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GIS Application Standards

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Purpose

The DOTD IT GIS Unit has implemented the following standards to ensure interoperability of information systems, databases, data collection platforms, and all other IT services. The standards apply to all applications implementing GIS, GIS-related functionality, or accessing and consuming geospatial data and services. Any GIS application developed for DOTD must comply with these standards or have specific, written exemption from the DOTD IT GIS Manager. Meeting these standards will ensure that contractors' and developers' work will be compatible with the existing DOTD IT infrastructure. Contract deliverables that do not comply with these standards cannot be assimilated into the DOTD IT infrastructure. In addition, applicable DOTD IT and State of Louisiana, Office of Information Technology standards also apply.

All software must be developed and delivered using the software and version anticipated to be in production at DOTD, on the anticipated data of completion of the contract. Software versions are subject to change, based on vendor/industry practices and will be negotiated at the time of the contract. Details on software and versions are available, upon request, from the IT GIS Manager.

All applications developed and/or hosted off-site, must adhere to these requirements, before they can be migrated into the DOTD IT system. This is necessary to eliminate silos and promote system and data interoperability.

Implementation of Applications

All contracts involving software development for DOTD must include an implementation and maintenance plan that addresses the following:

1. Identify the DOTD business unit responsible for designating a manager for the system, with responsibility for:

    a. System requirements
    b. User access rights
    c. Data input and update
    d. Software updates
    e. Other system maintenance

2. A software/system maintenance agreement with the contractor that ensures:

    a. The vendor's software will be kept compatible with the current base technologies upon which it is built, including:

        i. Operating system
        ii. GIS software
        iii. Database software
        iv. Data collection devices (if system includes data collection devices)
        v. Other required software and devices

    b. Technical Support and Troubleshooting

        i. Technical support service e-level agreement
        ii. Troubleshooting/bug-fix service e-level agreement

    c. Training

        i. User training plan
        ii. Support staff training plan

Development Standards for DOTD GIS Web Applications:
All applications will be developed to be developed in the software and hardware versions anticipated to be in production at the time of contract delivery. As a project proceeds, it is the contractor's responsibility to work with DOTD to ensure that the application will be delivered in a form that uses the technology in production at the termination of the contract.

- Web applications must be compatible with the ESRI ArcGIS® Desktop GIS software standard at DOTD

- Microsoft Windows Server with Internet Information Services (IIS) is the web hosting standard for DOTD GIS

- Microsoft Visual Studio is the GIS application development environment standard for DOTD

- All Visual Basic code modules need option *STRICT* and option *EXPLICIT* enabled

- Applications must be delivered in the form of a Visual Studio, non-compiled solution including licensed copies of all dependent libraries and becomes the property of DOTD

- Applications must use the ArcGIS JavaScript API to implement GIS User Interface (UI) components.

Software Standards for DOTD GIS Non-Web Applications:

Any ArcGIS Desktop add-ins, extensions, or stand-alone applications must be developed using the appropriate version of Python or other language, with written approval, in advance from the IT GIS Manager (details available upon request).

Database Standards for DOTD GIS Applications:

DOTD enterprise geodatabases operate on IBM DB2® and Microsoft SQL Server® as the underlying relational database. A large volume of data are also maintained in mainframe DB2 databases.

Resources Available to DOTD GIS Contractors

DOTD will provide contractors and developers with style sheets, GIS data, and other resources and information upon request.

For further information contact the DOTD IT GIS Unit