

Evolution *on demand*

Reducing risk, increasing ROI and embracing change in a risk-adverse environment.
By **Peter John Marquez**

Observing human nature, the 19th century writer Thomas Carlyle noted that people are fatally inclined to resist change. Even when facing disaster, Carlyle said, most people could not be convinced to take action, despite the consequences.

Today, it's still difficult to fight human nature. But clearly, doing nothing is rarely a sound, long-term solution. And in today's competitive business world, the same is often true for the short term. So why are most IT organizations reluctant to change and modernize older systems, even as reduced productivity, increased operational cost and lost opportunities become chronic?

One reason is the perceived cost. Many CIOs calculate that re-engineering or purchasing (and customizing) a COTS solution will require too much of their limited IT budget. They wager that the cost and risk of modernizing their aging systems is greater than that of doing nothing. The result? Precious IT hours are devoted to putting out fires and the endless fight to meet service level commitments.

In fact, a strong case can be made for doing nothing. Given most companies' insatiable appetite for competitive advantage and IT's never ending obligation to deliver it, legacy transformations – with no guarantee of success – often fall to the bottom of the priority list.

One thing is certain: failing to address legacy systems and their cost of operation will ultimately have a negative impact on productivity and the funds available for new development.

A BETTER WAY: EVOLUTION ON DEMAND

Clearly, today's environment calls for an alternative, one that removes risk and cost – a 'just-in-time' modernization that enables a systematic and modular approach to change. William Ulrich, President of the Tactical Strategy Group, Inc., and a legacy modernization expert, believes: "An incremental approach to modernizing existing systems tends to be the most effective, least risk-prone strategy – particularly when compared to the big bang approach that has failed so many times in the past."

This strategic model, called evolution on demand (EOD), enables companies to systematically transform the individual segments of

their legacy applications that provide the greatest ROI. Rather than integrate entire applications, EOD makes it possible to integrate technical processes that correspond to actual targeted business functions and to immediately:

- Integrate what you actually need.
- Modernize the application segments that provide the greatest ROI.
- Be productive while you transform.

Using evolution on demand, managers can replace expensive 'big bang' modernization projects with a succession of manageable independent projects, each delivering immediate return on investment. EOD attacks integration and transformation at the functional level, mapping legacy systems to agile contemporary business services – while the original system remains intact or evolves and is transformed at a pace dictated by utility and business benefit.

EOD changes the cost/risk calculation and gives managers a choice between expensive all-or-nothing integrations and 'automated' transformations, or on-demand transformations and integration.

EOD: CASE STUDY

Consider a 15-year-old ERP system, the backbone of a large manufacturing business. Originally a commercial package, after years of modification, additions and the eventual disappearance of the vendor, the system became a custom, in-house application. With the batch window shrinking, collaboration with international partners and the adoption of XML, change was essential – despite a limited budget.

This project would normally take more than 24 months to complete using a 'big bang' approach, with a high risk of running over budget. Using EOD, the project is broken out into incremental phases that target the greatest benefit. Here, the 80/20 rule applies – 20 percent of all modernization functions provide 80 percent of the total benefit. Evolution on demand makes it possible to capture those benefits faster.

The process begins with an application portfolio assessment that identifies the application's component parts and defines their legacy and modernized interfaces. Once this analysis is complete, the incremental transformation of the backend application logic can begin. Simultaneously, client application or web developers define and implement the modernized presentation layer. This is usually completed in a fraction of the time it takes to convert the backend components.

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While work on application logic components continues, scalable evolution on demand integration technology is used to expose legacy processes with modern interfaces. Using those interfaces, the presentation layer (ASP, JSP, J2EE, .NET, etc.) is loosely coupled to the existing legacy backend processes, providing immediate ROI. When a new application component is completed, its matching interfaces allow it to replace the legacy version with zero coding.

In cases where data must be transformed, the same loosely coupled process is applied between the new application logic and the legacy data.

BUILDING SUCCESS WITH EVOLUTION ON DEMAND

Three capabilities are required to implement your own EOD project:

APPLICATION PORTFOLIO ASSESSMENT

Good questions lead to better results. Your well-implemented EOD project will always employ some type of application assessment – whether done with a tool or manually. Modernization requires an understanding of the target application's topology:

- What are the services, interfaces and dependencies that make up this application?
- What do they do? Are they consumers or providers?
- What business process do they support?
- What other parts of the application would their change impact?

A thorough assessment will provide you with answers to these questions and put in place a single catalog of information for making decisions on what to modernize, consolidate or leave 'as is'.

SYSTEMATIC TRANSFORMATION

Systematic transformation is based on the assessment of legacy systems (outlined above), and a targeted remediation and modernization scheme. When combined, these processes break large modernization projects into small, functional components that are then tied to measurable business value. Using the application portfolio developed in the assessment, you can map business processes to these components and prioritize their transformation and integration, based on their impact on your business.

Once the components are prioritized, you can remediate your business functions, if necessary. Then you or your transformation service provider will use some type of programmatic modernization tool that supports an incremental model. When used in conjunction with on-demand integration technology, systematic transformation will help you quickly modernize the application functions that provide the greatest ROI.

ON-DEMAND INTEGRATION

On-demand integration technology provides just-in-time integration of legacy systems with contemporary platforms at the function level. That means targeted legacy functions (written in COBOL, C, C++ and other heritage technologies) and their corresponding data (Adabas, DB2, CICS, IMS) are exposed as contemporary services in a loosely coupled fashion. This enables you to get value from these systems in contemporary environments until you decide to systematically transform them.

EMBRACING CHANGE

This article outlines an open modernization methodology that delivers the benefits of large-scale modernization projects at the cost, speed and risk of simpler projects. The skills required are a natural extension of the SOA development model, without the need for a great deal of additional training. The technology used can take the form of an enterprise service bus or a flexible evolution server. The key is that lightweight technology is used to aid the transition from one phase of the evolution to another.

Market forces drive business requirements, but the limited agility of legacy IT systems restricts the ability of most companies to respond and change. With EOD, technological change becomes an approachable and welcome part of the business process. ■

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