



**MULTNOMAH COUNTY OREGON**

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**To: Brian Smith, Manager  
Department of County Management, Central Purchasing**

**From: Sherry Swackhamer, Director  
Department of County Assets**

**Date: October 18, 2011**

**Re: PCRB Sole Qualified Contractor Exemption for the purchase of software licenses and  
maintenance/support, from Environmental Systems Research Institute (ESRI)**

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**ACTION REQUESTED:**

The Director of the Department of County Assets recommends the Board of County Commissioners' approval of a Class II Sole Qualified Contractor procurement exemption for the purchase of software licenses, with associated maintenance and support services, from Environmental Systems Research Institute (ESRI).

The basis for this exemption request is under PCRB rule 47-0275 Sole Source Procurements. The term of this exemption would be up to 5 years, from December 1, 2011 through November 30, 2016. Total expenditures over the 5 year period are unknown at this time but are estimated to be in the range of \$140,000 to \$190,000 annually and up to \$950,000 over the life of this exemption.

**ANALYSIS:**

The County owns some ESRI software licenses and has used ESRI software products for Geographic Information Systems (GIS) projects since 1999. The efficient utilization of the existing products and data requires the acquisition of compatible products. ESRI is the owner, manufacturer and sole source from which all of the ESRI software and maintenance services can be ordered.

Over the past few years, the County has expanded its awareness of the applicability of GIS data representation across several Departments. This expanded awareness has greatly increased the need for additional licenses for the ESRI GIS software products. In order to address this increased demand, the Department of County Assets Information Technology Division intends to enter into an Enterprise Licensing Agreement (ELA) with ESRI in order to allow the County the flexibility to deploy software as needed to support the GIS projects currently in development. This will allow the County to stabilize the GIS budget as the long-term enterprise GIS strategy develops.

The ELA offers numerous benefits over purchasing individual licenses. These benefits include a lower cost per unit for licensed software products, substantially reduced administrative and procurement expenses, and complete flexibility to deploy the software products when and where they are needed. In addition, the ELA includes ongoing maintenance and support of the products.

**BACKGROUND:**

ESRI is the sole domestic provider of all of the software, support and maintenance services necessary to continue to expand the County's GIS capabilities. Please see the list of actual products in the attached letter from ESRI, dated 11/7/2010 to Ms. Carrie White (Attachment 1).

The State of Oregon has established ESRI software as the Statewide Standard GIS Software pursuant to ORS 279B.075 and OAR 125-247-0275. Please see the State's sole source justification memo from the Statewide GIS Coordinator dated 7/9/08 (Attachment 2). Additionally, the State has provided an extensive rationale and plan for declaring ESRI products as the State GIS Software Standard (Attachment 3) and has promulgated OAR 125-600-7550 to govern its use (Attachment 4).



11/7/2010

Mrs. Carrie White  
501 SE Hawthorne Blvd  
Bldg 503/400  
Portland, OR 97212

Subject: ESRI Sole Source Justification for Geographic Information System Software and Maintenance

Dear Carrie White:

This letter confirms that ESRI, as owner and manufacturer, is the only source from which *all* ESRI software and maintenance services can be ordered. ESRI is the sole domestic source for the purchase of the following software licenses in the commercial, state, and local marketplace:

ArcInfo, ArcInfo Workstation extensions (ArcNetwork, ArcCOGO, and ArcScan), ArcEditor, ArcGIS Server, ArcGIS Server extensions (Spatial Analyst, 3D Analyst, and Network Analyst), ArcSDE, NetEngine, Maplex 3.x, Military Overlay Editor (MOLE), and subscriptions to the ESRI Developer Network (EDN).

ESRI is the sole domestic provider of software maintenance for all ESRI software (technical support plus ESRI software updates/upgrades) except for ArcLogistics Route, and ArcGIS Business Analyst.

ESRI distributes certain software licenses, excluding those listed above, through value-added resellers and distributors.

ESRI is also the sole source of certain proprietary training courses.

If you have further questions, please feel free to call our Contracts Department at 909-793-2853, extension 1550.

Sincerely,

Matthew Landry  
Sales Representative

## State of Oregon

To: Lena Ferris, State Procurement Analyst, State Procurement Office, Oregon Department of Administrative Services

From: Cy Smith, Statewide GIS Coordinator, Geospatial Enterprise Office Manager  
Enterprise Information Strategy and Policy Division, Dept. of Administrative Services

CC: Lori LeVeaux, Contracts Manager, Operations Division, Dept. of Administrative Services

Date: 07/09/2008

Re: Sole Source Justification pursuant to Oregon Revised Statute (ORS) 279B.075 and Oregon Administrative Rule (OAR) 125-247-0275 for procurement of an enterprise license agreement related to software products and services of the licensed system called "ESRI"

**Authority to expressly or implicitly require any product of any particular manufacturer:** Pursuant to OAR 125-247-0275.

**Authority granting ability to purchase:** Pursuant to OAR 125-246-0140.

### Background:

(a) Geospatial information – comprising any acquired agency or proprietary data with a locational component – is central to effective and efficient governance within Oregon, and is a core component of our enterprise information technology assets. The use of standardized GIS software is essential to successfully enhancing the ability of the state enterprise and individual state agencies to share and manipulate their enterprise data assets.

(b) Most executive agencies within Oregon State Government that have a need to manage geospatial information have independently selected the Environmental Systems Research Institute, Inc. (ESRI) geographic information system (GIS) software for the creation, maintenance, analysis, management, and reporting of their respective geospatial data resources. Due to the manner in which governmental agencies exercise their statutory mandates, the state's geospatial information (GIS data) and the staff expertise for manipulating those data are distributed amongst the agencies, in a large variety of databases and data repositories at many different network locations. At the same time, the mission and needs of many of those same agencies require the use of GIS data from other governmental agencies (local, state, regional, and federal), from distributed network locations, and in various formats (with varying levels of spatial accuracy, currentness, and completeness).

(c) ESRI's leadership in the realm of geospatial software development and innovation has resulted in their position as the premier provider of GIS software. ESRI's data formats (in particular, the shapefile and the geodatabase) have become industry standards, and are generally accessible to other vendors' geospatial data software. ESRI's predominance as the *de facto* GIS software standard means that Oregon governmental agencies' staff expertise, and the expertise of local and regional consultant services organizations, is concentrated in the ESRI suite of GIS software products.

(d) In 2005, a survey of state agencies was undertaken in conjunction with the development of the "Navigator" GIS Utility business case. That survey reported that 29 state agencies use (or have used) ESRI GIS software, and that at least 3 agencies additionally use non-ESRI GIS software. The following agencies, in no particular order, have reported their use of ESRI software:

- Department of Human Services, including the Office of Health Policy & Research
- Oregon University System, including Oregon State University, the University of Oregon, Portland State University, and Oregon Institute of Technology
- Oregon Department of Transportation
- Oregon Employment Department
- Oregon State Police

Department of Fish and Wildlife  
 Department of Revenue  
 Oregon Department of Forestry  
 Department of Administrative Services  
 Department of Environmental Quality  
 Oregon Department of Agriculture  
 Oregon Water Resources Department  
 Department of State Lands  
 Department of Land Conservation & Development  
 Oregon Military Department, including Oregon Emergency Management  
 Department of Corrections  
 Public Utilities Commission  
 Legislative Administration  
 Secretary of State  
 Department of Energy  
 Oregon Parks & Recreation Department  
 Department of Consumer & Business Services  
 Oregon Progress Board  
 Oregon Watershed Enhancement Board  
 Department of Geology & Mineral Industries

(e) Based on GIS software licenses known to be held by state agencies, a conservative estimate of ESRI GIS software maintenance costs alone account for an estimated \$300,000 investment each year by Oregon state agencies. This amount does not include any additional purchase/procurement costs that might be incurred to acquire additional software licenses, any software upgrades that are not covered by a maintenance agreement, or any specialized training or software support services that an agency might obtain.

#### Findings:

(a) Pursuant to ORS 279B.075 (2) (a), the efficient utilization of existing goods requires the acquisition of compatible goods or services from only one source.

The State of Oregon has been a significant partner in the development and use of GIS software tools since the mid-1980s, when the Oregon Department of Energy first licensed their use of ESRI's ArcInfo software. In the intervening 20+ years, ESRI software tools and data structures have profoundly guided the technical infrastructure and computing environments for many state agencies. This suite of software underpins the functionality and enterprise architecture of the Oregon Geospatial Data Clearinghouse, which is hosted at the State Data Center and managed by the Geospatial Enterprise Office within the Enterprise Information Strategy and Policy Division of the Department of Administrative Services. This significant existing investment in geospatial information technology supports the storage, manipulation, analysis, and management of, and distributed access to, shared enterprise geographic information, even though those data were developed, and are being maintained and used, by individual state agencies to support their separate legislative mandates. As the framework geospatial data for developing thematic data sets within individual agencies, these standards-oriented, enterprise data themes and layers are central to the functioning of Oregon government as a single, integrated operation, as envisioned and articulated by the Governor, the DAS Director, and the State Chief Information Officer. The purpose of the Oregon Geospatial Data Clearinghouse and its Spatial Data Library, and a key reason for declaring ESRI's GIS software as the Oregon standard GIS software, is to facilitate the creation and sharing of these framework geospatial datasets, to minimize the need for regular "extract, transform, and load" (ETL) processing, and to eliminate the redundant development, storage, and distribution of these same geospatial datasets by individual agencies across Oregon.

According to a survey conducted by the Oregon Geographic Information Council's Technical Advisory Committee in 2004 and updated in 2006, approximately 90% of spatial data activities (including data creation, maintenance, distribution, and access) in Oregon state and local government agencies involve the use of licensed ESRI software tools for geospatial data development, processing, analysis and distribution on the Internet.

Additionally, there are significant technical benefits to be realized through the procurement of an enterprise license agreement for GIS software tools with ESRI. These benefits include: simplification of training for professional IT and GIS staff, primarily garnered through the re-use of granular programming coding objects, which form the

foundation of embedded GIS business intelligence in spatially-enabled database structures; the ability to leverage the State's existing substantial investment in a service-oriented architecture for the provision of spatial analysis and GIS data distribution through the NavigatOR portion of the Oregon Explorer Portal; and improved interoperability at the level of database design, implementation, and business continuity.

Finally, ESRI is the sole owner and manufacturer of ESRI licensed software per their letter of [FILL IN DATE] to the Oregon Statewide GIS Coordinator. ESRI is also the sole domestic provider of software maintenance for all ESRI software (technical support plus ESRI software updates and upgrades).

(b) Pursuant to ORS 279B.075 (2) (b), the goods or services required for the exchange of software or data with other public or private agencies are available from only one source.

All agencies throughout the enterprise of state government in Oregon develop and/or share geospatial information in support of their missions and mandates. A standard suite of GIS software will allow them to share data easily and efficiently, without the need for difficult, costly and often inadequate data translation procedures. The current industry-standard "exchange" format for simple GIS datasets is the ESRI shapefile, which is able to be read and created by virtually every GIS application software suite. However, it is a functionally limited exchange format. By design, it cannot manage the relationships of points, lines, and polygons in a single shapefile because it has sacrificed a key spatial relationship – topology – in order to be simple, and it incidentally enforces the 8.3 file-naming convention (a significant limitation in current computing environments). Other ESRI GIS data formats (including the geodatabase and the coverage) and middleware (ArcSDE, which provides a spatial operations interface between GIS software tools and the relational database management software within which spatial attributes are stored and managed) are proprietary, but are nonetheless in widespread use throughout Oregon government agencies. Since there is no other software that can produce data in those native ESRI formats, nor is there a willingness on the part of agencies to convert their legacy spatial data into a different (unspecified at this time) format, for the foreseeable future the ESRI suite of GIS software is required to generate, maintain, and manage the vast majority of GIS datasets for the State of Oregon.

(c) Pursuant to ORS 279B.075 (2) (d), there exist the following findings to support the conclusion that these specified software goods are available from only one source.

Signed statement from ESRI (copy attached) confirming that:

ESRI, as owner and manufacturer, is the sole source provider of the following software products in the commercial, state, and local government marketplace:

ArcGIS ArcInfo, ArcGIS ArcEditor, ArcGIS Server, ArcGIS Server extensions, NetEngine, Production Line Toolset (PLTS) for ArcGIS (including PLTS Foundation and PLTS Solutions), Map Production System Atlas, Maplex 3.x, Military Overlay Editor (MOLE), ArcGIS Image Server, the GIS Portal Toolkit, certain proprietary training courses, and subscriptions to the ESRI Developer Network (EDN) and MapStudio.

ESRI distributes certain software licenses, *excluding those listed above*, through open-market, value-added resellers and distributors."

ESRI is the sole -source provider of software maintenance (annual renewal of technical support plus ESRI software updates/upgrades) for *all* ESRI products except ArcLogistics Route and ArcGIS Business Analyst."



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## **Rationale and Plan for Declaring ESRI Products as the Statewide GIS Software Standard**

### **RATIONALE**

The use of common GIS software is essential to successfully enhancing the state enterprise's ability to share and manipulate its enterprise data assets in the most efficient and effective means possible. Geospatial information – any dataset with a locational component – that is collected, maintained, analyzed, and/or distributed in support of the business of state government is central to the idea of enterprise information technology. Due to the manner in which governmental agencies exercise their mandates, the state's geospatial information (commonly referred to as "GIS data") and the staff expertise for manipulating those data are distributed amongst the agencies, in a large variety of databases and data repositories at many different network locations, and they are managed for different end uses using distinctive hardware and software solutions. At the same time, the mission and needs of many of those same agencies require they use GIS data not only from their own agency and data structures, but they also must draw GIS data and information from other governmental agencies (local, state, regional, and federal), from distributed network locations, and in various formats (with varying levels of spatial accuracy, currentness, and completeness).

### **Stakeholders' Existing Investment**

To address, in part, the complexities of communicating about, and funding, major data acquisition efforts, the Oregon Geographic Information Council (OGIC) was created by the Governor with Executive Order 00-02. The Council is comprised of agency directors (or their designee) with a direct business need for geospatial datasets, and is charged with guiding the efficient acquisition, management, and distribution of enterprise geospatial data.

Most state agencies in Oregon, as well as many local, regional, and federal agencies, have independently selected ESRI GIS software for the creation, maintenance, and management of their geospatial data resources, establishing ESRI's suite of GIS software products as a *de facto* GIS software standard in Oregon. According to a survey conducted by OGIC's Technical Advisory Committee in 2004 and updated in 2006, approximately 90% of spatial data activity (including data creation, maintenance, distribution, and access) in Oregon state and local government agencies involves ESRI software products for geospatial data development, processing, analysis and distribution on the Internet. ESRI's data formats (in particular, the shapefile and the geodatabase) have become industry standards, and are generally accessible to other vendors' geospatial data software. ESRI's predominance as the *de facto* GIS software standard also means that Oregon governmental agencies' staff expertise, and the expertise of local and regional consultants, is concentrated in the ESRI suite of GIS software products.

The ESRI suite of GIS software forms the technical architecture and computing platform for the Oregon Geospatial Data Clearinghouse, which is hosted at the State Data Center and managed by the Geospatial Enterprise Office within the Enterprise Information Strategy and Policy Division of the Department of Administrative Services. This significant existing investment in geospatial information technology supports the storage, manipulation, analysis, and distributed access for shared enterprise geographic information that has been developed, and is being maintained and used, by state agencies to support their individual legislative mandates. As the framework geospatial data for developing thematic data sets within individual agencies, these standards-

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oriented, enterprise data themes and layers are central to the functioning of Oregon government as a single, integrated operation, as envisioned and articulated by the Governor, the DAS Director, and the State Chief Information Officer. The purpose of the Oregon Geospatial Data Clearinghouse and its Spatial Data Library, and a key reason for declaring ESRI's GIS software as the Oregon standard GIS software, is to facilitate the creation and sharing of these framework geospatial datasets, to minimize the need for regular "extract, transform, and load" (ETL) processing, and to eliminate the redundant development, storage, and distribution of these same geospatial datasets by individual agencies across Oregon.

All agencies throughout the enterprise of state government in Oregon develop and/or share geographic information in support of their missions and mandates. A standard suite of GIS software will allow them to share data easily and efficiently, without the need for difficult, costly and often inadequate data translation procedures. Alternatively, all agencies could agree to implement a common data format that all existing and future GIS software would be able to utilize. To be clear, the State of Oregon's Framework Implementation Team effort is simultaneously pursuing this direction, but the time-cost of that effort is substantial. The current industry-standard "exchange" format is the ESRI shapefile, which is recognized and able to be created by virtually every GIS application software suite. However, it is also a functionally limited exchange format. Since it intentionally cannot relate points, lines, and polygons in a single shapefile, it has sacrificed a key spatial relationship – topology – in order to be simple, and it enforces the 8.3 file-naming convention (which is a significant limitation in current operating systems). Other ESRI GIS data formats (including the geodatabase and the coverage) are proprietary, but are nonetheless in widespread use throughout Oregon government agencies. And since there is no other software that can produce data in those native ESRI formats, nor is there a willingness on the part of agencies to convert all of their legacy spatial data into a different (unspecified at this time) format, it makes sense to use the ESRI GIS suite of software to generate, maintain, and manage GIS datasets rather than forcing additional translation processes to happen.

A survey of state agencies undertaken last year for the GIS Utility business case indicates that 29 agencies use ESRI software, and that at least 3 agencies use some other GIS software in addition to ESRI.

The following agencies reported their use of ESRI software:

Department of Human Services	Department of Agriculture
Oregon State University	Water Resources Department
University of Oregon	Department of State Lands
Portland State University	Dept. of Land Conservation & Development
Department of Transportation	Office of Emergency Management
Employment Department	Military Department
State Police	Department of Corrections
Department of Fish and Wildlife	Public Utilities Commission
Department of Revenue	Office of Health Policy & Research
Department of Forestry	Legislative Administration
Department of Administrative Services	Secretary of State
Department of Environmental Quality	Department of Energy



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Parks & Recreation Department  
Department of Consumer & Business Services  
Oregon Progress Board

Watershed Enhancement Board  
Department of Geology & Mineral Industries

Based on license estimates compiled from ESRI and state agencies, GIS software maintenance costs alone account for an estimated \$500,000 investment in information technology each year in Oregon state government. This does not include the additional costs incurred to acquire new licenses or software upgrades that are not covered by a maintenance agreement. The business case also conservatively estimated that state agencies collectively spend approximately \$2.3 billion annually on geographic information collection, management, and use, which amounts to about 10% of the total budget for state government. Geographic information is any data with a locational component, like an address, a tax lot ID, or a milepost. Local governments (cities and counties) spend approximately \$2.6 billion annually on geographic information collection, management, and use, or about 18% of the total annual budget for local government.

#### **Expected economic benefits**

By declaring the ESRI suite of software to be the Oregon GIS application software standard, we will be in a position to negotiate an enterprise license agreement with more favorable terms than any individual agency could receive on their own. As a component of the total cost of ownership for geospatial information technology, this translates to a benefit (lowered cost of software acquisition, maintenance, and support), which is not possible in the absence of a declared standard. It is also possible that cost reductions (benefits) will be realized through the streamlining of decision-making related to purchasing geospatial software. We expect that technical support for software (including version control, database expertise, and application functionality) will be simplified – and in some cases present for the first time. Fewer primary licenses should be needed at each agency, and a distributed pool of geospatial processing expertise should be available through the simplified communications required due to having a single proprietary software for Oregon agencies.

The City of Portland acquired an enterprise license for ESRI software about 10 years ago. They recently negotiated the third term for that license. That license provides access to any ESRI software product in any amount needed for any unit of Portland city government. To initiate the license negotiation with ESRI, they estimated the amount of ESRI software they expected to use over a three year period. The original cost of their license was based on the annual maintenance fees they would normally pay ESRI for that amount of software, less 30%. If we are able to negotiate a similar deal with ESRI for an enterprise license, and there is every indication we will be able to do so, that would represent an overall savings for state government of about \$300,000 in maintenance fees per year, based on an expected doubling of the amount of ESRI software used in state government over the period of the first three years license. The cost of that much additional software would be about \$2 million, so the actual savings could be said to be \$2.9 million over 3 years. Portland also negotiated a 15% cap on the increase in maintenance costs that ESRI could charge for additional license periods and we would expect to do the same, which would result in further savings in the future.

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**Expected technical benefits**

Technically speaking, there are both generic and software-specific aspects to the establishment of an enterprise software standard. Generically, the use of a single software supplier allows information technology professionals to focus their deployment, development, maintenance and architectural efforts. Complex software systems, like those that comprise a geographic information system, require careful attention to the details of network optimization, software compatibilities, data security, and interoperability.

As has been discussed elsewhere, federal, state and local agencies in Oregon have already overwhelmingly selected ESRI's suite of GIS software as the preferred GIS solution to their statutory and business mandates that concern geospatial information and application. Outlined below are several complementary technical issues that support the declaration of ESRI's software suite as the GIS software standard for Oregon.

**Hardware** – physical aspects of a GIS (includes desktop computers, servers, mobile assets, etc.)

A single software solution simplifies configuration and architecture investments. A completely unique design and deployment does not have to be executed each time GIS applications are envisioned. Additionally, the hardware components will be familiar to staff who must deploy them, which will make it easier to deploy optimized configurations, based on shared experiences internally within agencies and externally between agencies.

**Staff** – the human aspect of a GIS (includes data collectors, analysts, managers, and IT support personnel)

A single training regimen can be utilized, which allows training and skills development to be streamlined and efficient. Extensive University-based training and support for ESRI software already exists across Oregon. A single training regimen would be particularly valuable for:

- .NET – Windows-based application and web development environment
- ArcObjects – granule coding objects containing GIS “business intelligence” (GISBI) that are redeployable throughout the enterprise for:
  - Customization/productivity tools - Portland Enterprise GIS Hub (EGH) experiences
  - Enterprise data maintenance applications - Portland EGH experiences

Skill sets are more interchangeable and can be developed at one agency and shared at other agencies more easily. This will greatly streamline application support across state government. Limiting software versions and upgrades to one software vendor will allow for better scheduling and control, which will simplify software maintenance and deployments. Experiences and skill sets from one agency can be shared more easily during application deployments if the software platform and GISBI are readily shareable.

The extensive availability of ESRI Business partners, consulting services, and trained DBAs and programmers (web and software) for .NET and ArcObjects development is a definite advantage.

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### Network

There are a variety of advantages related to the network from having a single vendor environment for GIS. A single software environment simplifies connectivity, security, and data distribution architectures for applications like the imagery portal that is currently being developed. A redundant server configuration at the State Data Center, for business continuity purposes and to serve larger volumes of requests, is simplified by using ESRI as the single architectural model. A single software environment enables network traffic to be more easily optimized through data and use analyses. After identifying who should have access to data and what data they should be allowed to access, a single software environment more easily enables authentication to provide or prevent access to data and/or servers as appropriate.

The "Service-Oriented" architecture being developed and maintained by GEO, for such applications as a geocoding engine, a transportation routing application, and a cartography tool, relieves network and server architectures deployed by individual agencies.

Geodatabase deployment via servers connected by the network will enable:

- A data mart or centralized repository, regularly synchronized with satellite data servers as envisioned in the navigatOR strategy for the Regional GIS Service Centers in rural areas.
- Separate geodatabases using standard data configurations, accessed as needed through network and user authentication, as needed for data stewards

Finally, a single vendor environment will better enable transparent application integration via the network - Portland EGH experiences.

### Data

Enterprise data assets and the software code to manipulate them can be more easily shared among enterprise participants and with the public (as appropriate) through the Web, based on the standardized data models in the ESRI software environment - Portland EGH experiences.

Data maintenance activities will utilize the GISBI contained in the spatial objects and the geodatabase itself to make data edits more efficient by enabling simultaneous layer editing. Standard GIS software will nearly eliminate the need for costly data translations between GIS software platforms, and will allow the creation of sophisticated applications that will leverage the geodatabase.

With a standard software platform, it will be far simpler to develop and implement data standards. Framework data assets, as defined nationally, regionally, and at the state-level, will be easier to specify and deploy across governmental levels.

A standard GIS platform will allow mobile spatial devices to readily synchronize with data storage and data maintenance hardware and software systems that are deployed across the State, especially in emergency response situations when time is critical.

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Interoperability

A single software environment will enable improved interoperability on several levels:

At the database level, there will be simplified development and extension of architecture investments (table structures and entity-relationships), including "save as..." operations. There will also be simplified standards development and implementation (OGC and/or Oregon-based).

At the application level, ETL services, when required, can be implemented via Web services. Interoperable code can exist to enable this at the web server and/or at the application server. The ability will also exist to wrap/combine/re-use client and server application development efforts.

Programming code reusability is a primary outcome of a single software environment. Desktop applications will be able to reuse Python, PERL, and VBA code. Web and enterprise applications could reuse .NET code. There will also be the ability to share data models between applications, whether at the desktop or server level, (e.g., point analysis developed for DEQ could be reused by ODF/ODFW/ODOT/etc).

## GIS SOFTWARE STANDARD

OAR 125-600-7550

### Enterprise Geographic Information System (GIS) Software Standard

(1) **Purpose.** The purpose of this rule is to establish a common, enterprise GIS Software standard to promote the creation, use and exchange of inter-related and standards-based geographic data and geospatial business intelligence within and between state agencies. The objective of this standard is to provide a common geospatial software and data framework underpinning all future computer applications containing geospatial components thus increasing the value and use of those applications as state information technology assets. The GIS Software standard will also allow the State of Oregon the opportunity to leverage the buying power of the broadest possible user base. The GIS Software standard is anticipated to enable the most integrated, economic and efficient acquisition, installation and use of GIS across Oregon state government. These outcomes will be made possible through the:

- (a) Current installed base of GIS software and trained expertise within state agencies.
- (b) General technical benefits associated with the use of standardized software, including but not limited to:
  - (A) Simplified software and application infrastructure configurations.
  - (B) Ease of software installations and upgrades.
  - (C) Simplified application connectivity, security and data distribution architectures.
  - (D) The capacity for simultaneous multi-user editing, dataset versioning, and history retention.
  - (E) The ability to utilize existing geospatial business intelligence to ensure data integrity and consistency via the establishment of topology rules, data attribute domain rules, and data validation rules.
- (c) Enterprise-oriented data and application accessibility offered by the use of common GIS software deployed across state agencies.
- (d) Enhanced functionality and interoperability of related software components within a suite of software applications including the reduction of costly data translations between diverse software products and the ability to leverage data modeling and processing efforts for reuse between agencies.
- (e) Ease of sharing geospatial data among agencies and with the public based on a common GIS software infrastructure.

(2) **Definitions.** For the purposes of this rule:

- (a) "GIS" means geographic information systems which comprise the hardware, software, network, data, and human resources involved in creating, maintaining, managing, and distributing data, information, and knowledge about spatial objects and their relative positions.
- (b) "GIS Software" means computer-language coding created specifically to facilitate the creation, management, distribution, accessibility, and promulgation of Spatial Data. For the purposes of this

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rule, "GIS Software" does not mean computer-language coding used for the purposes of computer aided design (CAD), simple address list management or similar business processes unless the purpose is to establish inter-agency Spatial Data.

(c) "Spatial Data" means digital information that identifies the geographic location of features and boundaries that are usually stored as coordinates and topology that can be mapped or used for comparative spatial analysis.

(d) "State Agency" or "Agency" means every state officer, board, commission, department, institution, branch or agency of the state government, whose costs are paid wholly or in part from funds held in the State Treasury, except:

(A) The Legislative Assembly, the courts and their officers and committees;

(B) The Public Defense Services Commission;

(C) The Secretary of State and the State Treasurer in the performance of the duties of their constitutional offices;

(D) The State Board of Higher Education or any state institution of higher education within the Oregon University System; and

(E) The State Lottery.

(3) **Standard.** To achieve the purposes described in section (1) of this rule the standard for GIS Software for Oregon state agencies is the scalable suite of Environmental Systems Research Institute, Inc (ESRI) software applications:

(a) Deployed at the desktop, server, or web interface levels and designed to enable the creation, manipulation, management, storage and distribution of digital maps, digital spatial objects and any associated spatial tabular databases; or,

(b) To manage shared spatially-referenced information.

(4)(a) **GIS Software Inventory.** All state agencies shall inventory and report use of all GIS Software in the format and at the time established by DAS Enterprise Information Strategy and Policy Division (EISPD). Upon conclusion of the inventory the exception process described in subsection (5) of this rule becomes effective.

(b) **Continued use of existing, installed, non-standard GIS Software declared in inventory; assumed exception.** Agencies currently using non-standard GIS Software described by the agency in the inventory required by subsection (a) of this section will be granted a written exception to the enterprise GIS Software standard until such time as any of the conditions described in section (5)(d) of this rule occur.

(5)(a) **Exception.** Notwithstanding the enterprise GIS Software standard established in subsection (3) of this rule, the State Chief Information Officer (CIO) or their designee may grant a written exception to an agency to the GIS Software standard.

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(b) **Considerations for evaluating an agency exception request.** Considerations to be weighed by the State CIO or their designee in evaluating an agency request for an exception to the GIS software standard include, but are not limited to:

- (A) Agency business rationale for use of non-standard GIS software;
- (B) The degree to which the requested non-standard use of GIS software would materially inhibit the state from ensuring that its information resources fit together in a statewide system capable of providing ready access to and sharing of information, computing or telecommunication resources;
- (C) The degree to which the requested non-standard use of GIS software would interfere with the state's goal of acquiring and using enterprise information technology resources in the most integrated, interoperable, efficient and economical manner possible; and
- (D) Other factors deemed to be relevant to consider by the State Chief Information Officer (CIO).

(c) **Agency Exception Request.** An agency may be granted an exception to the GIS Software standard by submitting a written exception request to DAS EISPD. An agency exception request must address each of the considerations described in subsection (b) of this section and contain the facts base necessary to justify agency conclusions.

(d) **Conditions requiring agency to submit an exception request.** An agency must submit a written agency exception request to DAS EISPD when the any of the following conditions arise:

(A) **Use of excepted, non-standard GIS Software evolves over time.** Any agency using excepted, non-standard GIS Software must submit a request to continue that exception whenever agency's use of the non-standard GIS Software is anticipated to change. Changes include, but are not limited to:

- (i) An expansion of the number of software licenses used within the agency.
- (ii) Changing the license management system from desktop-oriented to network-oriented use.
- (iii) Changing the software use model from a desktop to a client-server orientation.
- (iv) Supplementing the existing GIS Software use with a web-based application for functionality, data creation, data sharing, or map product distribution.

(B) **Initial acquisition of non-standard GIS Software.** Before initial acquisition of non-standard GIS Software an agency must request an exception to the GIS Software standard.

(C) **Non-standard GIS Software used for documented research or instructional purposes.** Before initial or expanded use of non-standard GIS Software for research or instructional purposes an agency must request an exception to the GIS Software standard. A single exception request from an agency should be sufficient to cover all research and instruction conducted by any division, unit, or individual of that agency.

(e) **Emergency exception.** Notwithstanding the exception request process described in subsections

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(c) and (d) of this section, the State CIO may waive some or all of the requirements for written submission of an agency exception request when immediate action is required to address an agency's emergency need to use non-standard GIS Software.

(f) **Reconsideration.** An agency may request reconsideration of a denial of a GIS Software standard exception request by submitting a subsequent request in writing to the State CIO containing additional supporting information that was not included in the original exception request.

(6) **Biennial Review.** At least once every two years the State CIO must issue a written report to the Oregon Geographic Information Council regarding the efficacy of the GIS Software standard and its accomplishment of the purposes described in subsection (1) of this rule.

Stat. Auth.: ORS 291.038

Stats. Implemented: ORS 291.038