

Ten Strategies to Improve Service and Reduce Costs in Government Organizations

Even Under Extreme Budget Constraints



A White Paper



Introduction

Combine economic recession with pressure to decrease tax burdens and the results are governments under pressure and under budgeted worldwide. For example, most state and local governments in the United States today are in the middle of a financial crisis. Tax revenues are quickly shrinking, while government agencies are under immense pressure to increase services and efficiency. And in the United Kingdom, e-government initiatives are a mandate to be achieved by 2005. No matter what government—European or UK, U.S. Federal or state and local—all face many common challenges and goals:

- Provide better, faster service to citizens—especially via Web self-service
- Increase the productivity of employees
- Support new security and disaster recovery initiatives
- Improve cross-agency communication to improve efficiency and share important security information
- Stretch already limited resources to keep up with regulatory changes
- Leverage new technology and standards to meet these goals with systems that are easier to build, integrate, deploy and secure

While IT departments look to buy or build more Web-savvy and standards-compliant solutions to help address these challenges for the future, most of today's government applications are powered by aging legacy systems, which can be expensive and difficult to maintain, use, manage and integrate with other systems. Meanwhile, falling tax revenues delay the buy or build projects further into the future.

Leverage Existing Technology to Take Advantage of New Trends Faster

Although redeveloping legacy-based applications on new, more flexible and open platforms is an option for improving effectiveness and business process efficiency, the associated cost and risk make it virtually impossible. Simply removing the old and installing the new is not a cosmetic change, but rather major surgery, involving sweeping changes in training, staffing and business processes—not to mention development and implementation time and costs.

In fact, Gartner has described the notion of “rip and replace” redevelopment as “impractical” for all of an enterprise’s applications.ⁱ Instead, according to Gartner, extending legacy applications to new environments is the most common, least risky and often least invasive approach. The process of re-engineering components from legacy systems should be an evolution. Enterprises should start with larger-grained components and slowly refine them over time, through an institutionalized process and transition tools.ⁱⁱ

Legacy-Aware Application Development and Delivery with LegaSuite™

Seagull Software helps organizations accelerate the assimilation of new technologies in pursuit of immediate benefit. Our LegaSuite platform is the world's most widely-used set of software tools for automating and accelerating legacy-aware application development, integrating legacy applications with Web-era architectures and enhancing user interaction models—all in a cost-effective, standards-neutral environment. LegaSuite makes legacy systems more agile, allowing government agencies to achieve new IT objectives with less time and risk, while helping them take the cost out of not only new projects, but existing infrastructure as well.

In Seagull Software's experience with government organizations worldwide, we have seen 10 trends in how the public sector uses legacy evolution to meet their IT objectives. This paper reviews these 10 strategies and explores how more than 1,000 government departments and agencies worldwide have leveraged LegaSuite to achieve them.

1. Reduce ongoing software maintenance costs

Yearly software maintenance fees are an on-going expense item where, in mature software categories, most vendors offer less and less support for higher and higher maintenance fees. One straightforward way for government organizations to reduce software maintenance contract expenses is to examine those solutions that have seen little or no enhanced functionality and replace them with newer, Web-ready solutions that are generally free of the baggage of years of upgrades that aging software products must carry forward.

Meanwhile, the cost of maintaining applications can also be a financial burden to government organizations that are constantly making changes to their applications in an effort to keep up with regulatory mandates, customer demands and new standards.

LegaSuite helps minimize the cost of ongoing maintenance and maintenance contract fees. LegaSuite's BlueZone™ is the state-of-the-art in thin, fast, secure, full-function browser- and PC-based terminal emulation. BlueZone™ has proven to be an effective choice for dramatically reducing license and maintenance contract costs for this software category—as much as a 60 to 80 percent savings in most cases, and with a policy of no upgrade fees to support new operating system deployments or to implement a BlueZone enhancement.

In addition, change management tools are integrated into LegaSuite's legacy interface extension solutions, WinJa® and J Walk®. So when the host application changes, the user interface updates automatically—simplifying an otherwise tedious, costly process.



Who is Seagull Software?

Seagull Software is the leading provider of legacy evolution software solutions for Global 2000, public sector and mid-market organizations. Our LegaSuite™ product line transforms legacy applications from roadblocks into building blocks, making them accessible to Web-era technologies. LegaSuite is a complete software platform for legacy-aware application development, legacy access, integration and transformation via an automated, integrated, more cost-effective approach. LegaSuite also acts as a "shock absorber", facilitating end-user-transparent migration from older systems to newer systems over time.

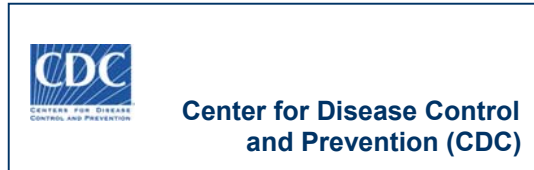
Put it all together and you get exponentially faster application support for real-time business requirements, more ROI from existing assets and strategic flexibility to replace aging systems over time.

2. Minimize administration costs and hassles

Many government organizations provide their users with access to legacy applications via first-generation terminal emulation solutions. Some emulation solutions require manual installation and administration, forcing IT personnel to physically touch individual PCs every time an update to the software is necessary or a new user needs to be supported. These repetitive tasks are budget-draining, time-consuming and prevent IT departments from focusing on more strategic objectives.

LegaSuite offers automated, server-based deployment of end-user interfaces, including WinJa/J Walk thin Windows and Java clients as well as BlueZone clients. Initial installation and on-going updates can be deployed easily by publishing a Web link that end-users simply click on to download the latest version.

With LegaSuite's BlueZone terminal emulation technology, government organizations can significantly reduce the burden and cost associated with terminal emulation deployment and administration. BlueZone can be deployed simply with the click of a mouse to thousands of users in different locations. And central administration capabilities make it possible to launch updates automatically, without touching each individual PC. BlueZone provides a safe, transparent, virtually cost-free deployment.



The CDC is an agency of the United States Department of Health and Human Services.

As part of their migration from a 16-bit operating system to a 32-bit operating system, the CDC needed to replace their emulator, which provides 2,000 personnel and partners with desktop access to their mainframe application. The CDC launched Seagull Software's BlueZone terminal emulation solution and has experienced:

Immediate Cost Savings - Easy installation and minimal maintenance needs have minimized product support costs. And the Web-based deployment enabled the CDC to distribute updates quickly and cost-effectively, without the hassle of manually loading software onto each PC.

Improved Performance - Now users can work with several applications simultaneously, while BlueZone's small footprint consumes a fraction of the memory and systems resources required by the CDC's previous emulator.

3. Automate manual processes and streamline workflows

Legacy applications typically present users with green screens that often lack flexibility, usability and simplicity when compared to the newer, now mainstream Windows and browser interfaces that most people are accustomed to. The costs associated with poor usability can be extreme. Giga presents the potential financial impact of poor application usability in the following table:

Prototypical Cost Analysis for Poor Usability

Cost Factor	Global Value	Usability Related Cost
Employees	2,500	
Extended annual payroll	\$125,000,000	\$50,000
Staff turnover	20%	\$500
Training duration	1 week (1/50 year)	\$500,000
Trainees per trainer	10	
Extended trainer salary	2:1	\$100,000
Opportunity cost of deferred production	Unquantified	
Cost of errors	Unquantified	
Reduced productivity	2%	\$2,500,000
Cost of management & technical support	Unquantified	
Annual costs, excluding delays, errors & support		\$3,100,000

Source: Giga Information Group

With LegaSuite, you can transform your complex, linear green-screens into a dynamic, user-friendly GUI—complete with mouse-driven navigation, drop-down menus, tab folders, radio buttons and more. LegaSuite also allows you to consolidate and auto-populate screens and reorganize the workflow of your applications—all without changing a single line of legacy application code. The result—reduced errors, decreased redundant data entry, increased productivity and faster, better quality service to constituents.

4. Integrate with other systems

Since the emergence of the Internet, the public sector has discovered the benefits associated with directly linking internal and external applications and systems, such as seamless data sharing between employees, constituents and other government agencies, improved employee productivity due to eliminating paper-based bottlenecks and better visibility into operations. But stovepipe legacy applications were never built for integration, and for almost every government agency, redevelopment of legacy systems to achieve integration is not realistic.



Alabama Office of the Courts (AOC)

For the Administrative Office of Courts (AOC) of the Alabama Unified Justice System, their ability to operate efficiently was being hindered by their State Judicial Information System (SJIS), which consisted of multiple disparate applications running on an IBM mainframe. Due to the complexity of the green screens, the applications were difficult to learn and navigate. By launching LegaSuite the AOC now benefits from:

Enhanced Usability – The AOC now presents users with a dynamic, mouse-driven, graphical interface allowing them to reduce errors, improve efficiencies and cut down on time-consuming, costly training.

More Efficient Workflows – LegaSuite allowed the AOC to set up imaging capabilities in every courthouse. Now, court clerks, who retain thousands and thousands of back cases in hard copies, can scan court documents into the system and retrieve them with a click of the mouse.

LegaSuite offers powerful integration technology to unite your system with other applications inside and outside the firewall. Supporting all the leading technology standards—including XML, Java, .NET and Web services—LegaSuite allows you to re-use the business processes entrenched in your legacy systems for more seamless integration. With LegaSuite, you can create portals, giving employees and constituents access to information aggregated from various sources, integrate with desktop fax or imaging programs, extract critical business processes for reuse as Web services and experience the advantages of e-business without altering your enterprise application in any way. And you can model, assemble and build ASP.NET Web services-based applications automatically from your catalog of Web services, for fast, iterative development of new applications.

5. Launch to the Web

The Web has created new expectations. These days, people expect 24 x 7 access to information via the Internet. To more and more constituents, it's becoming increasingly unacceptable to endure sitting through a long phone call, waiting for the arrival of an important document via traditional mail, or the inconvenience of physically visiting a government office. They want to be able to carry out basic activities online, such as renewing a driver's license, submitting taxes or inquiring about the status of their voter registration. Web self-service is quickly gaining momentum as a way for government organizations to deliver fast, reliable service to constituents, while at the same time minimize costs. According to Giga, unassisted services, such as e-mail, auto-response and Web self-service are significantly less expensive (than phone transactions) and average less than 50 cents per transaction.ⁱⁱⁱ

LegaSuite allows you to deploy legacy applications to the Internet in whole or in part in the form of discrete business processes. By deploying to the Web, constituents and other government agencies can benefit from real-time access to information, and they can carry out simple activities themselves, while minimizing costs, paper and incoming inquiry calls.



London Borough of Ealing

Facing government mandates requiring that all local governments in the United Kingdom e-enable their operations by 2005, the London Borough of Ealing (LBE) chose LegaSuite to help them provide local department heads with Web access to their legacy-based budget, grant and financial data. With LegaSuite, the LBE now benefits from:

Web Self-service – LegaSuite allowed the LBE to unlock back-office financial data and make it available in real-time to authorized individuals online, 24 x 7—minimizing expensive, inefficient paper processes.

An Intuitive Interface – Now, instead of complex green screens, users are presented with an easy-to-navigate GUI that enhances productivity.

6. Take advantage of mobile devices

When employees in the field are required to repeatedly return to the office to perform simple, routine activities, such as check e-mail, file reports or check the status of a permit, their productivity is seriously hindered. Arming these remote employees with mobile devices can have a significantly positive impact on their ability to work faster and more cost-effectively. According to Giga, the public sector can make use of mobile technology in a diverse array of circumstances to deliver greater efficiency, faster response, better enforcement, improved monitoring of how taxpayers' money is spent and higher levels of service to citizens.^{iv}

Using LegaSuite you can put your Web and back-office applications in the palm of your employees' hands. And you don't have to build a whole new application for deployment to wireless devices. Instead, you reuse existing business logic in your mainframe or iSeries applications, deploying these functions on wireless devices in the form of HTML, WAP/WML and XML. LegaSuite allows you to support the Palm, Pocket PCs, Symbol Technologies' ruggedized devices and Windows CE devices, among others. With LegaSuite, one development effort is all you need. You can develop a one-size-fits-all wireless application that delivers wireless Web pages for display on any device. Remote employees eliminate unnecessary trips back to the office, while government agencies serve constituents faster and more efficiently.

7. Ensure the security of sensitive data and be prepared for disaster recovery



City of Portland Police Bureau

The City of Portland, Oregon Police Bureau needed to upgrade technology in police vehicles. Their previous system provided only green screens with no way to view a picture, forcing them to drive back to the central precinct with the individual in question to make a proper identification. The inefficient information system was causing unnecessary trips back to the police station, costing the Portland Police Bureau time and money and threatening the safety of their officers and the public. The Portland Police Bureau launched LegaSuite technology and gained:

Mobile Computing Capabilities - The new system provides officers with an easy-to-use, graphical touch-screen interface. Officers now have direct access to the bureau's internal Portland Police Data System (PPDS) from patrol vehicles via a wireless LAN—eliminating needless trips back to the precinct.

Real-time Data Access – Officers can access mug-shot photos and criminal records in real time at a crime scene and prepare shift reports in their vehicles, reducing the administration time involved with street-to-office updates.

For government organizations, data security and the ability to quickly recover in a disaster situation have never been more important. And across the U.S., state and local governments are being asked to rise to higher security standards, requiring the sacrifice of already scarce IT resources.

LegaSuite allows you to affordably provide browser-based access to your iSeries or mainframe applications securely through an Intranet or the Internet by using industry standard security and communication protocols. LegaSuite supports full SSL capabilities up to 128-bit encryption, VPN, tunneling, HTTP proxy and SOCKS proxy to keep your data safe. LegaSuite's WinJa and J Walk solutions also safely encrypt the data stream between the LegaSuite server and the end user.

LegaSuite's BlueZone technology delivers low-administration, low-cost emulation, complete with robust security and disaster recovery capabilities. BlueZone emulation sessions can be encrypted via SSL and authenticated via digital certificates. For highly secure environments, you can even support two-factor authentication via SecurID. And capitalizing on the security features of OS/400, BlueZone supports encrypted automatic sign-on for 5250 emulation.

In addition, you can define multiple addresses or routes to connect to your host, so that if the primary system is unavailable in a disaster situation, BlueZone automatically connects as many as 64 different backup systems—a process that remains completely transparent to end users. And BlueZone, is the only SSL-enabled FTP client on the market today designed specifically for mainframe and midrange FTP users.

If your host operating system doesn't include SSL support, LegaSuite Security Server allows you to provide any telnet or FTP server with Secure Sockets Layer (SSL) connectivity between BlueZone and your host systems. It secures confidential information, authenticates users and reinforces network and perimeter security.

8. Successfully tackle IT objectives regardless of IT programming knowledge

Legacy programmers of the baby boomer generation are beginning to retire in larger numbers, leaving government organizations and business alike to maintain legacy systems with limited resources. Younger programmers are typically not equipped with legacy programming skills, nor are they very interested in learning the older languages. Without the proper IT knowledge or sufficiently-sized staff, critical IT projects that enhance, integrate or re-engineer legacy applications can take longer to complete or may never be initiated at all.

Regardless of your IT department's skill set, LegaSuite can help you tackle your IT objectives. Without altering your existing system in any way, LegaSuite transforms your legacy code into reusable components with XML, Java and .NET/COM interfaces used in more modern applications. Newer programmers, more adept in the latest programming languages can then update, connect, and re-engineer your legacy applications without having to touch the traditional languages the applications were originally created in. As a result, you can continue leveraging the investments made in your existing applications, while taking advantage of new technologies and skill sets.

9. Meet regulatory deadlines

Although legacy systems are typically very reliable, they are usually not very flexible or conducive to change. This makes keeping up with regulatory deadlines a significant challenge for government agencies, especially if a large-scale application alteration is necessary. Recoding efforts can eat up IT budgets and time that could otherwise be spent on more strategic projects. LegaSuite takes the complexity out of legacy application recoding by allowing you to re-purpose legacy systems to support changing requirements. LegaSuite turns legacy applications into reusable business components for integration and composite application assembly. This allows IT departments to make changes to legacy applications quickly, using industry standards like XML, Java and COM/.NET interfaces as opposed to spending precious time performing complex legacy coding. As a result, government organizations can maintain their existing applications, while quickly enhancing and altering them to abide by regulatory mandates.

10. Leverage existing IT talents to launch new initiatives

In many private sector companies, IT departments typically employ a varying range of programmers—from legacy programmers to Java and .NET programmers. But for government organizations, which typically have smaller IT budgets than private businesses, the ability to employ a representative of each skill set may be impossible. This can be a real challenge for government organizations that have legacy systems talent, but want to take advantage of newer technologies and vice-versa.

LegaSuite technologies are specifically designed to be used by any organization, regardless of their IT departments existing skill set. With LegaSuite, Java and .NET programmers can work with legacy functions without knowing anything about the host environment, while mainframe and

iSeries experts can work with Java and .NET without having to train extensively on these new technologies. There is no need to learn a new programming language in LegaSuite's point-and-click development environment that comes complete with wizards and help documents, so you can rely on in-house talents, without spending additional funds on training.

The LegaSuite Experience

Seagull Software's LegaSuite is the first and most complete multi-infrastructure legacy evolution platform, offering whatever it takes for legacy-aware application development and delivery—from browser access to green screens to legacy extension to legacy Web services and legacy transformation—for both the Java and .NET infrastructures. With LegaSuite, organizations can seamlessly integrate older generations of business applications with Web-era applications and infrastructures, permitting them to, over time, migrate from legacy applications transparently, with zero disruption to the business.



LegaSuite includes an integrated set of software solutions for:

Terminal emulation (3270, 5250, VT) – including robust Web management tools for simplified, automated configuration and updates

Secure FTP – including security capabilities that bring SSL support to your servers without expensive and risky OS upgrades

User interface extension – extending enhanced thin clients to browsers or Windows desktops via Windows, Java, XHTML or HTML based on a legacy application foundation

Web-enablement – deploying legacy applications to the Internet in whole or in the form of discrete business processes

Standards-based application integration – capturing legacy functionality for reuse as XML, Java or COM/.NET components, or MQ interfaces

Model-driven business process integration – to integrate business functionality across applications and automate straight-through processing

XML mapping – transforming generic XML formats to any of more than 120 dialects and data formats, including HIPAA and SWIFT

Legacy Web services – deploying legacy functionality as Web services, fully compliant with SOAP, WSDL and UDDI.

Data stream transformation – for mainframe and iSeries applications, eliminating the 3270 and 5250 datastreams in favor of open, standard and widely adopted XML

ASP.NET application modeling, design and development – allowing developers or analysts to catalog available Web services, define the user interface and generate on-demand Web services-based applications automatically.

LegaSuite is already in use in thousands of government offices around the world, helping companies integrate legacy applications, build a thin client UI and deliver thin clients to the end-user. To find out more, visit www.seagullsw.com or call your Seagull Software representative.

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