

Successful Legacy Systems Modernization for the Insurance Industry

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Executive Summary

Life, Property and Casualty, and Group insurers face more significant market headwinds than ever. Firms must simultaneously lower operating cost ratios, improve customer experience, comply with new and existing regulations, accelerate time to market on new products, and adapt to disruptive technology trends such as mobile and social. Unfortunately, many companies find themselves constrained by antiquated legacy systems for billing, policy administration, claims, underwriting, and broker/agent management to achieve their goals requiring them to modernize their systems and applications. This white paper takes a data management perspective on modernizing these legacy systems, examining the business purposes, benefits, risks, and dependencies of three different approaches.

Business Drivers for Systems Modernization in Insurance

A 2013 LOMA industry survey identified modernizing legacy systems as one of the top three technology investments in the insurance industry. The following business needs are driving the push for modernization:

- **Reducing Costs:** Organizations have to develop and implement workarounds to supplement the limited business capabilities of their existing legacy mainframe-based claims, underwriting, policy administration, and billing systems. As a result, managing and operating these systems is costly, and becoming more so over time.
- **Time to Market:** Life and P&C insurers are constantly launching new products and services to compete and the speed in which they are delivered is a critical market differentiator. In addition, demand for greater customer loyalty and new delivery channels including mobile are rising and legacy systems often are not able to meet these requirements due to legacy system complexities and reliance on code modifications even for simple changes to existing products and services.
- **Improving Operational Efficiency:** Higher combined ratios and lower profit margins are forcing firms to improve their level of operational efficiency. Automating manual processes and minimizing paperwork is critical to this goal, but in a legacy mainframe environment, years of custom coding and limited integration capabilities make increasing straight-through processing is extremely difficult.
- **Limited skills and increased system risks:** Legacy systems at many Life and P&C insurers date back 40 years or more. IT employees skilled in those systems are at or near retirement, with few younger employees with similar skills available to take their place. Moreover, the older a legacy system, the less likely the vendor is to support it, further increasing overall operational risk.
- **Mergers and Acquisitions (M&A):** The insurance industry has seen a significant amount of M&A activity over the last two decades. Post-M&A strategies to sustain growth and meet shareholder and market expectations in a combined IT organization often center on retiring and replacing legacy IT systems.

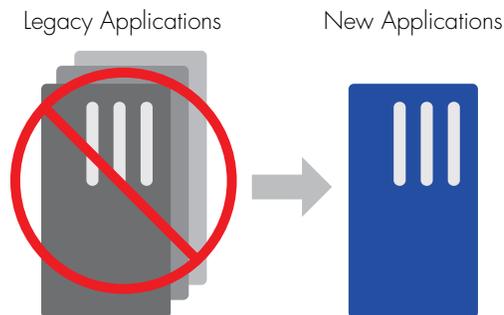
For these reasons, legacy modernization investments are important today and will continue to be part of virtually every insurer's IT roadmap for at least the next decade.¹ There are three different approaches to modernization:

- Replacing the legacy platform with packaged solutions
- Bolting on new functionality to existing legacy platforms
- Migrating from the mainframe to more modern mid-range platforms

Each has a specific business purpose, benefits, risks, and dependencies from a data management perspective.

¹ http://www.insurancenetworking.com/news/Celent_insurance_core_systems_legacy_modernization-28801-1.html

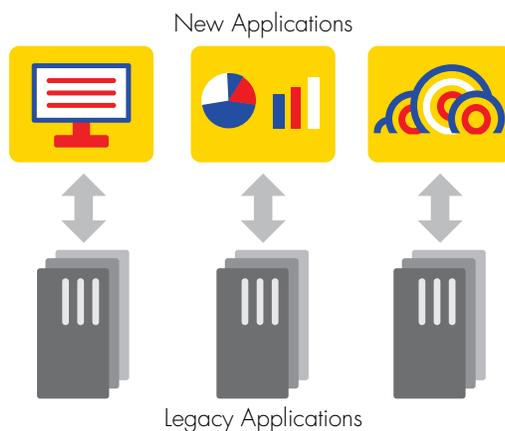
Option 1: Replacing the legacy platform with packaged solutions



Some companies' legacy systems do not meet modern demands as is, but would be too costly and complex to customize. For these insurers, the preferred approach is to replace mainframe-based legacy application to modern three- or four-tier packaged applications for policy administration, claims management, and other core insurance processes. Notable providers in this space include Guidewire®, Pega®, StoneRiver® SAP®, Oracle®, Accenture®, Infosys®, and others.

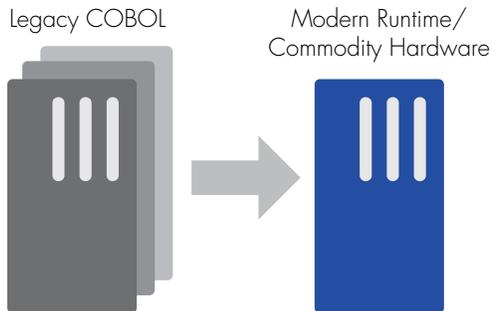
This approach migrates existing business books off the mainframe and completely replaces existing application logic. In addition to dramatically expediting web and mobile access capabilities, it enables companies to relieve pressure on overtaxed IT teams by minimizing the number of custom applications they have to maintain.

Option 2: Bolting on new functionality to existing legacy platforms



Where complete platform replacement is not an option, firms large and small are modernizing to meet business demand by adding or integrating additional on-premise or cloud-based software solutions on top of existing legacy applications. Some of these additional capabilities include agent/broker/customer portals, mobile delivery, customer relationship management, sales tracking and reporting, analytics, and reporting. The ability to access and share data, business rules, and processes between these new systems and existing legacy environments is critical to success.

Option 3: Migration from the legacy mainframe to more modern mid-range platforms



Even when a firm has sufficient application capability on its mainframe, the dwindling availability and rising costs of mainframe maintenance and legacy application development make migrating off the mainframe a compelling need. According to Gartner, many Life and P&C insurers are now converting applications written in legacy languages such as COBOL to a more modern language and runtime environment such as C#, Java or C++. Code transformation solutions share a common technological approach of parsing source code into an intermediate representation, then using language grammars similar to those used by compilers to generate new source code in the new desired language.

Avoiding Common Challenges of Insurance Legacy Modernization

Every approach to modernization — a complete platform migration, adding new capabilities to existing legacy systems, or migrating from a legacy mainframe to more modern language and runtime environments— involves costly pitfalls to avoid. The Informatica Platform offers a way to address these challenges through data migration, data integration, data quality management, data privacy, data transparency, and data archiving capabilities.

Challenge #1: Ensuring that data migration and sharing is successful and timely

Done without proper planning and execution, modernization initiatives can significantly disrupt existing business processes and operations — and because they are major investments, they are highly visible and come with high management expectations. It is no surprise, then, that an industry survey shows a large number of these endeavors fail to meet the original business goals and expectations for the investment.² From a data management and IT standpoint, ensuring proper and timely migration of data from legacy systems and applications to your new applications is essential to prevent cost overruns, avoid data gaps in your new applications, and provide your business users with the appropriate data to leverage your new application investments.

² Celent, Legacy and Mainframe, Migration: An Insurance Imperative, 2006

Years of complex COBOL scripts that transform raw data for business use can make your legacy reference, master, and historical data difficult to access and interpret. Without adequate system and data documentation or the proper experience identifying required data, your IT staff will struggle to migrate the necessary data in a timely fashion, delaying the rollout of new applications.

Your firm must be able to share data effectively between legacy platforms and new core insurance applications, including finance, risk management, sales, support, and marketing. Business continuity and success depends on this data being available in the required formats, structures, and latencies. Wherever possible, your firm must avoid hand-coding critical transformations to avoid the costs and risks of “black box” processes.

How can Informatica help?

Legacy modernization projects involve complex data migration, including accessing data from closed sources, unraveling complex business logic coded in COBOL, transforming data from legacy tables into the new system, and ensuring proper mapping to target databases and code tables. Ensuring a successful migration process requires technology that can expedite this process, lower the risk of errors, and eliminate project delays caused by hand-coding these processes or using unproven tools.

Informatica’s Data Integration software, leveraging Informatica’s virtual data machine (VDM), is designed for legacy modernization data migration. VDM is an embeddable data management engine that separates the instructions and specifications that map out the business logic for handling data from the underlying execution technology. It allows developers to create transformation mappings and rules capturing all the complexity in simple visuals that can be built once and leveraged across your information architecture. It includes hundreds of pre-built data transformations designed to address common data migration processes, all of which can be customized for specific requirements.

Challenge #2: Incorporating data quality management early and often

The #1 reason for data migration delays and errors is unforeseen or unknown data quality errors. Legacy systems often contain duplicates, missing values, misspelled values, non-conforming values, and other hidden data quality errors which only come to light when combining data from multiple systems. This often occurs when replacing multiple legacy applications performing a similar function (e.g. policy administration) with a single more modern solution. Dealing with data quality errors after loading the new applications with dirty data can also impact business value from those new investments.

How can Informatica help?

Informatica’s Data Quality solutions encompass all facets of proactive data quality management, including data profiling, error discovery, quality rules management, data quality monitoring, and reporting. These help to identify data errors and anomalies from legacy source systems, qualify the extent of these errors, and allow data stewards and analysts to collaborate and define data quality rules to fix discovered errors such as defective address information, incomplete policy numbers, misspelled policy owner, insured and beneficiary contact information, and rate tables. To keep data error-free in the new environment, the data quality process should be performed early and often: at the initial development phase, during testing and development, and post-migration. After implementation, Informatica’s data quality scorecards and real-time monitoring capabilities give business users and stakeholders ongoing visibility and insight into data quality levels so any errors can be discovered, communicated, and dealt with in a timely and transparent manner.

Challenge #3: Validating and auditing data

Validating every mapping, transformation, and data quality rule prior to sharing data between systems is critical for successful systems modernization. Every business rule translated from custom code must be validated to ensure the transformations are valid in the new system or applications. However, humans performing validations with spreadsheets are slow and fallible, driving up costs, delaying projects, and potentially introducing or overlooking errors. From an audit and change management perspective, it is vital to identify each transformation and cleansing process in order to identify and correct any errors in the migration and integration process as accurately and quickly as possible.

How can Informatica help?

Informatica Data Validation enables complete data validation and reconciliation testing without the need to write time-consuming and error-prone testing scripts. IT users can quickly test for errors introduced by data migrations and transformations, eliminating costly business decisions based on bad data. The option provides the automation and performance necessary for rapid reconciliation testing of production data, and can also be used in development and test environments.

Informatica's Metadata Manager collects metadata from across data integration environments and provides a visual map of the data flows within that environment. It provides the visibility and control needed to manage change, reduce errors caused by change, and ensure data integrity. It helps increase IT productivity by making it easy to scope projects and understand the impact of proposed data integration changes before they are implemented. It also ensures regulatory compliance by minimizing errors and providing a complete audit trail of data flows and transformations.

Pitfall #4: Protecting sensitive information during testing and development

Regardless of what legacy modernization approach is taken, protecting sensitive information in data used for development and testing activities is critical to avoid the financial and reputational damage costs of a data breach. Manual masking techniques have been proven inadequate, not just because they risk breaking data dependencies and relationships but because it's possible for thieves to reverse engineer them to expose sensitive information such as names, addresses, policy numbers, Social Security numbers, and financial data.

How can Informatica help?

Informatica Persistent Data Masking is a highly scalable, high-performance data masking software solution to help your IT organization manage access to your most sensitive data. Informatica Persistent Data Masking shields confidential data from unintended exposure by creating realistic, de-identified data that can be shared safely internally or externally. This enables insurance companies to reduce the risk of data breaches in nonproduction environments, produce higher-quality test data, streamline development projects, and ensure compliance with data privacy mandates and regulations.

Challenge #5: Decommissioning legacy systems effectively

Business users at insurance firms often need ongoing access to historical code tables and transactions for legal, pricing, and policy servicing reasons. However, manual archiving methods such as database backups and offline tape storage make accessing that data difficult and inconvenient. As a result, many companies continue to operate legacy systems even after they implement new applications, even though this is both expensive and risky. Modern archiving techniques allow firms to retire legacy applications in a timely, appropriate way while supporting easy business access to legacy data.

How can Informatica help?

The Informatica solution for application retirement stores legacy data in a highly compressed format and archives it to a central store, preserving the original application context within the archived data so it can be managed with current, open technologies according to relevant data retention and disposal policies. The solution can extract data from hundreds of legacy applications and the full range of relational databases that are part of your application retirement program, storing it in any storage system or repository.

Users can access archived data on demand through the Informatica Data Archive data discovery portal or by using any enterprise reporting or business intelligence tool supporting standard SQL/ODBC/JDBC connections. By complementing your email and file archiving, enterprise content management, or early case assessment solution, the Informatica solution for application retirement enables your organization to manage all types of data, including structured data in databases, more efficiently.

Challenge #6: Managing information fragmentation across applications

Insurance companies rely on many different systems and applications that house and manage customer, policy, claims, agent/broker, and beneficiary information. These systems and applications must share a single, coordinated version of the truth to prevent poor customer experience, low sales productivity, lower marketing response rates, higher risk of customer dissatisfaction, and legal actions against the firm.

How can Informatica help?

Informatica provides a solution to create a single independent hub of business reference and master data, including customers, beneficiaries, agent/broker, policies, and services as well as the business rules that relate these entity relationships. Informatica Master Data Management for Insurance Providers is designed to capture disparate reference and master data from operational systems, identify the trusted record, manage relationships between entities, and deliver the results to both the source and to downstream analytical applications, including data warehouses used for reporting and analysis. Informatica Master Data Management provides a new way of managing this information outside of each independent system, regardless of business area or geography, for a view of the business centered on the customer rather than the policy.

Conclusion

The market conditions driving the insurance industry to modernize its legacy systems are unlikely to reverse themselves any time soon. To keep up with these market conditions and realize full value from their technology investments, insurers must choose strategies, people, processes, and technology that address all the challenges of modernization. Informatica offers solutions that meet the needs of today's insurance industry, including solutions designed to be industry-specific.

For more information on our insurance solutions, please visit us at www.informatica.com/insurance.

About Informatica

Informatica Corporation (Nasdaq:INFA) is the world's number one independent provider of data integration software. Organizations around the world rely on Informatica for maximizing return on data to drive their top business imperatives. Worldwide, over 5,000 enterprises depend on Informatica to fully leverage their information assets residing on-premise, in the Cloud and across social networks. For more information, call +1 650-385-5000 (1-800-653-3871 in the U.S.), or visit www.informatica.com.



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