Modernization of Legacy Applications

Preserving the business content of legacy applications as they are transformed to new environment is a critical challenge faced by most IT Departments.

On an average a Fortune 100 company owns 35 million lines of code in legacy applications. Literally generations of development teams and millions of dollars in investment have evolved these legacy applications to support a whole array of business-critical processes/functions/tasks.

Legacy systems are both IT’s biggest asset and one of its greatest liabilities. Asset as it continues to be the IT backbone of many of organizations and supporting a wide range of business critical processes/functions. Liability as the platform / technologies of these legacy systems place strain on IT and business. More particularly in the form of

- Non availability of workforce with skills / knowledge in the relevant technology / platform
- Risks associated with running business-critical applications on potentially unsupported hardware and software
- Inflexible and closed architectures not able to meet user expectation & needs
- Longer elapsed time to make changes to support changing business processes due to complex development lifecycles
- Complex and unwieldy interface/integration mechanism with other systems in the IT Landscape

As part of way forward IT initiatives, companies have embarked on moving their business operations away from aging applications and into more-flexible and more-versatile IT environments.

Organizations are best served by retaining existing application asset content while transforming/replacing these assets to/with modern languages, database systems, and SOA services.

While modernizing, organizations must adapt solutions which are streamlined in terms of management, requiring less administration support and are like web based consumer applications users are familiar with e.g., Gmail, Amazon etc.

**Approach to modernization.**

Most modernization effort begin with an assessment of the legacy application portfolio to determine the state of current systems. Selection of applications which are the best candidates for modernization and which modernization technique will deliver the greatest returns. A big part of this process is also a frank assessment of the IT workforce. People with skill sets in legacy technologies are simply getting harder and harder to find.
SOA Enabling - Re-use legacy components by enabling them as services in a Service-Oriented Architecture (SOA)

This approach leverages the SOA framework to enable the data and business logic of the legacy applications as "Business Services" that are accessible from a platform independent standard across the organization. This way makes the legacy application, the System of Information for relevant processes and data.

COTS Replacement - Replace an existing legacy application with a commercial off-the-shelf packaged application(s). This option focuses on rebuilding the portfolio with the best packages and components available. With this approach there is no reuse of existing applications or their data.

Re-Architecting - Extract current business logic, re-factor, and re develop the application in new technology platform to achieve the maximum potential of next generation platforms/systems.

Re-architecting approach requires the knowledge from existing legacy system be captured and digitized, allowing it to be redeveloped in the new/relevant technology platform. Re-architecting seeks to understand existing systems from a process and code perspective, designs viable models and builds new applications on that basis.

Things to watch out for
- Strong Business Case / Understanding of ROI for modernization
- Choosing the right approach based on the given factors
- Integrated task force of people with knowledge of legacy application and future state technology
- Expectation management of the workforce with legacy skill – defined upgrade path
- Strong governance structure

Thirdware, recently, for a Fortune 100 manufacturing client re-architected a legacy solution, which helped the purchasing department compute, analyze and forecast the raw material demand for a whole range of products. This solution was initially built for a specific location/market leveraging a set of legacy standards and frameworks. Thirdware rewrote the application to allow the same to be used globally (with multi language support) and on a new platform / standard & framework.