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GFT ■

Mainframe modernisation in life insurance savings

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01.
Introduction

" The insurance industry has seen a boost in life insurance savings products in recent years, driven in part by banks' conservative non-interest bearing deposit strategies, as well as the recent rise in interest rates. However, to take advantage of market tailwinds, insurers need to modernise the core, leveraging open environments that incorporate new technologies such as Artificial Intelligence (AI) or Big Data to put data at the heart of their strategies."

Life insurance savings products, which combine the advantages of life insurance with those of savings plans, have become increasingly popular in recent times. According to Oliver Wyman's analysis, the market capitalisation of the European life insurance and pensions sector could increase by EUR 400 billion over the next five years, doubling its size. The growth of this type of product is largely due to its flexibility and ability to adapt to customers' different savings capacities, although it requires more advice due to the number of variables that need to be taken into consideration.

In this context, insurers that have already started their digital transformation processes in the non-life insurance segment are beginning to explore how to extend the benefits of this modernisation to their entire product portfolio,

including Assured Pension Plans (PPAs), Unit Linked, life annuities or individual deferred capital insurance with profit sharing, among others.

The stringent governance and risk requirements of life insurance savings products, and the need for careful management based on mathematical balance sheet provisions that have to be accounted for individually, meant that insurers had to proceed with caution, delaying the modernisation of their core business. However, given the positive results from the move to cloud in other insurance segments, and fueled by growing demand and increased competition, many institutions are deciding to act. They have started to migrate their mainframe environments to the cloud to be able to adopt AI and automation tools that provide competitive advantages.

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02.
Debunking mainframe myths

The use of mainframes was at its height several decades ago, when the state of technology at the time justified entrusting the core to this type of monolithic infrastructure. As a result, mainframes became commonplace in the banking and insurance sectors. They are still widespread today — mainframes continue to handle 87 percent of all credit card transactions worldwide, as well as 29 billion ATM transactions each year, according to IBM data.

However, technological innovations in recent years have completely changed the landscape, and arguments in support of the mainframe have now become little more than myths. These are some of the myths that open environments are progressively banishing:

MAINFRAMES OFFER UNMATCHED STABILITY. Not true. Today's cloud environments are capable of offering robustness, availability and reliability on a par with the mainframe, with the added benefit of greater flexibility and agility.

MAINFRAMES CAN HARNESS AI. New technologies – such as Artificial Intelligence (AI), RPA (Robotic Process Automation), Big Data or lowcode – that allow applications to be modernised and implemented without coding knowledge are difficult to harness in mainframe environments and, when they are, costs are extremely high.

MAINFRAMES ARE THE STANDARD. There was a time when this was the case in certain sectors. However, standardisation is now moving in a different direction, towards cloud environments in which the diversity of providers and a lower level of complexity encourages competition and reduces dependencies.

THE MAINFRAME IS FOREVER. The machine might persist in this sector, but what about COBOL developers and systems technicians? The lack of qualified personnel in this type of technology is even more pronounced than in other areas, with most of the people in charge close to retirement and without replacements.

As well as these banished myths about mainframes, cloud modernisation offers a number of advantages. One of the most significant is the considerable reduction in the cost of maintaining the entire infrastructure. The budgets needed to support a mainframe installation are rising, unable to compete with cloud, even with the new pay-per-use methods introduced by some manufacturers. We estimate that modernising a monolithic environment can result in infrastructure and operational savings of between 50% and 75% of costs.

The flexibility provided by cloud environments also overcomes the issue of rigidity that characterises the mainframe. Dynamic and intelligent provisioning, workload automation and unlimited supercomputing capacity on a pay-per-use basis are just some of the benefits of core modernisation. An open environment also helps accelerate time-to-market when bringing new products and services into production, by leveraging new productivity tools such as automation and AI.

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03.
GFT's methodology

The process of moving from a mainframe infrastructure to open systems cannot be improvised. GFT's complete methodology serves as a guide for carrying out this type of project. It is based on the fundamental principle of customisation, as it is not possible to follow the same approach for all customers and in all situations.

To minimize the risks of digital transformation and manage change effectively, we incorporate aspects such as context and business culture into this working methodology. The Mainframe Modernisation Customer Journey methodology has five key phases:

1. Awareness

This phase focuses on how mainframe environments are no longer aligned with business objectives, either from an operational point of view for the reasons mentioned above, or from a cost perspective.

2. Research

Through a Rapid Assessment Report conducted over several weeks, we visualise the customer's needs and put together a detailed view of the infrastructure, costs and business case to simplify the decision to move forward with core modernisation.

3. Evaluation

Together with the client, we analyse the modernisation standard(s) to be adopted. Conducting a proof of concept is always recommended to ensure the suitability and viability of the options selected.

4. Adoption

Since a mainframe modernisation project is much more than converting code and migrating data, this fourth phase defines all aspects of the topology and sizing of the cloud infrastructure, the software development lifecycle and the testing environments, among other aspects.

5. Operation

Once in production, it is important to take into consideration that IaaS and SaaS cloud providers do not provide system operation services. To remedy this, we offer a comprehensive solution, based on ITIL methodology, to manage production and non-production environments in line with the customer's strategy and needs. It is an end-to-end management service, from the first level of support to the operator and technical teams, dealing with incidents, monitoring and even change management.

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04.
Customisation and à-la-carte options

Each mainframe modernisation project is different, and our work methodology allows for these differences. For example, during the evaluation phase detailed overviews of both the current and future states are provided. Once an exhaustive code analysis has been carried out – including inventory and statistics on databases, programming languages, transactions and so on – we evaluate the different modernisation approaches together with the client.

In this process, neutrality is critical, so that the adoption of one approach or another is determined by the individual needs of each customer. Different approaches are commonly applied simultaneously in the same installation, depending not only on what needs to be migrated, but also on other parameters that are collected in the research phase.

Migrating the core to a standard market solution may be a good option for other insurance segments, but this is not the case for most life insurance savings companies. The solutions available on the market are not easily able to accommodate the complexity of code and applications that the life insurance savings segment requires. Adapting market solutions (when it is necessary to customise a market solution beyond 10-15%) rather than adopting them is a tempting option, but results in higher costs and longer project timescales, often without obtaining the expected results.

On the other hand, an à-la-carte approach allows hybrid solutions to be deployed, especially in cases where insurers are reluctant to fully migrate to a cloud environment due to the nature of the sensitive personal data they handle. Our experience means that this approach, which is more inclined towards an on-premise environment, does not miss out on the flexibility and agility that open environments bring with them. In this way, it is possible to combine both options by leveraging APIs.

Approaches to modernisation:

the 8Rs

3. Rewrite

The coding of all functionalities is redesigned and modernised, replacing existing elements but preserving their scope and functionality.

4. Refactor

Restructures and optimises existing code in the source environment. The aim is to eliminate or reduce technical debt without modifying application functionality, and to improve non-functional features.

5. Replatform (Lift and Reshape)

Migrates the execution platform with minimal code changes. The code structure, features and functions remain unchanged. This involves a data migration.

1. Rehost (Lift and Shift)

Moves the application components off the mainframe and migrates them to another infrastructure, preferably cloud, without having to modify the application code or its features and functions.

2. Rearchitect

Updates the source applications under a modern architecture through an automatic code conversion and data migration process. In this way, the programming language, database management system and architectural components are changed while maintaining all the business logic included in the source code.

6. Rewrapping

Publishes a series of functions and/or data so that they can be enriched and consumed outside the source system. It encompasses two complementary options: APIfication (access via API) and off-loading (near real-time data synchronisation).

7. Repurchase

Acquisition of a product distributed by a software vendor, i.e. a market product. This modernisation model is appropriate when the organisation's culture is based on adoption, but not when the organisation has an adaptive culture.

8. Retire

Remove functionality because it has become obsolete, redundant, too costly, or for any other reason the organisation deems appropriate.

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05.
The ongoing process of evolution

A digital transformation process must always be undertaken with a long-term view, as the future performance of the company will depend on decisions taken in the present.

For example, where changes to an application are planned in coming years, it is advisable to rewrite the application in order to leave better-designed code for the needs of tomorrow. For rarely-used applications, on the other hand, an automatic transformation may be a cheaper and more reasonable option.

The modernisation of the insurance core should not be seen as a single goal, but as a journey: the rapid evolution of technology as well as changes in the insurance market mean that modernisation is an ongoing process.

The transformation towards open systems and cloud environments must provide the ability to evolve with the market, both functionally and technologically. The method that we deploy at GFT aims to provide organisations with the flexibility and agility necessary to continue evolving at speed, something that is virtually impossible in a monolithic environment.

06.
Testing automation

In any migration from mainframe to open environments, testing is one of the essential elements. In projects involving highly complex systems, such as those used for life insurance savings products, our experience indicates that over 50% of the implementation effort is directly related to testing, to ensure that in production all products, processes and applications will work as intended.

We harness the most innovative technologies for this purpose, and the same automation tools used for code transformation are relied on for test automation. In the same way that accelerators shorten research and evaluation times, these automation tools further optimise testing times. Performance tests, which among other things evaluate possible latency issues when workloads run in the cloud, are the basis for performance tuning and optimisation.

In addition, we use Generative Artificial Intelligence (GenAI) to, for example, generate automatic tests, create test data or document mainframe code (creating vital knowledge since in many cases this is undocumented). This provides insurance IT departments with more know-how, better preparing them for the future development of their systems.

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07.
Life insurance savings: the last frontier

The success achieved by the insurance sector in modernising its monolithic environments in less complex insurance segments has created the strongest incentive to cross the final frontier: migrating the core of life savings insurance to the cloud.

This allows companies to take advantage of all the potential that new technologies offer and to boost their business model, taking advantage of market tailwinds. Far from falling, the cost of millions of instructions per second (MIPS) is rising.

Maintaining a mainframe installation is becoming increasingly resource-intensive, with fewer skilled personnel. Business risks are also increasing, as competition becomes more agile with the adoption of technologies such as AI, which can

reduce the time-to-market for new services that are tailored to increase margins and reduce cost.

This situation has made the leap to the cloud an imperative. However, modernising the insurance core requires the support of expert professionals, such as GFT, with a flexible working methodology that fits perfectly to the needs and business culture of each client. This methodology allows the process to be simplified and streamlined through the accelerators it incorporates in the research and evaluation phases, helping to minimise costs.

Breaking this final frontier provides life insurance savings with the opportunity to leverage the decades of data stored on mainframes to enrich the machine learning and predictive analytics processes that cloud computing brings. At the same time, insurers close skills gaps, attracting new talent in the most innovative technologies and opening the possibility for upskilling in existing IT areas.

In the midst of an inflationary climate in which it is increasingly necessary to respond to changing market needs, the cloud offers insurers a way to reduce technical debt, generate more value and create new business opportunities with differentiated products.

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08.
Our experts

Alejandro
Bermejo Garrido
⌐

Executive Director

Alejandro is Executive Director at GFT responsible for the Insurance Sector in Spain and Central and Western Europe. He has more than 20 years of experience leading strategy, business development and consulting services operations for key insurance companies in Spain and Europe, helping them transform their business and IT processes through new technologies.

Prior to joining GFT in 2021, Alejandro worked at Inetum for six years as Insurance Director, and before that at Accenture for eight years in a variety of roles.

Alejandro studied Computer Engineering at the Pontifical University of Salamanca.

Enric Pérez
Fernández
⌐

Technical Program Manager
and Senior IT Architect

Enric is a Technical Program Manager and Senior IT Architect at GFT. He has more than 30 years of experience in IT development, architecture and infrastructure. His work focuses on mainframe optimisation and consumption reduction, mainframe IT architecture, core business evolution and IT operations automation.

Prior to joining GFT in 2010, Enric worked for almost two decades at Deutsche Bank Spain, where he held various responsibilities, the latest being director of architecture and infrastructure.

Enric studied mathematics at the University of Barcelona.

Antonio
Agramunt
Bertolotti
⌐

Global Head of POD
Modernisation

Antonio is Global Head of Product-Oriented Delivery (POD) Modernisation at GFT. He has almost four decades of experience in the IT industry in software, development, database, IoT, ERP and global projects.

Throughout his career, Antonio has worked in several multinational IT companies, including IBM between 1997 and 2017. During his career at IBM, he held various positions at both EMEA and global level, with a wide range of responsibilities including outsourcing projects, ERP implementations in education and manufacturing, partner development and overseeing the IBM Software Labs in the Mediterranean.

His technical expertise and solid knowledge of sectors such as defense, banking, administration and manufacturing make him a well-versed professional. Since joining GFT in 2020, Antonio has been leading projects related to mainframe modernisation.

Antonio holds a Master's degree in Information Society and a Bachelor's degree in Computer Engineering, Social Sciences and Humanities.

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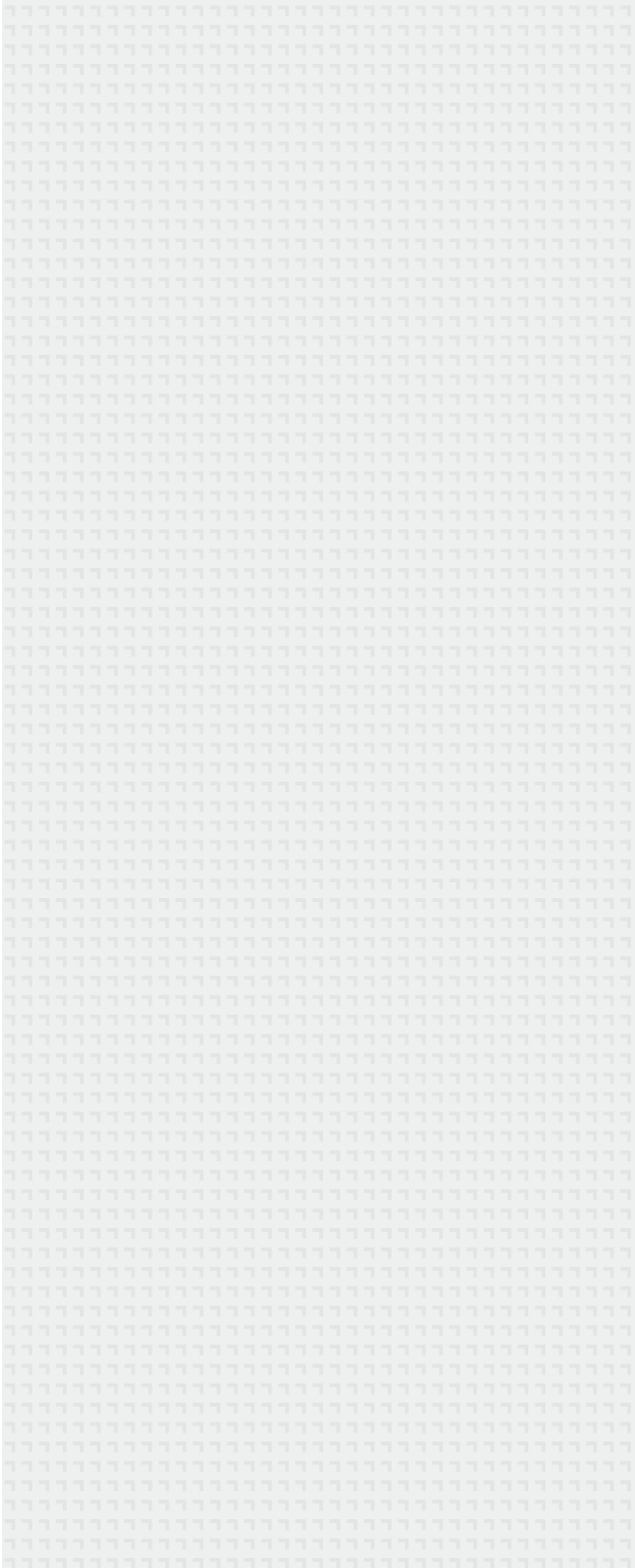# About GFT – Shaping the future of digital business

GFT is a digital transformation pioneer. By leveraging next-generation technologies, we enable clients to boost their productivity with intelligent software solutions. We focus on Digital Finance, Enterprise AI & Data Solutions, and Platform Modernisation.

GFT's strengths include deep technological excellence, a strong ecosystem of partners, and industry expertise. We are agile@scale and boost digital transformation for clients from the finance and insurance sectors, as well as the manufacturing industry.

GFT talents create, implement, and manage software applications to enable innovative businesses while complying with regulations.

With locations in 20 markets around the globe, GFT ensures proximity to its clients. We draw on over 35 years of experience and a global team of over 12,000 determined talents. GFT provides them with career opportunities in the most innovative areas of software engineering. The GFT Technologies SE share is listed in the SDAX index of the German Stock Exchange (ticker: GFT-XE).

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