



Monitoring Your Spatial Enterprise:

How IT/GIS Managers are Improving
System Reliability with XMF Alerter.

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Overview

IT/GIS managers in both the public and private sector are facing ever-increasing pressure to deliver IT services to employees and the public more efficiently. Correspondingly, optimizing the up-time and maintaining access to GIS data has become a primary interest of many GIS managers. With the deployment of Internet mapping applications in the late 1990's and early 2000's such as Environmental Systems Research Institute's (ESRI®) ArcIMS® software, online spatial data applications have become a key component in the way organizations conduct their business and communicate with the public in many industries. Online GIS components have leveraged increased capabilities to add value and integrate with work processes and enterprise data management systems and software. Access to GIS data and decision-making support has become "mission-critical" for organizations around the world.

The delivery of online mapping applications for private and public use is typically dependent upon on a complex system of communication between multiple layers of hardware and software across the network. The lack of real-time notification of system or application failure can cause loss of revenue, loss of customers, lowered confidence in the company or agency delivering online services and increased costs associated with responding to service outage.

Fortunately, monitoring software for your spatial enterprise is available to help your IT department handle GIS systems and services more proactively. XMF Alerter is able to deliver real-time notification (even to remote, mobile IT/GIS managers), quickly identifying failure points in the GIS enterprise. In addition, a logging history is available for ongoing

performance evaluation of your system which can dramatically improve your GIS application performance and management over time.

This white paper will examine the role of GIS in the enterprise, identify the key elements of a GIS monitoring system, and identify the advantages of such a system.

The Enterprise GIS Challenge

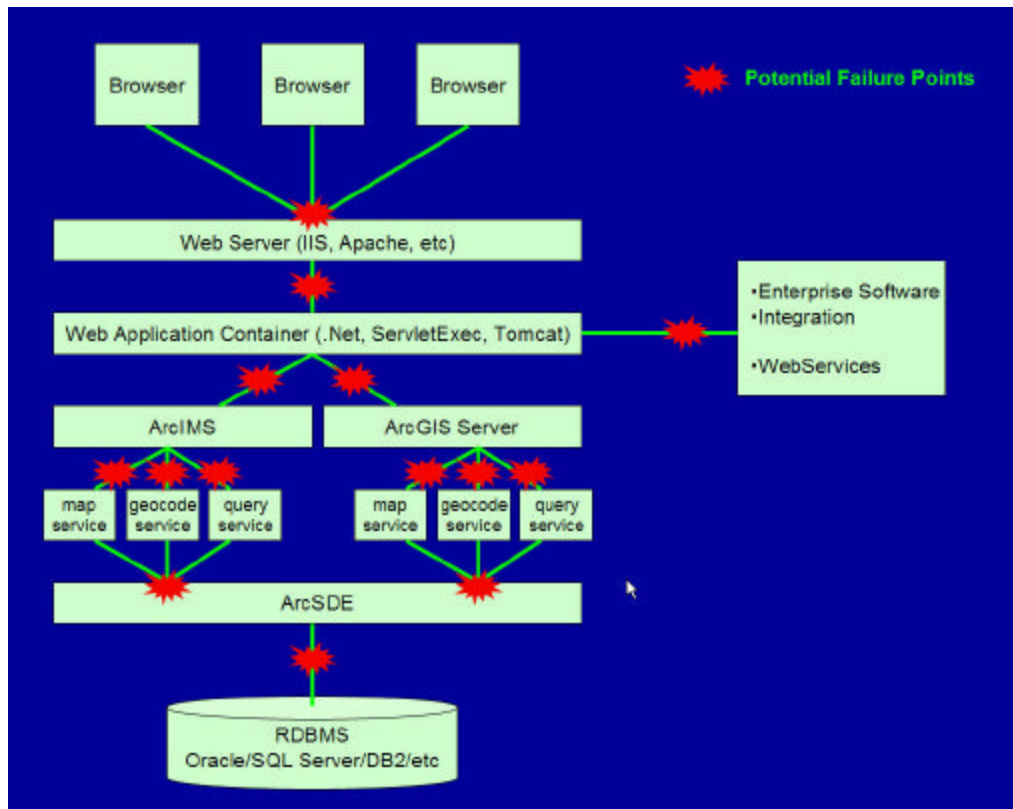
GIS is a key part of the larger transformation of enterprise data management that large organizations are experiencing around the world. Remote, mobile customers and employees are testing the limits of application delivery across the enterprise. Globalization and business unit or departmental consolidation have encouraged organizations to reconsider the ways to centralize company data management activities, improve data sharing, work processes, data collection from the field, and quality control. All these activities focus on improving users' ability to do their job more effectively and efficiently.

Organizations and companies that are facility, infrastructure or land information centric have benefited by integrating GIS applications as part of the overall enterprise solution. Industries such as power generation, power distribution and transmission, oil & gas, transportation and others have all made GIS a part of an



overall enterprise business plan.

In today's complex IT environment, every IT professional knows that it is not a question of if, but when applications fail. Internet and intranet GIS applications are no exception. As part of a larger, complex information management system GIS data is as susceptible to downtime as other information management components. While servers and network systems have had sophisticated enterprise monitoring systems for years, GIS is a unique technology that has not had enterprise monitoring until now. The figure below illustrates the often misunderstood/unknown failure points in an online GIS system.



Role in Customer Service

GIS plays a key role in communicating with customers. Many counties and cities across the country now offer online mapping applications to the public to provide parcel, zoning, floodplain, development review notification and other land base information services. On-going programs in photogrammetric aerial photography and other geographically-related data collection produce data that is available for online download. An example of the public's dependence on online GIS mapping is Wyoming Department of Transportations online Wyoming Road Report that has received over 1 million hits per day to its map-based road report during severe weather conditions. WYDOT manages road condition and other transportation information throughout the State including two main transportation arteries – I-25 and I-80. To give you an idea of the financial impact of good transportation management – WYDOT estimates that the State of Wyoming loses over \$1 million/hr in revenue when I – 80 is closed due to weather.

Increasing Use of GIS

Demand for online mapping and analysis continues to increase. Large, intergovernmental (city/county) GIS agencies are annually increasing Internet applications, services and downloadable files to keep up with 20% annual increases in Internet GIS user demand. This increased usage of GIS data further raises the expectations of users for uninterrupted, consistent service.

Role in “Mission Critical” Work Management

Cities, counties and private companies across the US have integrated GIS technology as a key part of their work management systems.



ESRI GIS technology, maintenance management

systems (MMS) such as Maximo, Infor DataStream and Synergen, and in some cases wireless networking provide the backbone for city infrastructure management. Many cities use ArcIMS and MMS to support planning and scheduling of work for facilities field crews. No longer dependent on out-of-date and cumbersome paper maps for locating and fixing critical infrastructure city crews now access GIS map and textual data via city Intranet to identify features, review “as-built” information and determine scope of repair work. In these cases, and in many more across the country if the mapping component goes down, there is potential for lost productivity, inefficient scheduling, service disruption, outages, and impacts to emergency response capabilities.

The Solution

Designed to instantly add value and visibility to your IT/GIS systems, geoXMF’s XMF Alerter seamlessly integrates into your existing spatial enterprise to help you understand and proactively respond to system performance issues. Gone is the situation where end-users are notifying the IT/GIS experts that a critical application or service is down. Because XMF Alerter monitors every aspect of the GIS service being provided

IT/GIS managers are the first to know when system failures happen and can minimize impact to the organization and accelerate problem resolution.

XMF Alerter delivers a complete, flexible and user-configurable performance monitoring and notification solution for GIS applications. Features of the system include:

- ◆ **Testing** – XMF Alerter continually tests ArcIMS Spatial server, ArcGIS Server and ArcSDE and database services. How often services are checked is user definable.
- ◆ **Detection** – XMF Alerter detects failures by examining response or connection failures. Managers can configure failure tolerances for each map or database service being monitored.
- ◆ **Notification** – XMF Alerter notifies IT/GIS managers in one or all of the following ways – email notification, cell phone text message, and dashboard view on the desktop.
- ◆ **Resolution** – XMF Alerter rechecks failed services to determine if the system recovers and the problem is self-resolved. If so, XMF Alerter sends notification of this fact.
- ◆ **Logs** – XMF Alerter monitors services and creates performance history logs that can help IT/GIS managers understand performance over time and tune the system for optimal performance.

Benefits

XMF Alerter offers the following unique benefits for IT/GIS professionals:

- ◆ **Real-time failure notification:** XMF Alerter constantly monitors ArcIMS and ArcGIS map, image and database services and contacts you immediately when performance failure tolerances are exceeded. XMF Alerter sends cell phone text, email messages and displays failure status on the desktop dashboard. As a result, you do not have to rely on end-users to tell you your Internet map services are down – you are already aware of the problem and are proactively delivering a solution. With that performance assurance managers are freed up to tackle larger issues in the IT/GIS space.
- ◆ **Comprehensive monitoring solution:** XMF Alerter gives you the ability to monitor other systems or applications that your GIS depends upon. You can monitor other web services your distributed GIS accesses for data or query and you can monitor log files for keywords in other applications that affect your GIS performance.
- ◆ **Shorten times to problem resolution:** XMF Alerter gives you the data and analysis you need to diagnose and solve problems quickly. Knowledge into the time, condition, cause, location, and nature of online GIS performance problems gets users back up and running faster and minimizes the IT resources required to do so.

- ◆ **Proactively manage performance:** You can't manage what you can't see real-time. Our extensive view into GIS service allows you to proactively address performance – by giving you a better understanding of your IT/GIS environment. As a result, IT/GIS organizations are able to continually improve application and service availability and reduce operation costs through early resolution of problems.

Conclusion

CIO's and IT/GIS managers face multiple challenges in today's IT management environment. These include:

- ◆ Tightening link between business performance and IT/GIS performance and budget
- ◆ Demand for more transparency and access to IT/GIS service level performance information
- ◆ IT/GIS environment that is increasing in complexity while at the same time cutting across multiple technological and organizational boundaries

XMF Alerter can help your organization meet these challenges by giving you the ability to see and more effectively manage your IT resources to meet business and organizational goals.

Visit us at
www.geoxmf.com
to learn more.

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