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Maximizing Infrastructure Investments from the American Recovery and Reinvestment Act

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This IDC Vendor Spotlight discusses the implications of infrastructure lifecycle management (ILM) applications as integrated project performance management tools for government organizations as they implement infrastructure projects funded by the American Recovery and Reinvestment Act (ARRA) of 2009. ILM is focused on capital asset project planning, execution, and operation for building physical infrastructure. This paper highlights the public sector ILM application market in the context of ARRA and increased infrastructure spending for organizations receiving these funds, such as state and local government agencies. In addition, this paper examines how these project-based organizations can improve the plan-build-operate project life cycle and how they can explore integrations with reporting systems to effectively meet transparency goals spelled out in the act and by the Obama administration. Furthermore, this paper describes how the implementation of ILM can result in improvements in project visibility, cost, schedule management, and best practices, and it discusses the role of Meridian Systems in this strategically important market.

ARRA and Infrastructure

ARRA provides over $150 billion for the construction of various infrastructure projects. The convergence of three driving forces creates a "perfect storm" for U.S. federal, state, and local governments:

- Crumbling infrastructure
- Long-term growth projections based on U.S. and international megaregion trends
- ARRA, with its emphasis on infrastructure investments and job creation

As governments pursue these improvements, there are critical factors to their overall success: quick results, long-term value, and accountability for taxpayer dollars. Governments must pursue effective investment, management, oversight, and reporting strategies to maximize these infrastructure investments and ensure that public funds are effectively and efficiently used to meet the ARRA mandates. A robust, comprehensive IT scheme will be invaluable to near-term and longer-term goals.

Two of ARRA's five stated primary goals are "to preserve and create jobs and promote economic recovery" and "to invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits." ARRA will be seen for years to come as an enormous infrastructure investment, similar to those undertaken by the Works Progress Administration in the 1930s that had essentially the same two goals. While the investments may be relatively standard, the circumstances are not standard.

An IT Ecosystem to Meet Multiple Challenges

As it relates to infrastructure, governments operate in a continual "plan, build, operate" life-cycle mode. Planning includes design and development, managing project pipelines, site development, etc. The build phase involves contract, schedule, and change management; quality oversight; and budget tracking. Operations consists of direct asset management, including monitoring, maintenance, and work orders. Competent and proven IT systems and services that effectively facilitate and manage that full life cycle are key to effective investments — that is, the results that ARRA demands. Add to that the very public expectations for reporting those results, and that makes traditional infrastructure investment and management approaches insufficient to meet ARRA goals and mandates.

To be successful, an IT ecosystem needs to include effective financial management and analytical tools and business intelligence and reporting capabilities that give program and project managers accurate, up-to-date information on all components of the life cycle — in short, effective project management and effective reporting. Government agencies are waking up to the benefits of project and portfolio management (PPM) solutions.

IT compatibility with existing financial management systems is key, as well as Web services to support integrations with other critical business systems and commonly used applications such as collaboration, process management, and document management. For ARRA purposes, IT value capabilities include those that focus on:

- Funds management
  - Auditable/process-driven fund distribution
  - Track all obligated and remaining funds
  - Track funds as discrete funding sources
- Avoiding cost overruns and project delays
  - Manage the contractual obligation of funds
  - Manage contractual obligation changes and invoice payments
  - Auditable/process-driven change management
- Responsibility to the public
  - Information visible to the public
  - Automated project status reporting
  - Show jobs created and dollars spent per project

Moving into the Reporting Reality

As previously noted, two of ARRA's goals are to preserve and create jobs and invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits. The bulk of the funds (which have reached an unprecedented level) appropriated to achieve these goals are allocated to states through existing federal funding programs. The two big differences in all of this are the speed with which funds are being allocated and committed and the level of transparency and accountability around the use of those funds. In short, ARRA's keywords are "quick results." Spending huge sums of public funds in short order has had a checkered past. ARRA seeks to avoid that situation by demanding even higher levels of management and reporting and allocating funds to federal and state agencies to ensure that they have adequate resources to deliver.

With agencies operating under tight budgets and timelines, how can they achieve these fairly demanding requirements for the IT ecosystem? They can use ARRA as an opportunity to improve their technology. Federal and state agencies are allowed the use of up to .05% of their program money for management

and oversight. They should look for tools and vendors whose solutions offer the important component parts for successful infrastructure project management, oversight, and reporting. Beyond that, they should be focused on the essential elements of modern government infrastructures that optimize infrastructure and service delivery options, namely those built on service-oriented architectures (SOAs) that offer Web-based applications and services. Interoperability is paramount. We know that from an IT perspective, all of this is achievable. Successful government agencies will take this larger view.

Considering Meridian Systems

Meridian Systems is a Folsom, California-based ILM/PPM applications provider that is rapidly expanding its footprint in the market for project and program management of assets and facilities. Meridian originally earned its stripes in the architecture, engineering, and construction (AEC) project and portfolio management arena. It now has more than 5,000 customers with nearly 100,000 users and has been cited several times as a leading project portfolio supplier by construction industry trade magazine *Constructech*. In 2006, Meridian Systems was acquired by Trimble, a provider of GPS systems, and is now managed as a Trimble division. According to the company, it had 2007 revenue of $26 million. Meridian provides a number of deployment options, including self-hosted licenses, an ASP subscription model, and a managed host environment that combines the best of these two options.

Meridian Systems has two product lines, Prolog and Proliance.

- **Prolog.** Meridian's original product offering, Prolog Manager, is a Windows-based application targeting the midmarket PPM arena. Prolog is focused on construction project management and delivers collaboration, purchasing management, cost control, document management, and field administration. Prolog Manager is targeted at midsize to large AEC organizations, including general contractors, program/construction managers, and engineering firms, as well as public agencies and private building owners. These organizations on average manage capital project volumes that can range from $10 million to $500 million, with employee counts spanning from 10 to 500 employees, although larger installations exist among large international contractors. Prolog automates all aspects of the construction life cycle, from project design to closeout.

  In October 2009, Meridian announced Prolog Converge, an extensive Web-based software solution that combines an easily accessible Web interface with a flexible Web services technology platform. Prolog Converge, when combined with Prolog Manager, provides collaboration across organizations and vendor communities, flexible application integration, and secure interoperability over the Internet. Prolog Converge supports the creation of Microsoft Office Business Applications (OBAs) and allows users to interact with Prolog data using desktop applications such as Microsoft Excel, Word, Outlook, and SharePoint. When used with Prolog's Web services platform, OBAs allow secure, bidirectional data exchange with Prolog over the Internet.

- **Prolog Oversight Pack.** The Prolog Oversight Pack is a collection of preconfigured dashboards, reports, and collaboration tools that help public agencies and their construction firms get a head start on project reporting. Meridian leveraged its experience with other public sector clients and incorporated the reporting guidance from the Office of Management and Budget (OMB) to create its Oversight Pack. Developed for both executives monitoring an entire program and for project managers who are responsible for the day-to-day management of individual projects, the dashboards and reports allow government agencies to monitor project performance from funding, budget, contract obligation, and actual cost perspectives. The Oversight Pack includes a program dashboard, program status reports, project status reports, funding summary reports, program obligations summary reports, detailed contracts reports, and labor summary.

- **Proliance.** In 2003, Meridian released Proliance, its next-generation product line. A Web application built on an SOA utilizing XML technology, Proliance targets the tier 1 enterprise account segment, where larger organizations with multibillion-dollar portfolios and more than 500

users require a higher level of enterprise scalability and security. The latest version, Proliance 3.65, which was released in 2008 (version 4.0 is scheduled for release at year-end 2009), provides customers with a single system of record that they can use from development through maintenance in the plan-build-operate life cycle. Proliance is browser based and has a zero-footprint client. The product has three layers that target the needs of three user types:

- The Web services platform layer includes system technology important to the IT department.
- The Plan/Build/Operate applications layer provides access to Proliance features important to project team members and contributors.
- The Analytics layer delivers visibility and performance tracking to corporate executives.

The Proliance solution suite consists of the following components:

- **For planning:** pipeline planning, scope/budget development, program management, and cash flow projections
- **For building:** cost and contract management, change management, design collaboration, scheduling, and job site tracking
- **For operating:** asset management, preventive/predictive maintenance, work orders, and service requests
- **For analytics:** dashboards, reporting, score cards, alerts, KPIs, and trend analysis
- **Web services platform:** workflow and routing, configurable forms, notices and actions, templates, vendor management, transactional reporting, audit logs, security, and Web services/XML

- **Proliance Government Starter Pack.** Meridian has developed the Proliance Government Starter Pack, which includes prepackaged software configurations and a collection of solution accelerators designed to conform with the U.S. General Services Administration's (GSA's) project management guide. The preconfigured oversight dashboards and reports are based upon ARRA reporting guidance from the OMB. They allow government agencies to monitor the performance of programs and projects from funding, budget, contract obligation, and actual cost perspectives. They were developed for both executives monitoring an entire program and for project managers who are responsible for the day-to-day management of individual projects. The Proliance Government Starter Pack includes a program management dashboard, a project status report, and an approved obligations report.

Meridian Customers

Meridian's customers range from tier 1 commercial enterprises to smaller midmarket organizations, including engineering and construction firms, program managers, real estate developers, and public and private sector building owners across several industries, including energy, healthcare, education, government, and transportation. Government customers include:

- The GSA's Public Buildings Service serves as the centralized procurement and property management agency for the federal government. GSA manages more than one-fourth of the government's total procurement dollars and influences the management of $500 billion in federal assets, including 8,600 government-owned or government-leased buildings and 208,000 vehicles.

- The Illinois Tollway maintains and operates 286 miles of interstate tollways in northern Illinois. In 2005, construction began on the Tollway's $6.3 billion congestion relief program, and in 2006, the Tollway went live on Proliance to enable program controls for scheduling, cost control, change order management, exception reporting, and project management. With Proliance, the Tollway has achieved its "three A's" of access, accountability, and audit regarding project performance.
- The Commonwealth of Massachusetts Division of Capital Asset Management (DCAM) serves its citizens by providing professional and comprehensive services in the areas of public building design, construction, maintenance, and real estate management. Located in Boston, Massachusetts, the agency manages approximately $320 million in new construction and renovation projects each year. DCAM also manages more than 500 lease agreements on behalf of state properties and is in the process of redeveloping nearly 4,000 acres of state-owned land. DCAM is currently managing about 1,100 projects with Prolog, and its entire staff of 250 uses the software at some level.
- The Miami-Dade Water and Sewer Department (WASD) is one of the largest public utilities in the United States, employing nearly 2,700 people and providing direct water service to more than 416,000 customers throughout Florida's Miami-Dade County. WASD selected Proliance software as a comprehensive project management tool that would improve project planning, visibility, and execution — from inception to completion — to replace its various disjointed systems and information silos with a standardized project control tracking system operating on a single database.

Challenges

Meridian has been a pioneer in creating the ILM market and, more recently, creating an ARRA-specific solution. At this point, the benefits of ILM are well-understood and competitors are lining up quickly to compete in the well-funded ARRA space. Meridian is no longer able to fly below the radar of potential competitors. Competition from enterprise application providers will be hard to fend off.

The challenges for those organizations — public and private — receiving ARRA infrastructure funds are to effectively and efficiently distribute and manage those funds, maximize their public value, and report results that are accurate and transparent to the public. While there are not yet many comprehensive systems in place to deal with all of these challenges, they are rapidly emerging. For many reasons, there is a fairly common misperception among public agencies that because they have component parts of this ecosystem, they have the tools they need to meet these challenges. That's not likely. For example, they may be using spreadsheets and project tools and think they have project control and transparency covered. Due to tight budgets and timelines, they may be tempted to simply comply with the reporting requirements by using spreadsheets or manual entry to upload to federal reporting Web sites. Questions these agencies should be asking themselves include the following:

- Can we quickly and easily report the status of ARRA-funded projects to taxpayers?
- Can we prove that ARRA funds were distributed promptly, fairly, and reasonably without waste, error, and abuse?
- Can we effectively avoid unnecessary delays and cost overruns on all of our obligations?

IDC believes that Meridian has an early start on providing plan/build/operate solutions; the company's entry into ILM and market dynamics, such as the demand for new infrastructure through ARRA and green building practices, will help it to maintain its advantage for a number of years.

Conclusion

Few projects are as complex and have as long a life cycle as infrastructure projects. Roads, bridges, and airports require hundreds of experts in a vast number of specialties to coordinate their efforts during the plan and build phases and to then make their as-built data available to asset operators for the many decades of the functional life of these assets. Add to that the increased transparency and accountability features of ARRA, along with constrained government budgets as a result of this unprecedented spending. This situation will require government organizations to increase their efficiencies and reporting capabilities throughout the entire plan-build-operate life cycle. Meridian has done excellent work as a pioneer to adapt to this market space.

The company's ILM applications provide solid benefits to end users by enabling cost control, visibility into project status for all stakeholders, and precise and detailed schedule management. Beyond that, Meridian's business process management ensures that ILM practitioners can plan and enforce consistent business practices. Furthermore, companies can develop knowledge bases over the long term that can be mined by subsequent managers to optimize the execution of future projects. IDC believes that these benefits will go a long way to help the ILM market achieve solid growth rates as governments make unprecedented investments in infrastructure and as the global construction industry regains solid economic footing. To the extent that Meridian can address the challenges described in this paper, the company has a significant opportunity for success.
