FRS Invest | Pro™

a Constellation Software Inc. Company

Data-driven Investment Operations

How the rapid growth of data, consumer protection and regulation are driving a data-centric approach to Investment Ops with improved outcomes for all

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This paper is adapted from the keynote speech delivered by Frank Carr and Matthew Baldwin from Financial Risk Solutions (FRS) for the Investment Operations Conference in Sydney on June 9, 2021.

Today, Investment Operations teams are required to not only manage operations but to also manage and provide data-related to Investment Operations processing for numerous other purposes, such as RG97 fees and costs for the product disclosure statement in Australia, or the Insurance Distribution Directive (IDD), Solvency II or PRIIPs KIDs in the UK and Europe.

In addition, we are experiencing huge growth areas for our industry. Just look at the Environment, Social and Governance (ESG) funds sector where Moody's forecast investments will reach USD 53 trillion by 2025. More generally, data creation and replication is at unprecedented levels. It was at 64.2 Zettabytes (that's a trillion gigabytes) in 2020. The International Data Community (IDC) have said the amount of digital data created over the next five years will be greater than twice the amount of data created since the advent of digital storage.

This is all additional data from an investment admin perspective, and if your emphasis is on processes rather than data, you may be in trouble in our view. In this paper we will explore the need for data driven investment operations and demonstrate how this approach has acceleraed our growth at FRS and, most importantly, improved fund admin and fund accounting across our clients.

Evolution of the Operating Model

Having data at the centre of your investment operations is a very simple concept, yet is extremely hard to do. As an industry, we are seeing a huge shift in the expectations of quality and efficiency and this requires not just new thinking but also new technology and new skillsets to manage investment ops data. We are witnessing more data and a need for quicker analysis of that data.

Whilst we may not recognise the level of change happening around us right now, if we look back in ten years-time we will see huge differences in operating models, skillsets of investment ops teams, and a systemic shift from people doing much of the work to software and data being the engine behind investment administration.

This is a function of today's technological capabilities along with the expectations being set by boards internally and regulators externally. There is a strong expectation that the industry will not just get things right, but that we will do the right thing by and for our customers. This is manifesting in Europe, where we have directors forced to take personal responsibility and liability for errors and mistakes in the UK for example. This is the new standard that regulators are setting and consumer protection is driving much of this.

The Optimum Operating Model diagram below demonstrates the benefit of putting data right at the core of investment operations. Not only can numerous processes run off this data, but the automated framework (in the green concentric circle) is where controls and real efficiencies are harnessed. Running scheduled tasks, automated exceptions and alerts, analytics, reconciliations, extracts, document production and oversight dashboards are some of the true benefits.

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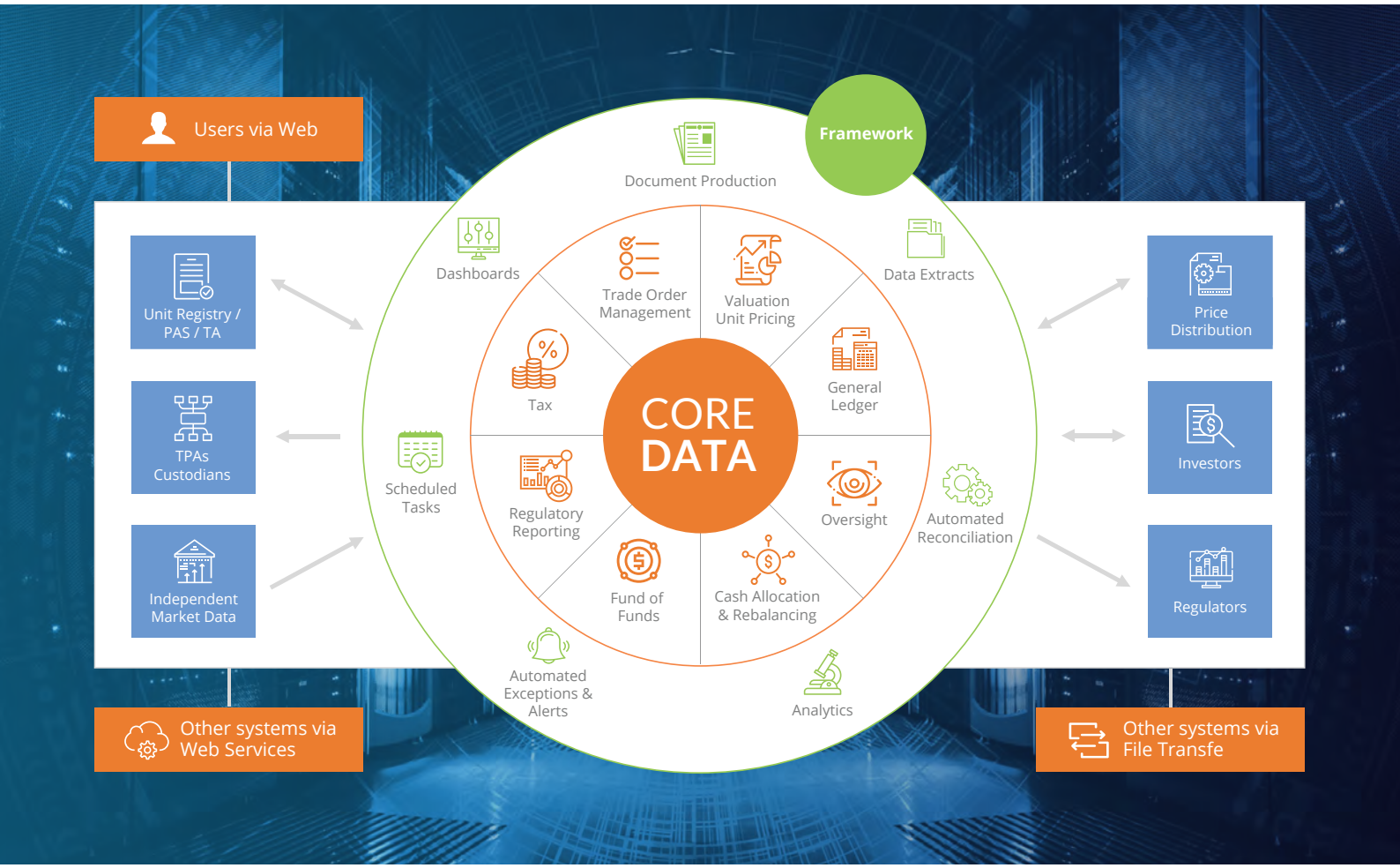

The Need for Modern Investment Admin Software

Across the globe many organisations in this industry are still too reliant on legacy technology that needs to be supported by spreadsheets, and overly complicated collections of software solutions that require or rely on siloed data.

Let us imagine a car analogy. If you want to go and do some serious off-roading you don't take an engine from a 1970s mini and install it into an off-road rig with massive wheels and tyres. It simply wouldn't have the horsepower to get the wheels turning when you needed it most. This is the equivalent of having an old piece of software at the heart of your operating model.

Let's say you solve the lack of power by installing an electric motor on each wheel to provide the extra power you need, but each electric motor is developed by a different individual. Overall this might work, and probably will work for a while – but you will have a system that is fragile, highly specific to you and probably prone to breaking down when you need it most.

This is the equivalent of surrounding your old 1980's investment accounting system with a plethora of spreadsheets and the like. It probably works but it is going to require some very specialised knowledge to keep it running and repair it when it breaks down. This is a great example of being process driven rather than data driven.

Continuing the analogy, the right approach is obviously to go and buy a purpose built off road vehicle that has the exact functionality and technical architecture needed to get you into and out of all the fun, or perhaps danger, that you want.

Why firms just don't take this approach to investment admin systems is a question we should all be asking. What they do in our experience is they simply throw another spreadsheet or data warehouse, or possibly another person, at the problem until they reach a tipping point. Like car engines, modern investment admin software has multiple points of difference to the old systems.

Access to Data

If you must run multiple extracts to get the dataset you need for the analysis you want to perform – then not only will you be spending more time preparing the data than you will analysing it, but you are in completely the wrong position to deal with the next data or reporting challenge that will come your way.

This is clearly a problem that many firms have tried to solve by installing additional systems such as a data warehouse. But this is no different than throwing another spreadsheet at the problem.

Automated Testing and Continuous Deployment

These two items offer significant benefits and must be adopted by software providers if they wish to operate efficiently and provide their customers with high standards of service and efficiencies.

At FRS, when we write new code for our system a second developer writes in parallel the test cases agreed with the client. This automated testing rig (which for us now contains close to 3,000 individual test cases) can be run every night. As a direct result our clients have a very high confidence level that when they receive a new release, either during the implementation project or at upgrade time, it works.

Continuous Deployment represents an enormous change in how software companies approach software development. The benefits include higher quality software and shorter upgrade cycles. At FRS we have embraced continuous deployment fully and apply our daily software builds to cloned versions of each customer's production databases. We automatically upgrade each client's environment every night and validate that it upgrades. Only after successfully completing this process do we declare a version ready for a client to consider.

This does not mean clients need to upgrade everyday. Our clients only upgrade when they want to, but this daily rigour ensures that we have a suitable release ready for them when they are ready and it gives them the confidence that the new release will not introduce any issues when they start to test it. This is especially valuable to globalised firms that want all their subsidiaries on the same version of the application. The ability to easily upgrade every company in the group is essential.

Data Warehouses don't Solve All the Challenges

Legacy systems are ill equipped to meet today's data challenges and as a result we have a very fragmented, silo-based landscape with individual systems drawing on disparate data in multiple formats.

In our opinion there can be too much emphasis on data warehouses to solve this problem – or perhaps too much unfounded hope that firms are going to solve all problems. The biggest disadvantage of a data warehouse that relies on data from the core investment accounting solution is that the data needs to be reconciled every day. Ideally a company wants only one source of truth not two for the same data set.

A data warehouse does have benefits of course, it allows users to access critical data from a number of sources. For example all the company's disparate systems and spreadsheets are stored in a single place, saving users time retrieving data from multiple sources. Data warehouses can also store a large amount of historical data which helps users to analyse different time periods and trends to make future predictions.

To our way of thinking the main reason for having a data warehouse is that you want to consolidate data across multiple systems, where a single system to manage all of the various datasets does not. For example, if you want to consolidate data across members and investments, then clearly a data warehouse is a powerful solution.

But, a data warehouse just to replicate your investment accounting data is unnecessary in the 21st century. In fact it suggests you've got the wrong investment accounting setup. If the problem is that some of your data is spreadsheet based, then you can resolve this by investing in a modern investment accounting system that can remove all of the spreadsheets and consolidate multiple systems into one, providing the same access to data as a data warehouse.

The rising growth of super funds bringing investment management in-house for some or all asset classes means we are seeing a lot of activity in investment data solutions and data warehousing. We don't think this is necessarily the best approach for everyone because there is a simpler way.

Utilising a modern system such as Invest|Pro from FRS gives you this ability. This is truly beneficial to all stakeholders in your business – whether they be the unitholders or shareholders. Don't just take our word for it, let's look at some real-world examples.

Operational Efficiency and the FRS Scorecard

Client Type	Staff Count (FTE)	Multi Asset Funds	Fund of Funds	Mirror Funds	Individual Accounts	Funds per FTE
Pensions Fund Admin	6		6,000	1,000	800	1,300
Third Party Administrator - Life Funds	5		9,000			1,800
Life and Pensions Organization	3	150	2,500			716
Wealth Manager / International Life Co	4		350	150	11,000	2,875

The accepted adage is that people focus on what you measure. This is true for FRS itself. We regularly measure the volume of funds being administered by our clients along with the number of staff in the fund admin team. A sample of the results of this analysis from our user conference are above.

This scorecard not only helps us stay focused on ensuring real world operational efficiency for our clients, but it also gives us a lens through which to analyse or measure every modification and enhancement to the system.

In the first column we have example clients with their details anonymised. Then moving left to right we have the number of full-time equivalent (FTE) staff involved in fund admin, then the next four columns show the fund volumes by type of fund. In the right-hand column we have the total number of funds divided by the FTE head count to give a comparable indicator of operational efficiency.

Now it's fair to say that not all funds have equal complexity – clearly a fund that holds an external collective or collectives is much simpler to calculate a unit price for than a multi asset portfolio and we could refine the analysis by factoring the funds by type to reflect complexity. However the analysis holds true when performing peer based reviews.

Also all of these firms are European and the model in their markets is different to Australia – you can see the fund volumes are significantly higher than a comparable firm in Australia would have. We have individual life and pension clients with more than 6,000 daily priced funds and our outsourcer clients administer many times that.

There are also different operational complexities that exist in the Australian market that our European clients don't have to worry about. We have recently completed the build of Australian Capital Gains Tax and the end of year distribution catch-up processing for one of our first clients in Australia. Whilst our European clients have equally complex tax requirements to Australia, the concept of receiving the tax components of a distribution weeks or even months after you have processed the distribution is different. It was essential that when building this enhancement, we ensured automation with operational control was maintained.

We achieved this by working closely with the client to firstly understand the process and secondly to workshop with them what an optimal process looked like for the catch-up processing. This ensured it was easy for users to maintain the required level of control, without having to do the heavy lifting themselves – this is the job of the software after all.

Key Requirements for a Data-driven Operating Model

At FRS we work with our clients to build the optimum operating model. The key requirements include:

- ALL data (activity, users, calculations) is included in the Data Model - data storage is cheap, the insights it provides can be invaluable
- Different access controls for your staff
- NO spreadsheets - they are incompatible with modern systems for data management

Good data structures established at the beginning of an investment administration software project, means data can easily be replicated across different environments for contingency and operational resilience. This makes moving to another database easy, unlike spreadsheets and old systems, where finding who did what, when or where can be extremely challenging or impossible.

Business resilience is also much harder to achieve with legacy software systems that can typically only be backed up once a day. The ability to continuously replicate your data to a Disaster Recovery site is essential with today's data landscape.

Security

We couldn't possibly discuss data without referencing security. As a firm's data sets get bigger and consequently more valuable, then security becomes even more important. Someone needs to own and be thinking about your data in your organisation. That said, everyone needs to understand that they are custodians of the firm's data and they have a duty to keep it safe. We are all one small email click away from a cyber attack. Data must be stored in a Secure Data Vault where no one has access that should not have, and risks are mitigated. Legacy systems may force you to run on legacy operating models which leaves your data much more vulnerable to cyber security ransomware attacks.

Across the sector we are seeing data models and security moving at an increasing pace to the cloud. Firms need to assess whether their cloud data security is the same or better than on premise solutions. In Europe many have moved to cloud infrastructure as a result of the very large fines (which can be a percentage of turnover) from regulators under the General Data Protection Regulations (GDPR), Australia's equivalent of the Privacy Act 1988.

In recent years we see that the regulators can run reports based on the quarterly datasets they receive from all regulated entities. Solvency II is a good example here where, had the regulators the data they have now back when Lehman collapsed in 2008, they would know who is exposed and by how much, which is very powerful.

New standards of transparency are being demanded in this industry and this is a good thing. But rather than having the regulator in the driver's seat why not have your own Governance Risk and Compliance systems in place? As the former U.S. Deputy Attorney General Paul McNulty said "If you think compliance is expensive, try non-compliance."

While the pace of change may seem daunting, at FRS we see it as exciting times to advance with technology. We are looking into Blockchain in the fund transaction area so that transactions can never be tampered with or changed

Blockchain has the potential to be the next evolution in data management and will be a valuable technology in our industry in the years to come.

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In summary, there is no escaping the trend that more (and more) data will be required to manage your business, add the pace of M&A in our industry into the mix and this is intensified. Investment operations departments need better systems to record, analyse and report on their data. Ideally they will have a single source of truth for all their data. Investment ops systems must be able to handle new regulations which require the recording and processing of additional data points. Equally important is having software that is easy to upgrade to keep pace with continued growth and change. And finally, data security is an increasingly crucial issue for firms in every corner of the world and legacy applications are particularly vulnerable. The prize for getting this area correct is enormous and the world of long term savings and investments is truly your oyster.

Further Reading

Continuous Delivery

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Machines for Doing

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References

ESG Growth
After strong 2020, ESG investments forecast to grow more...
Click to visit

IDC
Data Creation and Replication Will Grow at a Faster Rate...
Click to visit

About Financial Risk Solutions Ltd (FRS)

With over 20 years delivering Investment Administration software, Financial Risk Solutions Ltd (FRS) is a trusted technology partner to life assurance, wealth and asset management firms worldwide. Led by an expert team of actuaries, compliance and IT specialists, clients license FRS software to help navigate the ever-changing challenges of growth, regulatory pressures and competition in the industry.

The award-winning* InvestPro™ platform is relied on by blue-chip financial services and BPO clients to reduce operational costs, increase efficiencies and mitigate risk in the manufacture and management of investment products. More than 150,000 funds are managed on the Invest|Pro™ platform today.

Delivered on-premise or cloud-hosted, Invest|Pro™ securely automates multiple complex fund administration processes including unit-pricing, cash allocation and rebalancing; oversight and validation of operational activity performed by outsourced partners; and in Europe monitoring and reporting for PRIIPs, KID requirements, and Pillar III asset reporting for Solvency II.

FRS is part of the Constellation Software Inc. group and headquartered in Dublin, Ireland, with offices in London, Hong Kong and Sydney.

For more information visit frsltd.com or follow FRS on LinkedIn at www.linkedin.com/company/frs-ltd

FRS Invest | Pro™
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22 YEARS

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*2020 - GRC Product of the Year - Asia Risk.Net Awards, 2019 - Best Solvency II Tech Solution - Insurance Asset Management Awards, Pensions Technology Provider of the Year - Irish Pensions Award

Asia Risk Awards 2020 — GRC Product of the Year

FundTech Awards 2020 — Recognising Innovation, Leadership and Excellence in our Industry — funds europe — Best Back Office Solution

Buy-Side Technology Awards 2020 — waterstechnology — Best Integrated Back office platform

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