

Operational Cost Reduction using COBOL and SOA

Micro Focus provides a wide range of software tools that allows Federal Government agencies to dramatically improve the value of their enterprise applications. Micro Focus Enterprise Application Management and Modernization software enables an agency's or department's applications to respond rapidly to mission changes and embrace modern architectures with reduced cost and risk.

Using our Application Modernization solution enables our federal customers to continue to extract value from their investment in applications while meeting the latest demands of their mission as a low risk alternative to re-writing or replacing existing systems with Commercial off the Shelf (COTS) or Enterprise Resource Planning (ERP) packages.

Our Technology solutions allow the Federal Government to extend and integrate existing applications to meet new and emerging mission needs in the fastest and most cost effective manner.

By combining the latest technologies with the strength of our business partners, Micro Focus enables the Federal Government to institute operational cost reduction of their applications, improve the productivity of application developers, take advantage of Web services to modernize core applications and exploit low-cost contemporary platforms, such as Microsoft Windows, UNIX or Linux.

Modernization Rationale

Government Agencies are under continuous pressure to employ an operational cost reduction program while becoming more end user focused through extending and extracting maximum value from their business application portfolio. The agencies are replete with COBOL driven applications on both mainframes and distributed server platforms. These are prime candidates for modernization.

In taking COBOL applications forward, choices



need to be made between retaining and reusing the existing COBOL applications, replacing them with a COTS / ERP solution, or converting them to another language or platform from which greater value can be obtained. Each option has associated costs and risks that vary with the size of the application and the scope of the modernization ambitions for those applications. The issues and benefits remain fairly constant regardless of the size and complexity of the application.

Government Agencies typically face three options on how to proceed:

- 1) Rewrite - Build a completely new system in the contemporary language of choice
- 2) COTS / ERP - Purchase an industry standard "best of breed" set of applications that implements the core functions
- 3) Modernization - Extend existing legacy systems to meet the new requirements

Simplistically, the Rewrite option would appear to be a most compelling choice. The new business or end user requirement can be directly implemented in new code by a team of software engineers unburdened by the legacy of previous implementations. In reality, for most agencies a 'rip and replace' strategy can prove a very challenging path for the following reasons:

- Large scale development projects notoriously overrun and complete failure is not unusual
- It can prove very expensive to deliver the same functionality with the new system that users previously enjoyed
- A rewrite almost always takes longer than expected as time is taken re-implementing existing functionality
- Poor documentation and staff retirement or promotion makes it difficult to understand and replicate existing functionality
- Unless it is a 100% replacement, new systems will typically need to be integrated with some existing ones.

COTS / ERP implementation will contain proven and tested business logic that delivers core functionality. It will usually provide a sound implementation of the functionality for which it is designed. This functionality may only be a subset of the business functions provided by the existing system. As with a rewrite, it is still necessary to understand the existing system in order to determine what functionality will be covered by the COTS / ERP. This process of analysis and understanding often reveals significant areas of functionality not covered by the COTS / ERP.

The Micro Focus Modernization approach addresses new requirements through the extension of existing assets. By doing so, all the distinctive competence and intellectual property of the application is retained. Rather than recreating existing possible poor code, efforts can be focused on new initiatives resulting in the following benefits: cost reduction, lower risk through smaller project scope and reduced delivery time for new mission requirements. The Micro Focus Modernization approach also enables the migration of existing expensive Mainframe based application to a less expensive Server environment while enabling web services for SOA and HTML formatted interfaces without changing the existing COBOL source code.

COBOL Supports Modernization

A Pew Research survey conducted in September 2002 reported that more than 71 million Americans had visited a government Web site.

A vast majority of Government Agencies have COBOL applications as the back end information driver for many of these sites. As more agencies adopt this type of information dissemination, COBOL will continue to be a major application component for this effort. The COBOL language has continued to evolve since its initial release. Today's COBOL supports Object Orientation, XML data exchange, as well as integration with Java, .Net, and SOA infrastructures. It also runs on the latest platforms including 64-bit, and supports a range of contemporary databases. Therefore any modernization initiatives that embrace any of the above mentioned technologies can be fully used by COBOL applications.

Service Oriented Architecture (SOA) and Modernization

A key driver for modernization is the requirement to integrate legacy applications from across or even outside departments while maintaining their original structure and function. By enabling such systems to be extended to SOA through Web services, existing mission-critical functionality can be integrated with other systems and act as strategic assets with proven business logic, accessible however and whenever required.

SOA provides a way of encapsulating business processes as standard based services. The choices of SOA and modernization are essentially separate decisions. Where a very specific or tactical solution is required, SOA can be the appropriate choice. SOA does provide a valuable mechanism for reusing the powerful functionality in COBOL assets such as mainframe applications. SOA can unlock the business logic encapsulated within existing agency applications. This ability to access the functionality of these applications enables them to continue to fulfill their potential as critical strategic applications within an agency's portfolio. This level of reuse and extensibility can deliver significant business and IT benefits.

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