Legacy Modernization Provides Applications for Tomorrow

The conversion of aging applications to more-modern architectures requires new packaged tools. Our Legacy Modernization Magic Quadrant describes this market, which combines legacy understanding and transformation.

Core Topic
Application Development: Constructing Applications

Key Issues
What is the viability of techniques to leverage legacy program inventories?

What techniques permit effective reuse of current applications?

What are effective programming languages, tools, techniques and processes for development in an increasingly complex application environment?

Note 1
Legacy Understanding
We define legacy understanding tools as those that provide system inventory, program understanding and code modification. These solutions supply relationship mapping of application artifacts, in-depth data and control flow, code modification and testing. They may operate on a mainframe or workstation.

Application portfolios can be modernized by replacement via commercial packaged software solutions, outsourced development or in-house modernization initiatives. The 1990s represented the decade of packaged software, which fixed the Y2K problem, enabled enterprises to take advantage of the Internet and updated many aging application portfolios to newer, more-dynamic business practices. However, for many enterprises, there are areas in which such approaches will not do the job.

Custom applications that defy replacement through these more-common approaches are candidates for the legacy modernization toolsets represented in the Legacy Modernization Magic Quadrant. Many vendors in this market segment (see Note 1) offer code and system analysis tools that have been in the market for years.

The leaders' and visionaries' products are often involved in e-business initiatives. This focus provides the knowledge required to enable legacy extension and enterprise application integration (EAI) solutions in a way that recognizes the business knowledge already implemented in the systems. These tools reduce the risk of missing business logic or misunderstanding the application interfaces between legacy systems. Earlier product positioning for these vendors included reducing the cost of maintenance and Y2K conversion.

The products represented in this Magic Quadrant are not strictly competitive with each other. Although they all focus on the evolutionary modernization of legacy systems, they may address it in different ways. For example, Micro Focus International's strength is in the COBOL market. Transoft's strength is in midtier platforms, although it has acquired a mainframe tool. Most Software Technologies' strength is in the Natural/Adabas arena.

Gartner

The focus at HAL Knowledge Solutions (HAL KS) is on providing sufficient information about application portfolios to enable improved process, reduced cost and application modernization activities. Soamai provides legacy and distributed repository solutions that are important for a wide variety of modernization activities, particularly evolution to a service-oriented architecture (SOA). Vendors in this Magic Quadrant (see Figure 1) address this problem in different ways; hence, they do not always compete directly with others in this market.

Figure 1
Legacy Modernization Magic Quadrant
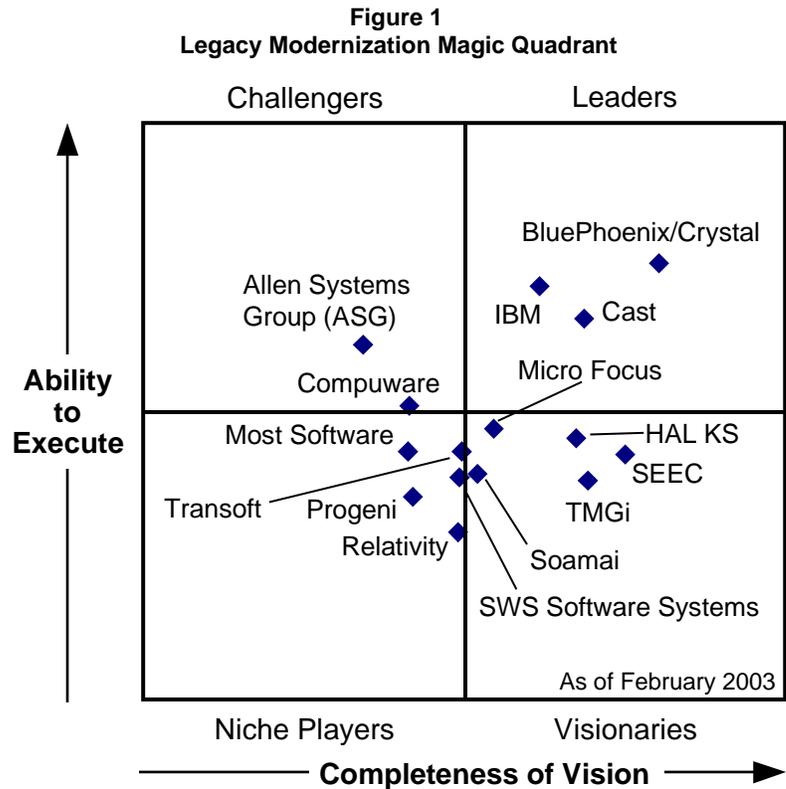
Source: Gartner Research

Identifying Business Rules

Although legacy systems contain useful business knowledge, extracting that value remains difficult. Many enterprises have little desire to open up a "Pandora's box" of legacy systems. Current trends indicate that most prefer noninvasive extension approaches. Extending established applications to new environments is the least-risky and often the least-invasive approach. It is, by far, the most common method. It provides immediate, short-term and low-risk resolution to immediate e-business demands for open access to traditionally internal applications by new external constituents. Efforts to understand legacy systems to extract business logic are increasing (see Note 2).

Note 2
Legacy Transformation
Legacy transformation tools provide business rule identification, code slicing, code modification or transformation from one language to another. These products are generally provided as add-ons to legacy understanding tools. They may operate on a mainframe or a workstation. Other sophisticated tools can also support language wrapping for creating components out of legacy systems and provide support for porting legacy business logic to new architectures and languages.

The risk of completely transforming a legacy application to a new platform limits this choice to those with the oldest platforms. These "burning platforms" are beyond hope of continued growth and evolution. Many Gartner clients are looking to transform a legacy system for reasons other than concern for the current platform's longevity. In some cases, enterprises may be driven by concern about the availability of dwindling resources, such as COBOL or Software AG's Natural programmers, and Computer Associates International's CA-IDMS or IBM assembler language skills. This transformation discussion is about redeveloping a mainframe-based application that is becoming hard to manage.

The Leaders

The leading vendors providing legacy modernization solutions continue to grow and refine their solutions. IBM, which has shown little strength in legacy understanding or legacy transformation, has established legacy modernization as a strategic pillar of its long-term application development (AD) strategy. IBM's advantage in this market is not just its tooling. It is also dominant in the underlying AD infrastructure associated with many legacy environments (predominantly IBM mainframes), and it has a large service capability. Enhancements to CICS and IMS, in addition to WebSphere Studio Asset Analyzer and WebSphere Studio Enterprise Developer, have moved IBM into a leadership position. Life is still complex in this environment, but IBM is showing leadership in its thought processes, its tooling and its service offerings.

BluePhoenix/Crystal, a subsidiary of Formula, an Israel-based holding company, has a wide array of products and service-based solutions for a broad spectrum of legacy modernization initiatives. From its legacy modernization tools through its strong service partners, BluePhoenix/Crystal has a strong modernization offering that should be anyone's shortlist.

Cast, a leading vendor in the previous legacy understanding market, has made its mark by focusing on "the new legacy" — distributed systems. It continues to provide a strong product and has a good set of partners. It positions its products across the entire application life cycle, including both maintenance and new development. It has recently added COBOL support to its long list of distributed languages.

Market Size

The legacy modernization market is not large. The market size represented in this Magic Quadrant does not consider the service revenue from the larger external service providers (ESPs), and so it could be misleading. The service revenue associated with

this same space is at least 10 times this amount. Some vendors in this market derive a portion of their revenue from direct product sales, some from their own service capabilities and some from partner revenue. There is some service revenue, such as from Trinity Millennium Group (TMGi) and BluePhoenix/Crystal, but this market size is predominantly represented by tools revenue.

We are predicting fairly flat growth (see Figure 2) because of the historical lethargy of this market, as well as the current economic climate. In fact, we have lowered our revenue estimates as a result of the current economic malaise. Although clients are focusing on reusing and extending legacy systems, and these tools are prime candidates, revenue still does not show a tremendous upside. With the exception of correcting the Y2K problem, these tools have not shown strong revenue streams. However, we do see a reinvigorated market for these tools to reduce the cost of maintaining aging legacy systems. In fact, many of the largest outsourcing enterprises depend on these tools to ensure they can maintain application code they didn't write.

Figure 2
The Legacy Modernization Market

Dollars in Millions
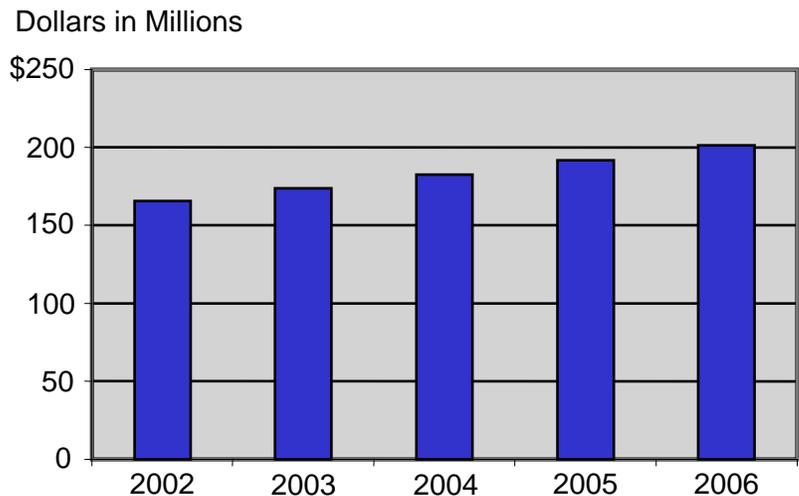
Source: Gartner Research

Bottom Line: There are many benefits to legacy modernization tools, and they significantly reduce the risk of failure when maintaining or transforming aging legacy systems. However, application development (AD) organizations have shown a reluctance to invest in their legacy portfolios during the last decade, Y2K notwithstanding. As the economy drives many enterprises to rethink their legacy portfolios, we expect these vendors to have some success. Until enterprises recognize that packaged solutions are not a panacea (and neither is outsourcing), this market will remain muted.

Acronym Key

AD	Application development
EAI	Enterprise application integration
ESP	External service provider
SOA	Service-oriented architecture