

# A Briefing from GBC: Industry Insights September 2012

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# Walking Before Running: The Case for Applications Modernization

On May 23, 2012 the Office of Management and Budget (OMB) released a new digital government strategy detailing plans to build several new application programming interfaces (API). Noticeably absent, however, were plans to update existing APIs. While building new applications is important, federal agencies are currently supported by a vast network of application dinosaurs that needs to be addressed. These applications will need to be updated as they become more expensive to run and eventually diminish in performance.

These drivers are familiar trends to CIOs and IT managers. However, with the ongoing budget crisis, impending retirement of up to one million federal employees by 2016, and a new digital strategy, the need to modernize applications is now more poignant than ever.

Modernizing applications can be much simpler than many perceive. In fact, applications need not be stripped for parts and rebuilt. Modernizing an application may ultimately cost less than maintaining a legacy application. Although many applications are quickly becoming out of date, a little investment can make these applications become as productive as their more recent counterparts.

In a recent survey, less than half of CIOs surveyed could quantify the size of his or her agency's applications portfolio.¹ Over the past decade, portfolio growth has grown by leaps and bounds, averaging seven percent annual growth across federal agencies.² Maintaining such large portfolios has begun to take its toll on IT budgets. Two-thirds of the average IT budget is now dedicated to maintenance and operations costs of old applications, leaving around a third of the budget for new initiatives.³

And IT budgets are not getting any bigger. The 2013 federal IT budget is down almost one billion dollars from its 2012 mark.<sup>4</sup> For historical comparison, from 2001-2009, IT budgets rose an average of 4.5 percent, adjusted for inflation in 2011 dollars. However, from 2009, and adjusted for inflation in 2011 dollars, the 2013 IT budget represents a 2.4 percent decrease in spending.<sup>5</sup> This seven point swing will also come out of new purchases, that one-third designated for new initiatives, as maintenance of existing applications is typically more mission critical. As a result, agencies will not be able to purchase many new solutions in the coming years and will have to find ways to make do with existing legacy applications.

To compound the budget crisis, CIOs are also facing an IT staffing crisis. The GAO has estimated that almost one million employees will be eligible to retire and an estimated 600,000 are expected to retire by 2016. This represents the vast majority of programmers trained in older programming languages, such as the Common Business-Oriented Language (COBOL), in which many applications are written.





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While there are many new programmers coming into the workforce, many are not taught COBOL because it is an older and clumsier programming language. It recently hit its 50th birthday, and because of its age, it accounts for 60 to 80 percent of business transactions worldwide by some estimates. Many government applications were built in COBOL, and so maintaining them requires agencies to staff COBOL programmers. However, COBOL is a largely generational skill, where most COBOL programmers are members of the retiring baby boomer generation. Therefore, CIOs will be facing a COBOL brain drain of sorts in the coming years.

The problem is not simply finding enough COBOL programmers to maintain certain applications. The disappearing skill set is also threatening to make maintenance of old COBOL applications incredibly expensive. Most programmers who can read COBOL are older workers; workers who fetch a much higher salary. As the baby boomers retire and the skill set becomes rarer, those remaining programmers who can read COBOL will come at an increasingly higher price as their skills are in higher demand. To add more complexity to the situation, the government faces stiff hiring competition from other sectors of the economy, such as the financial services sector, where 80 to 90 percent of transactions are done through COBOL applications and who can offer higher salaries.<sup>8</sup>

Lastly, legacy solutions are typically not as agile as their newer counterparts. As a result, they are more unattractive to users and usage drops off. Essentially, agencies end up paying for applications no one is using. To further engage with citizens, U.S. CIO Steven VanRoekel has released a new digital strategy requiring agencies to, among other things, update to existing web services and optimize them for mobile use within twelve months.<sup>9</sup>

## Shape, Transform, Manage

While all these numbers may seem scary, there is hope. Many tools exist that can allow managers to update applications and bring every application up to modern standards. Following a three step process of shape, transform, and manage makes modernizing applications manageable and affordable.

#### Shape

The first step in any modernization effort is to assess the applications portfolio. What needs updating? What needs to be updated first?

Moreover, it is important to consider how applications support larger corporate goals or initiatives. For example, if increasing employee productivity is a major drive, then analyzing the applications most used by employees is an important step to determining which applications need updating.

#### Transform

After determining which applications need modernizing, the next step is to decide how to best realize modernization goals and make the changes to applications. The issues facing aging applications are numerous, and there are many 'treatments' that can be done to give applications a facelift.

For example, some programs may be operating well, but simply need greater scalability or capacity. Such applications can be rehosted in a cloud environment and moved off a legacy system. Other applications are in need of more work, and need to be rebuilt. Applications that have unpredictable costs can be outsourced in a 'lift and shift' approach, where financial risk of maintaining an application can be shifted to a third party. Indeed, there are many ways

# POTENTIAL APPLICATION TREATMENTS

- Retain
- Rehost Convert
- Refactor
- Revise
- Rebuild
- · Service enable
- Consolidate
- Upgrade
- Replace
- Retire





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to upgrade and modernize applications portfolios without simply scrapping applications and starting anew.

#### Manage

Transforming applications portfolios is not the last step. Without proper management post-transformation, applications can quickly become expensive and unwieldy. A proper post-treatment management strategy is necessary to ensure that a good return on investment is realized.

Following these three steps will make the difficult task of modernizing applications much simpler and less stressful. There are significant pressures on CIOs and managers to modernize applications. Budgets are shrinking, skill sets are disappearing, and old applications are quickly becoming irrelevant. However, old but vital applications can be saved and modernized for a new tour of duty. Government CIOs and managers that select service providers with proven commercial best practices, tools, necessary skill sets and successful past performance can improve their probability of success.

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