



New life for legacy it systems

Deloitte Application Modernization

For most enterprises, core systems represent large investments. But in many cases, they're old investments. Keeping them up and running takes more money and effort every year—in most cases, more than what is spent on strategic business objectives. Downtime escalates annually, and costs increase. Meanwhile, capabilities are often stretched thinner and thinner—if not left behind entirely—by emerging needs such as mobile access, cloud architecture, cybersecurity, compliance and reporting, and on-demand analytics. For some legacy systems, even the switch from a 3270 “green screen” interface to Windows is a bridge too risky to entertain.

Deloitte interacts with thousands of enterprise leaders each year—and many of them report they see room for improvement in their core systems. When asked what areas are most ripe for improvement, almost one-third of the leaders we surveyed say flexibility.¹ And a recent Forrester survey found 74 percent of software decision makers ranked updating or modernizing key legacy applications as a critical or high priority.²

If you have the same concerns, you may also face a daunting challenge. By leaving things as they are, you will likely risk amassing more and more technical debt. But if you opt to “rip and replace” with all-new systems, the resulting debt may be the old-fashioned kind. Out-of-date platforms and programs may slow the course of business, but starting from scratch may halt business entirely.

Fixing what works—and making it work better

Fortunately, there is another way: full Application Modernization. It starts with a complete diagnostic of your IT status quo and a cost-benefit analysis of the potential

improvements. Equipped with that data, Deloitte “refactors” existing core systems with modern user interfaces, code, and data structures while also building in business process improvements that help make your enterprise more responsive to customers, able to handle today's mobile and cloud environments more effectively, and ultimately more competitive.

Operational changes tend to be faster and more reliable. Users have familiar applications, though they offer more usability and more efficient interfaces. Your data is still there, only now it's more accessible to searches and analytical tools. And maintenance becomes easier and more cost-effective when teams no longer need to keep up with the specs and requirements of outdated systems.

This incremental approach offers a low-risk, cost-effective way to address the many issues that are driving organizations to question the value of their current, aging IT infrastructures—not only cost, agility, and efficiency but also the potential enterprise risk that comes with subpar reporting and insights, the regulatory

risk that comes with slow or incomplete compliance, and the growing gap between the skills the systems need and the skills the present-day workforce has. By focusing on specific system improvements that deliver a measurable return on investment, Application Modernization builds new value into assets you already own.

How Deloitte can help

The process of refactoring old code can be a monumental job in itself. Most projects involve millions of lines across multiple platforms. Deloitte stands apart by offering refactoring that is **fully automated**—a distinction that brings not only time- and cost-efficiency to the modernization project itself but also greater reliability to the system it leaves behind.

In addition to refactoring, Deloitte's Application Modernization offering includes improvements designed to help strengthen key business abilities such as organizational efficiency, digital engagement with customers, cloud capabilities, and analytics. Deloitte also combines an array of time-tested products, the experience of many completed modernization projects, and the

broad operational acumen that comes from being part of the world's largest professional services organization. IT touches every part of the business, and Deloitte's team members don't have to look to third parties for advice when an Application Modernization project runs into questions regarding finance, talent, change management, or regulatory compliance.

Our process

Deloitte's established process includes contributions and experience from **innoWake**, including use of its suite of dedicated code refactoring and modernization tools. Now, **innoWake** is part of Deloitte, a union which makes the combination of these strengths even more effective.

Based in a dedicated studio in Austin, Texas, Deloitte Application Modernization is a lifecycle process that recognizes both IT and business realities. To help enterprises understand what is possible, the team hosts frequent workshops and conducts diagnostics. When a project is underway,

there is no "code freeze" or operational downtime to disrupt an organization's day-to-day business at any point in the process. Each engagement covers these stages, which extend well before and after the actual refactoring of code:

- Current state assessment
- Future state vision
- Viability assessment
- Roadmap
- Implementation and iteration
- Maintenance

Potential bottom-line benefits

Deloitte's Application Modernization process is able to deliver benefits that are specific to the IT sphere while simultaneously driving enhancements to the business itself.



Reduced risk No core requirements to define, no missed functionality, minimal end user training, and the ability to modernize at your own pace



Reduced cost Full automation prior to modernization significantly reduces the number of developers

required to refactor applications, while the ROI is realized earlier due to ability to release high-value functionality within months



Enhanced quality 1-to-1 functional test scenarios result in high-quality releases, with no interruption of current business processes



Increased interoperability Modernized systems enable organizations to develop mobile and responsive web applications and to take advantage of cloud services



Staff transition Our refactoring products support legacy developers' transition into modern Java developers by building on their legacy skillsets



Repeatable approach Implementing an Agile-based application development lifecycle provides a controllable process to coordinate application release

Automated refactoring fit assessment questions

Here are a few select questions that can help to determine whether a system is a good fit for the Automated Refactoring approach.



What legacy products are being used in your current environment? Please include any platforms, operation systems, databases, code languages, or third-party products used in your environment.



What are your preferences toward target environment (e.g., Java or .NET) and platform (e.g., Linux, AIX, Windows)?



What type of functional enhancements—e.g., business process management, business intelligence, service-oriented architecture, user experience, etc.—would you like to achieve once your system is modernized?

Have COBOL or NATURAL?

Moving to Java or .NET?

Desire enhanced business functions?

Conclusion

Modernization is a process people encounter in many other parts of work and life. Today's cars generate more performance, with smaller carbon footprints, than the ones of a generation ago. So do the factories that build them. As external factors change—such as clean air and water laws, resource pipelines, or stakeholder demands—long-familiar practices change to match. Application Modernization applies the same principle to enterprise IT systems. It preserves what works, helps improve performance, and leaves behind a platform that is ready to answer future needs.

¹Deloitte Tech Trends 2016, <https://www2.deloitte.com/nl/nl/pages/technology/articles/deloitte-tech-trends-2016-innovating-in-the-digital-era.html>

²Paul D. Hamerman and Randy Heffner, Don't just maintain business applications, raise business responsiveness, Forrester Research, Inc., October 23, 2015. [As cited in Tech Trends 2016.]

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