SAPIENS

Microsoft Azure

The Art of Successfully Migrating Complex Legacy Systems to Modern Life Insurance Platforms

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Introduction

The Life & Pensions industry continues to evolve at an ever-increasing pace, more especially since 2020. Greater responsibility is being piled onto life insurers and associated providers to fill the gaps in protection and income provisions being created by the shrinkage of state benefit allowances.

Insurers are grappling with increasing customer demand for new, digital products and features and complex administration requirements governed by regulation to protect the customer while, nevertheless, trying to remain competitive. As a result, they are resorting to some rather imaginative new deployments and customisations of existing systems in order to incorporate new product and processing requirements.

So, we find ourselves in an odd age of complex, archaic and unsupported business architectures, in which component systems are doing what the original designers never really intended.

Yet the solution to this challenge provides an exciting aspect to this ongoing issue – creating modern componentised solutions. In other words, when combined with industry experience, the execution of API layers to integrate with the external regulators, stakeholders, and service providers, we can now implement modern, cloud-hosted and fully web-enabled offers with enough flexibility to host complete historical, current and future products and operational regimes.

The less glamourous part of the process is migrating the clients and products from the legacy morass into this finely tuned, well-organised, clean environment.

So to migration. There are indeed companies out there that do nothing else but migrate systems, ensuring business continuity, migration from any platform that can be based on almost any technology. A key differentiator lies where the originator of a new end-to-end solution has its own capabilities supplied as part of the implementation process. It is the solution's original architects who know intimately the best approach to dirty or missing data, and how a pragmatic approach can be formulated to ensure that there are no surprises when the real switchover happens.

This paper provides insight into this subject, gained from Sapiens' almost 40 years of performing successful system migrations for our clients:

Our focus and insights aim to offer solutions for tackling the following elements:

- An effective product rationalisation and consolidation strategy
- Avoidance of diminishing returns when prioritising style over substance
- Eliminating spend on migrating irrelevant data
- Ensuring that data cleansing does not end up being the main task
- Defining the data required to ensure the nearest to best performance post migration and comply with

Products

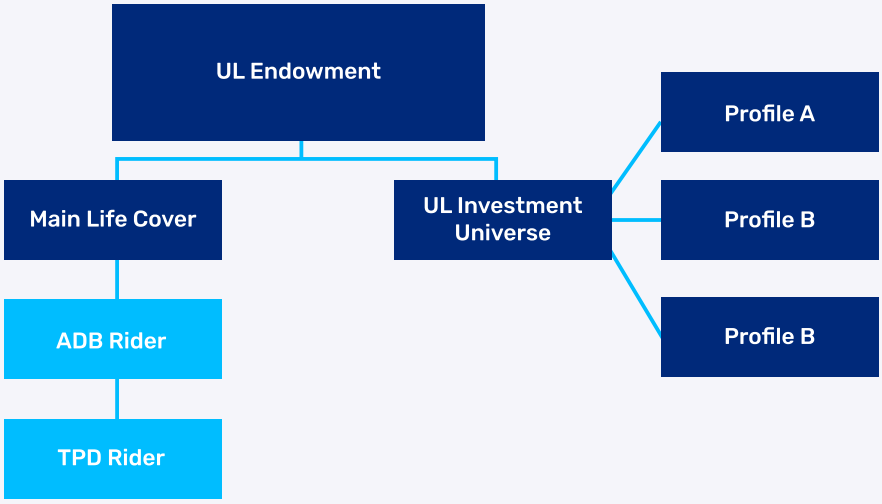
Here we are talking about the products that reside in the legacy environment. These will need to be replicated in the target system however, they offer the opportunity to rationalise and consolidate several "versions" of similar products. Individual Pensions administered in legacy systems are largely monolithic and bear little in the way of consistent and re-useable component structures, especially if they have been somehow retro-fitted into a system designed with protection products in mind.

The repeatable building block approach, where base components can be used for different product types and versions, enables each block to behave correctly in relation to the specific product to which it is attached, resulting in product consolidation.

Encountering a legacy environment in which the owners of said environment boast of managing hundreds of different Endowment Product versions is a prime indicator that there are huge business operational and systems maintenance savings to be had from condensing these myriad monolith products into a rationalised line, supported by a repeatable product library.

Repeatability in the new environment, and the breadth of products that can be replicated by re-use of available components are enablers, not only replicating legacy products but also for the generation and maintenance of products that will continue to evolve in the future.

Figure 1: Repeatable Product Structure:



The Insurance Business Process

Managing like products in different silos and systems results in different processes doing essentially the same thing but with differing results. This also dictates the need for people to be trained on how to navigate what can be very idiosyncratic functions, thereby duplicating effort and requiring specialist allocated operational staff.

Migration of these siloed functions "as is" into the new environment is inefficient.

The opportunity to rationalise and consolidate process as well as product contributes enormously to the operational and maintenance savings that can be achieved from a migration. Taking advantage of a common adoptable mode of processing (where product process nuances are managed by repeatable and shared operation rules deployed in the platform), avoids siloed processes and enables multi-tasking across the business portfolio.

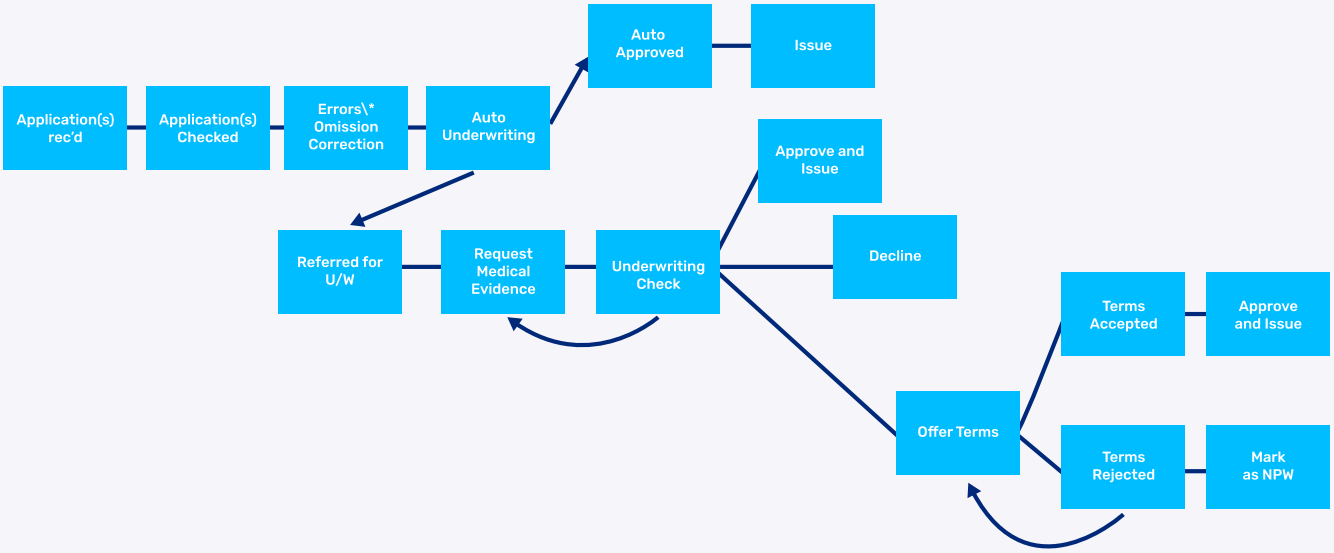
Implementing a regime of "Adopt not Adapt", where the business is actively challenged to move away from these legacy processes in favour of a new, common and pragmatic operational model, actually requires an understanding of the full insurance business process, including those things that happen externally and with which there is a mutual dependency.

Event-driven architecture provides the automation for each event in the chain to have its own dependency, and will only hold up the overall process if it does not have what it needs to execute. However, once it has, downstream events can simply get on with their business.

Figure 2 below shows a simple representation of the process that applies to a policy application after completing an illustration/ quotation process and moving on to complete an application.

The repeatable process structure is used irrespective of the product type being applied for. If it is a non-underwritten plan, such as a bond, then the underwriting events do not kick in. The individual events shown are atomic items of work that will behave based on the product and processing rules associated with the application.

They can also be distributed or utilised by other platforms and systems as a service.



Processing Rules

Flexible, reusable rule sets complete the picture as far as setting up a flexible and agile environment is concerned. From here the insurer can manage the core elements of the Insurance Business Process. Rules can be created to enforce the correct behaviour and validation of products and product versions through common processes, automatically as far as possible.

The Business

In terms of business focus, it is the operational areas where this theory impacts day-to-day operations.

Engaging with the business to fully understand current methods and functions, and translating them effectively so they can be mapped onto new processes requires discipline on both fronts. On the first we have the experts in the processes to be Adopted, and on the other, experts on the processes to be moved away from (the "Adoptee's" if you will).

There will be instances where changes to the practice to be adopted will be mandated, and typically these result from very specific contract or regulatory terms which will need to be tested. But it will still need to be tempered by the reality that just because you can automate something, if the effort is disproportionate to the benefit it may not be worth it.

So again, it boils down to experience as to how to manage these scenarios.

The result however will be a team of Adoptees who are informed and can take ownership of the business process. Once deployed, and operational, specific issues will almost immediately come to light that will require the implementation of additional requirements.

However, at this stage the business will be better equipped to understand and relate to where these requirements will impact the overall process, through the tighter integration and business analysis and execution process.

Digital & Connectivity

Distribution partners must ensure that they have put in place a range of requirements necessary to sell insurance products suited to the customers' needs, while meeting the appropriate Know Your Customer and Conduct of Business requirements. These comprise:

- Real time connectivity
- Information sharing
- Straight-through processing
- Reduced policy issuance timelines
- Regulatory compliance support

A connected insurance platform utilises experience and processes APIs to orchestrate distribution partners and direct client activities and experiences, irrespective of their chosen device. A centralised business execution core that will fulfil these requirements immediately (and is not dependent on completion of next week's batch run) is what will position insurers to emerge successfully into the new "connected" distribution market.

These attributes largely do not exist in an extensive, manually extended and highly customised legacy architecture.

Alignment with Migration Source

As yet, we have not really touched in any detail on migration. What we have focused on up to now is the crucial work that needs to create alignment with the migration source as a first stage. What we have described is called the "business aligned foundation", and how what it provides should be adopted to manage the clients, products, processes and linked rules that are to become its responsibility once it has data to work against. So let's recap on this foundation and outline its core elements:

Product Definition and Management:

- Repeatable Components
- Assembled in multiple combinations to replicate any new desired products or legacy
- Products to be assimilated
- Aligns to the philosophy of the business

Process Definition and Management

- Common repeatable modus
- Covers the end to end Insurance Business Process

Rules Definition and Management

- Ability to extract business rules from Source Systems
- Ability to assimilate and create new business rules
- Managing process nuances
- Implement business distinctiveness

A target container for legacy data

- Rationalised and Consolidated Product Lines and Processes
- Party Centric, single client record with multiple roles
- Repeatable and aligned to the model of the business that has adopted it

Support for Distribution

- Full view of distribution process and stakeholders
- Elimination of processing bottlenecks and blind spots

Platform consolidation

- Single point of reconciliation
- Single point of regulatory compliance (updating a single system vs multiple systems)
- Operational efficiencies from moving to a single operational structure
- Operatioinal load balancing enabling better deployment of resources to meet industry highs and lows

The Power of Repeatability

Much of what resides in legacy systems in terms of product and process reflects the business philosophy and differentiators of the insurance company that has spent much time and effort to establish these principles. So, does the action of migrating this across in an adoptive manner homogenise the way the business operates? In fact, quite the opposite. Adopting a business process model to assimilate business nuances and differentiators through the deployment of flexible rules introduces a repeatable and flexible model into the business.

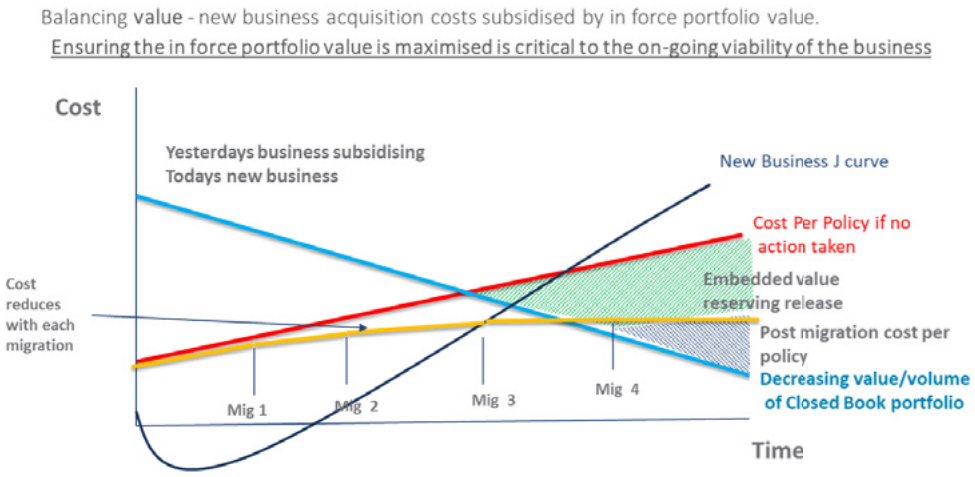
Take a look at the following extract from the Harvard Business School publication "The Great Repeatable Business Model" from 2011 to get a better insight as to why this might be the case:

"The power of a repeatable model lies in the way it turns the sources of differentiation into routines, behaviours, and activity systems that everyone in the organization can understand and follow so that when a company sets out on a particular growth path, it knows how to maintain the differentiation that led to its initial success…..

Analysis of our 200-company database reveals that 83% of the best-performing businesses had established explicit, widely understood principles across the organization, while only 26% of the worst performers had done so."

Releasing the Reserves and Reducing the Technical Debt

Whether the business is purely in run-off or a combination of run-off or live? with an eye on business expansion and acquisition, they will need to release reserves embedded in the existing book(s) that would otherwise be absorbed into staff costs and maintenance.



High level view depicting the natural attrition and value of the in-force portfolio, the 'balanced' increasing value of the new business portfolio and the impact of reducing maintenance costs through migrations to Sapiens

With each completed migration comes the ability to switch off machinery, terminate legacy contracts and make better use of resources, all of which, up until the point of "switch off", represent a technical and operational debt to the business.

Data

Efficient migration of legacy platforms is a major contributor to reducing ongoing technical debt and enabling strategic objectives. These typically include the need to become a low cost/high efficiency operation geared towards expansion of established and/or new fields of operation.

However, there is often a strong tendency to take all the historical data from the old system into the new one. In reality, the new system only needs the data required for its operational purposes. The rest of the data is of no use going forward and serves only as a record of what the old system held. The business rationale here is that 'we may get an enquiry about it'. The reality is that such enquiries are rare. In fact, fixing data when the opportunity arises is a powerful way of cleaning up past problems when they emerge.

The best way for a specialist migration firm to understand which data is required by the new system and when to perform an extensive evaluation of the target system. This is likely to conclude that serious gaps exist between the data required and that actually available, not to mention the state it is in. Thus, data cleansing and augmentation teams will need to be mobilised at this juncture and work to plug these gaps. A better starting point would almost certainly be to acquire an in-depth understanding of what the new system needs far earlier than the start of the migration process.

In essence the benefit of doing this means the business can identify and extract the data necessary to enable the target system to work. The option to fix or augment missing data later on remains an ongoing possibility, as the target system will have been configured to account for this at the outset.

Historical Data

For the retention of historic data there are specific regulations regarding how far back a business need go in terms of an Insurance Administration Platform. This is normally linked to the type of business and where it is being administered. Pensions in the UK, for example, require maintenance of a full 15 years-worth of history. However, it is likely that data somewhat beyond that point is necessary to deal with client enquiries and investigate cases that involve past transactions. This doesn't mean it all has to be moved to the new active admin solution, you just have to be able to access the data.

In practice, agreeing a "barrier" date, that determines a point in time from which support for regulation and/or backdated transactions is required, will determine the history required for the new platform. Up until that date, summary information will be enough for most of the policies being administered, and the system will block any backdated processing prior to it

.

The key here is to take a pragmatic approach towards the barrier date, taking account of the regulation but also the possibility of large volumes of cases needing historical data to ensure your business can automate backdating in the new system. Real effort may be required to sort out vast swathes of detailed historical data, which outweighs the benefits of having it in the target system. In reality, it is far better to have summary data in the system prior to a barrier date, full data from that point, and the rest in an archive.

Again, the law of diminishing returns also applies here. Pursuing a course of migrating and automating everything that exists in order to cover scenarios that will occur very infrequently at best wastes time and resources and increases maintenance.

Proven Approach to Migration

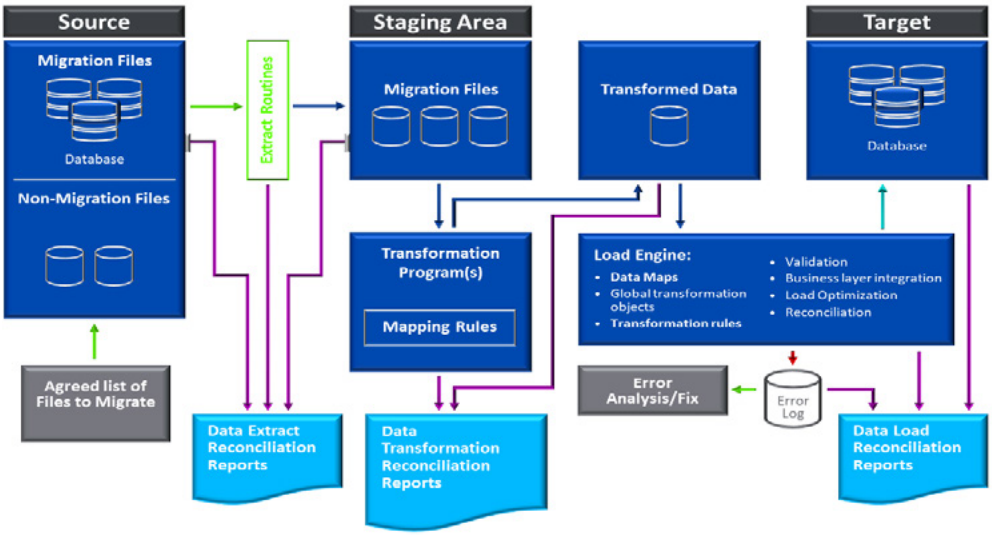
The approach is again one of repeatability, where each migration is treated in the same way with variations in duration and effort depending on product complexity. Each begins with an assessment of any changes in requirement in addition to the known gaps.

At Sapiens we have automated the migration process over time to include the development of configurable load engines and migration dashboards. Furthermore, we have developed an automated house-keeping process that ensures there is no data redundancy in the target data base alongside a data quality mechanism that enables functionally poor data to be identified. The system is also capable of leveraging third party applications, a good example being K2 View this application.

Data cleansing is an important aspect of any migration project and can be carried out prior to full migration as part of the transformation process or, in some instances, can be bypassed altogether if the initial concludes it is a safe and practical option.

Migration Process

Figure 3: Migration Process and Tools



One of the most critical parts of the migration process to understand is the need for dedicated roles and responsibilities required to ensure each individual fully understands the scope of their work, and the repercussions of it not being completed on time and to the right standard. Additionally, each participant in the project needs to understand their dependency on others, which brings about a support structure which adheres closely to the principals of Operational Excellence.

Key Roles

Each of these roles is fully aligned to their responsibilities against? specific assigned tasks:

Responsible: The person who does the work to achieve the task. They have responsibility for getting the work completed or to ensure a decision is made. As a rule, this is one person; examples might be a business analyst, application developer or technical architect.

Accountable: The person who is accountable for the correct and thorough completion of the task. This must be one person and is often the project executive or project sponsor.

Contributor: The people who provide information for the project and with whom there is two-way communication. This is usually several people, often subject matter experts.

Informed: The people kept informed of progress and with whom there is one-way communication. These are people that are affected by the outcome of the tasks, so need to be kept up-to-date.

In essence these are the fundamental aspects and ingredients of a successful migration project. The elements described have been at a fairly high level but are based on years of solid experience and have been tested and experienced over many projects, many times. When the elements described are not put on place and the rigour necessary not applied, projects inevitably begin to see multiple points of failure and delays that escalate down the chain to become increasingly disruptive in terms of resources, time and money.

Summary

These insights have been gleaned in our extensive experience of over 30 successful migrations of Life and Pensions books of business, and include both live and those in runoff.

The benefits of the strategies have meant our clients have experienced significant releases of funds that would normally have been absorbed in the continued running of systems which became no longer fit for purpose many years ago. This runs to such an extent that ROI is achieved far quicker than expected using this methodology. **Here are our Top 6 strategies for effective, efficient and successful legacy data migration projects:**

1. Take a pragmatic view of data; you do not need to cleanse everything you have. With the right analysis, identify and fix only what you need to.

2. Build a realistic view on process – adopt not adapt, unless absolutely necessary as you may end up replicating what you do in the legacy platform

3. Rehearsals are key – the Sapiens migration process and supporting utilities enable you to test and experience, showing that the best migrations are ones where everybody involved knows what they are doing – and when – because they have been through the process multiple times.

4. There is a strong tendency to take all the historical data from the old system into the new one. **Only implement the data that is required for operational and regulatory purposes** in the new system. The rest of the data is of no use going forward and serves only as a record of what the old system held.

5. Leverage reconciliation only to confirm that you have moved the data you wanted to – and it is located in the right place. The tendency is to have too many reconciliation items, which is both costly in development and testing terms, but can also cause difficulties if there are so many reports to be signed off. This also adds pressure on the migration window.

6. Align the target with what's heading its way; use Product, Process and Rules to minimise the risk of unexpected system reactions when the data first hits it.

About Sapiens

Sapiens empowers the financial sector, with a focus on insurance, to transform and become digital, innovative, and agile. Backed by 40 years of industry expertise, Sapiens offers a complete insurance platform, with pre-integrated, low-code solutions and a cloud-first approach that accelerates customers' digital transformation. Serving over 600 customers in 30 countries, Sapiens offers insurers across property and casualty, workers compensation and life markets the most comprehensive set of solutions.

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