IT modernization for business innovation
How can you make sure your legacy systems are driving innovation, rather than holding it back? The big challenge for CIOs.
Legacy applications are a valuable asset to your business, but the current economic climate shows up their limitations. When it comes to modernizing applications, the challenge is to preserve this heritage, cut the total cost of ownership and give them greater openness and flexibility.

Times have changed...
In every sector of the economy, the ability to innovate depends largely how effectively information systems can respond to changes in the business environment. In just a few years, markets have become totally global and open 24/7. Business activities are carried out by networks of partners operating in real time. Employees are increasingly using smartphones and tablets. Mergers, acquisitions and restructuring have redesigned operational boundaries. New regulations and security issue mean new requirements are constantly being introduced. And new market entrants, with their radical approaches and products, have redefined the rules of the game.

...but applications have not!
Despite all this, many companies’ core business applications are just not ready for such an upheaval. Legacy transactional and business management systems may be robust, reliable and efficient: but they’re struggling to keep up. And they are expensive to maintain, so there is little financial headroom for new developments. Most were developed in Cobol, so they are nowhere near flexible and open enough to integrate easily with the rest of the IS and feed into new applications. And their future is fraught with uncertainties because the skills associated with them are scarce, their documentation is not always perfect and suppliers’ future plans are not always very clear.

A complex equation
So CIOs are naturally asking themselves what changes they need to make to their application portfolios. It’s a complex equation. On the one hand, they are reluctant to risk compromising proven systems that represent significant investments and hold huge amounts of know-how about the company’s business. But on the other hand, they need to make drastic cuts to maintenance costs, facilitate and secure open interfaces between these systems and the rest of the IS, and prepare them for the evolution towards the Cloud and today’s open standards.

Atos opens the way to modernization
Application modernization effectively reconciles these two demands by protecting the rich functionality and mainframe-class reliability of legacy applications, and using standard and open source technologies to slash TCO and turn these systems into a platform for innovation.

Atos designed the Liber software suite to open the way to rapid and controlled modernization. Liber facilitates the replatforming of legacy applications for open standards, replacing proprietary infrastructure technologies and transposing code into a more current language as required.

Make the most of digital opportunities
Digital opens up unprecedented possibilities when it comes to creating value: new offerings that capitalize on data intelligence, collaborative innovation with your customer and/or partner ecosystem, access to new markets and innovative services or subscription-based business models or ‘matchmaking’ platforms… The only things limiting these opportunities – and the organization’s ability to seize them – are the agility, security and performance of their information systems.
Liber: software to support successful modernization

As an expert in large systems and open technologies, Atos offers a suite of software for an industrialized approach to modernizing application portfolios, especially replacing mainframe infrastructures, proprietary transactional monitors and batch.

Atos: dual expertise
With over four decades experience in designing, implementing and maintaining mainframe infrastructures and applications, Atos knows better than anyone not only the value but also the limitations of these kinds of systems, which encapsulate the organization’s business DNA. This unrivalled experience is matched by a long-standing commitment to and involvement in open technologies. Thanks to this dual culture, Atos is ideally placed to understand organizations’ needs when it comes to modernization and to respond to the difficulties they may encounter in getting there.

Don’t sacrifice the legacy - build on it
It’s reckoned that, even now, 80% of the code being used worldwide is in Cobol. While they want to preserve what they have achieved, organizations come up against two big issues when it comes to modernization. The first is how to preserve their code while moving away from the mainframe environment to take advantage of the greater flexibility and openness, and the lower costs, of an x86 platform without compromising service levels. The second is to free themselves from dependency on proprietary technologies so they can make their infrastructure last longer, cut costs and take advantage of a much wider range of applications.

An industrial approach to modernization
Atos designed the Liber suite of tools and middleware precisely to address these two situations. Developed using the very latest standard, open technologies, Liber software enables organizations and their suppliers to take an industrial approach to their application modernization projects. Based on proven methodologies born out of real-life experiences, they have been subject to rigorous testing and qualification to match the quality requirements of the mainframe world.

A methodological contribution
Based on its extensive experience, Atos has developed a specific re-platforming methodology, using Liber solutions. This consists of several stages:

1. Initial analysis: critical applications, application and data architectures, performance. Defining target architecture, breaking systems down into modules for project sequencing.
2. Project plan definition: Timescales, effort, key stages, risk management plan, testing plan, training plan, recommendations and finalizing of implementation and live production.
3. Execution and migration: application and data conversion is carried out in the Atos factory using appropriate, fully tested tools to guarantee performance, integrity and functionality.
4. Tests: validating the functionality and performance of applications in their new environment. An iterative scenario-based test cycle is performed before the customer carries out his own tests.

Liber: also available as an appliance
For optimum performance and simplicity, Atos also offers Liber in the form of a mainframe-class appliance based on the bullion high-density x86 server. This industrial-scale package includes server, storage, OS, PostgreSQL database, Liber TP and Liber batch. Delivered pre-configured and tested, the Liber appliance offers a full range of power options and a scale-in architecture making it the ideal gateway between legacy systems and the Cloud.
The Liber family at a glance

**Liber Batch**

- Written in Java, very flexible.
- Allows a full mainframe-type batch environment to be set up in Linux (JCL script, job launch and monitoring, standard error management, log and archiving...).

**Liber TP**

- Full Java transaction processing monitor on JEE application server, providing ACID properties for modern environments and increasing performance with minimal modification of the original code (logic and syntax of mainframe transactions are preserved).

**Liber Database**

- Migration tool for porting relational and non-relational databases towards a relational environment, including PostgreSQL, for which it features a single management tool.

**Liber Apps**

- Enables the transposition of legacy code (Cobol, PL/I, 4GL...) to Cobol 85/ C++/C#/Java... while preserving the business logic, and capitalizing on current technologies (multi-threading, maintainability, performance...).
Yesterday’s applications becoming a force for the future

Supported by experts from Atos – to deliver end-to-end modernization projects in complete security – Liber software has already proved its effectiveness in the field. Thanks to Liber, your application portfolio can become a source of opportunities and inspiration for business innovation.

Complementary resources
To help companies and integrators in their approach, the Liber software suite is backed by a set of expert resources. These enable an effective, secure modernization plan to be created and perfectly suited to the specific technological and business environment. These resources include:

- Proven project methodology including a full set of tools
- Mainframe-class, global expert support services
- Two services centers – in France and the USA – backed by R&D teams
- A huge network of partners
- A uniquely broad range of complementary technology offerings (high-end servers, security, Cloud, Big Data…) enabling the creation of comprehensive transformation scenarios.

Modernization becomes a reality with effective tools
Using the Liber software suite, modernizing legacy applications comes into sharp focus. From now on it’s a real, concrete prospect that relies on proven tools and methodologies, and rapidly delivers the expected benefits – up to 70% lower TCO, investments protected for the long term, greater value from existing systems and a reduction in silos – at much lower risk.

New services, new applications can now take full advantage of core business systems, and their associated data, without the need to develop complex gateways. For the organization, this opens up a whole new raft of possibilities, especially in real-time systems, Big Data and mobile computing.

Winning over the first customers
The functionality and quality of the tools – along with Atos’ commitment to performance – quickly convinced major organizations to use Liber solutions. Benchmarks carried out on production systems highlighted significant performance improvements, as well as major cuts in recurrent costs.

Operational excellence
Atos supports you through the digital transformation of your organization, your processes and your infrastructures to boost your agility, service quality and control over your running costs.
Liber gives CIOs the room to manoeuvre that they need, both technically and financially.
About Bull, the Atos technologies for the digitale transformation

Bull is the Atos brand for its technology products and software, which are today distributed in over 50 countries worldwide. With a rich heritage of over 80 years of technological innovation, 2000 patents and a 700 strong R&D team supported by the Atos Scientific Community, it offers products and value-added software to assist clients in their digital transformation, specifically in the areas of Big Data and Cybersecurity.

Bull is the European leader in HPC and its products include bullx, the energy-efficient supercomputer; bullion, one of the most powerful x86 servers in the world developed to meet the challenges of Big Data; Evidian, the software security solutions for identity and access management; Trustway, the hardware security module and Hoox, the ultra-secure smartphone. Bull is part of Atos.

For more information: [www.bull.com](http://www.bull.com)