGuide Open Source without any requirement that their commercial products also be licensed as open source. We believe that offering an open yet "business-friendly" license is necessary to promote the widespread adoption of MapGuide Open Source, and this is precisely why we chose the LGPL.

5.3 What does the LGPL allow me to do with MapGuide Open Source?

The LGPL allows you to use MapGuide Open Source software on a standalone basis or as a component of your applications, provided that if you link your proprietary software to MapGuide Open Source, you do so using dynamic linking. You may make unlimited copies of MapGuide Open Source and distribute unlimited copies of the software without payment of any royalties or license fees.

And, as with any open source license, you are free to make enhancements and modifications to MapGuide Open Source. The LGPL does not require you to share the source code of your enhancements unless you distribute changed versions of MapGuide Open Source to third parties. However, if you distribute your changed versions to others, you must make the changed source code available to parties to whom you distribute your changed versions under the LGPL.

5.4 Can I use MapGuide Open Source to create my own proprietary applications?

Yes. Unlike the GNU General Public License (GPL), the LGPL does not force you to open source your application just because you integrate it with code from MapGuide Open Source. If your application merely links dynamically to MapGuide Open Source software at runtime, and does not include a changed version of MapGuide Open Source, you have created what the license refers to as a "work that uses the library" and you need only comply with the requirements in Section 6 of the LGPL. Broadly speaking, this section requires you simply to give notice that your application contains LGPL code and pass along a copy of the license and a copyright notice for MapGuide Open Source.

Only if you modify the MapGuide Open Source software itself have you created what the LGPL refers to as a "work based on the library", in which case your application would have to be licensed as open source under the LGPL. The bottom line is that you never have to disclose proprietary source code that links to MapGuide Open Source if you don't want to.

5.5 How does the LGPL benefit me as a developer or end-user of MapGuide Open Source?

Apart from the clear advantages of making available free and open source code for development and maintenance purposes, the LGPL gives MapGuide Open Source users the assurance that any modifications or enhancements to the source code will also remain open and freely available. Under the LGPL, anyone that makes enhancements to the MapGuide Open Source source code is required to reciprocate by making those changes available when the code is redistributed. Some open source licenses such as the MIT or BSD licenses do not contain this reciprocity obligation.

The result is that although the software initially distributed under those licenses is open source, modified versions of that software are not required to be open source. Companies can take this software and create closed proprietary versions, or create "forks", which can result in incompatible versions of MapGuide Open Source being distributed by different vendors.

The LGPL makes it far less likely that MapGuide Open Source will be forked into incompatible versions, because no one can prevent changes from being distributed freely within the community. The LGPL thus helps to promote a single worldwide standard for MapGuide Open Source that is available to everyone for free.

5.6 May I take a portion of the MapGuide Open Source code and use it to extend and improve another application?

Yes. You may freely modify, extend, and improve the MapGuide Open Source source code, either for use with MapGuide Open Source itself or in connection with another software application, as long as your extensions integrate with MapGuide Open Source through dynamic linking. Of course, if you distribute the modifications you must comply with the LGPL's requirement that the changed source code be made freely available.

5.7 What are the terms of using the third party software included within MapGuide Open Source?

MapGuide Open Source relies on a number of third party modules that are included in the source code distribution. Many of these modules are made available under either the LGPL or under permissive, non-reciprocal open source licenses such as the MIT, BSD or Apache licenses.

The exception to this is the Berkeley DB™ XML database and XQuery query engine, which are used by MapGuide Open Source for data storage and querying. These software products are licensed under the Sleepycat Public License, which imposes certain terms on licensees who distribute applications that use Berkeley DB XML. One of these terms is a requirement that the source code of your application that uses Berkeley DB XML be included in the distribution, and that the source code be "freely redistributable under reasonable conditions." This requirement is described in more detail at www.sleepycat.com/company/licensing.html.

We have no legal authority over third party modules used in MapGuide Open Source. You should carefully read the license requirements for each of these modules and contact the respective authors for any clarification on allowed uses and requirements. For a complete listing and associated license requirements of the third party software included in the MapGuide Open Source distribution, see the "license.htm" file included in the source code.

5.8 What if I want to contribute my code to the MapGuide Open Source project?

The governance model currently being formulated by the Foundation members will define how code will be added to Foundation software projects, and what contributor agreement will be required. The Foundation will emulate other successful open source projects utilizing an active meritocracy model.

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