

Cloud technology

Re-imagining the asset management operating model



In association with SS&C Advent

**Building a
multi-consumer
data model**

**Operational
excellence in a
multi-asset world**

**Cloud-based
flexible deployment
of technology**

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Moore's Law has seen an explosion in technology innovation and given rise to a golden age of information sharing. Social media platforms have changed how we think about communicating to such an extent that the asset management industry has had to re-imagine its operating model: the old-fashioned model of running IT operations internally, one could argue, is no longer the most appropriate model for today's hyper-connected world.

Think about the volumes of data that are now consumed.

According to Cisco*, annual global IP traffic will reach 3.2 zettabytes (ZB) per year by 2021; equivalent to 278 exabytes (EB). One zettabyte is equivalent to 1021 bytes. Moreover, it predicts there will be 27.1 billion networked devices by 2021, more than three times the current global population.

Asset managers cannot ignore this data management challenge, with Generation Z likely to expect the same 'user experience' as Facebook when it comes to investing. This will require firms to operate agile systems that have the sophistication to handle data and present it in a meaningful way, be it to support portfolio management, risk management, regulatory compliance, etc.

Data has, in some respects, become digital gold (or oil, depending on your preferred commodity). How asset managers utilise it, store it, present it, manipulate it is likely to involve cloud platforms as the thought of constructing internal systems will become too cost-intensive.

Firms are generally changing their technology culture and the move towards hosting reflects this. Many are looking for ways to become more cost efficient and operationally resilient. The rising popularity of hosted cloud services is, in part, due to the opportunity it affords managers to become more proactive, more agile.

Managers can concentrate on what they



are doing with data rather than worry about how to gather it and integrate it. With a multi-consumer model, managers can implement a system overlay that acts as a hub. There's no need to rip everything out and start again as this multi-consumer model straddles the existing system architecture, receiving and processing data from disparate sources to provide a single, unified picture.

Going forward, managers will be unfettered in their pursuit of new asset classes or investment strategies if they know the cloud can be deployed in such a way that supports their operational objectives, regardless of the volume or complexity of data.

In terms of trends, one might expect to see small use cases of blockchain in the asset management industry that prove useful, but the wider AI topic is likely to lead to managers using cloud-based tools for more specialist needs; i.e. predictive analytics to better understand investor behaviour, new risk management tools to better predict future scenarios and so on. The way that man and machine interact will, in most instances, be influenced by the end investors.

Cloud deployment and adoption of outsourced IT could also be driven by a need among asset managers to reduce their operational footprint. This is likely to become increasingly important as the regulatory landscape evolves and, more worryingly, the threats to cybersecurity attacks become ever more malign.

Expect to see a closer partnership between Fintech entrepreneurs and large established technology platforms in response to these challenges. It could result in a few breakthrough moments over the next few years and take the innovation curve to even greater heights. ■

*<https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/vni-hyperconnectivity-wp.html>

Chapter 1

Building a multi-consumer data model

The concept of a single data set, sometimes referred to as a golden source of data or single version of the truth, has existed for quite some time. Asset managers have built multi-system IT architectures to handle data management as their product suites have expanded, often leading to a Frankenstein-like operating environment; one which is manually-intensive and cost-intensive.

To overcome this, asset managers should move beyond the old-fashioned concept of building disparate data warehouses and look to build a multi-consumer data model.

"This is not simply a set of data," says Roger Woolman, Business Development Director, Asset Management & Alternatives at SS&C Advent. "It is an overlay solution that gets consumed by different groups of people, and even different systems.

"The old-fashioned approach has been to ensure that everyone is looking at the same set of data, and to reduce reconciliation between systems but the way I look at it is slightly different. The opportunity exists now for a rationalisation for future activity and for asset managers to do things differently. In effect, to become more agile."

In any asset management group there

will be different data consumers - these might include front-office teams using data for investment decision-making, back-office teams doing accounting and reporting, as well as operations teams doing reconciliation work, exceptions management, etc.

In an environment where six or seven different IT systems are used, the big challenge is how best to manage, extract and deliver data and gain a competitive edge over their peers, whilst at the same time satisfying their regulatory and compliance obligations and reducing costs.

Woolman says a multi-consumer model - where flexible solutions leverage a single dataset to serve multiple constituents - enables asset managers to deliver higher quality data in near or real-time "across the firm in a scalable and extensible way, without incurring high costs or the need to add headcount".

"We talk about overlay principals, in terms of not having to rip out legacy IT systems and spaghetti infrastructure but rather being able to overlay something new that an asset manager can move forward with.

"Asset managers are looking to do something more agile by adopting the latest

technologies and 'fintech' solutions but to do that they need a more streamlined, rational starting point," says Woolman.

The benefit to applying an overlay solution that sits astride an organisation's legacy infrastructure is that avoids having to worry about undoing what was done in the past.

With the overlay, it can feed everything, regardless of whether they are legacy systems, new systems, or a combination of the two.

Having a single multi-consumer data set has to be agile to begin with. One cannot have a golden source of data if it's still being driven by different systems running at different times and using different processes. If someone wants to utilise a new application to deliver data in a more 'mobile' fashion, for example, it is predicated on having an agile, real-time system.

A system like Geneva can enable asset managers to create that agility right away. Then, over time, they can build up the capabilities of that system by telling it which systems they are going to feed from it.

This requires asset managers to adopt a different mindset.

"The goal for most asset managers is to be self-servicing and to do that you need this real-time dataset to be able to plug things in to. Not in the old sense of plugging two systems together and creating a lot of manual processes to maintain the connections - but by taking advantage of using new technologies that one can run using real-time data provided by Geneva," says Woolman.

Geneva is an enabler. Over time, one can slowly start to visualise turning data warehouses off, thereby reducing the number of legacy systems that need to be maintained and paid for.

As fund managers extend their product capabilities and move in to new asset classes, the ability to pipe internal and external data from different systems into a single, multi-consumer data model will allow them to maintain their agility, regardless of how complex and voluminous the underlying data sets become.

With new advances in technology, characterised by artificial intelligence and blockchain among others, asset managers have more tools than ever to handle data, as

opposed to changing the fundamental nature of that data. But as alluded to earlier, no matter how exciting a new AI tool might be, it will not work if asset managers haven't got quality data and do not completely trust what they are looking at.

"It all hinges on the quality of the underlying data and the timeliness of that data. When considering current and future developments, asset managers can leverage the extensibility of Geneva, and real-time data, to support the use of any new technology tools," adds Woolman.

With this single dataset infrastructure, firms can provide multiple views that match the needs of its different data consumers, on demand and at the level of detail they require. These include:

- Accurate and timely investment views for portfolio management and investment decision support, helping staff to take advantage of trading opportunities and minimise risks;
- Portfolio accounting views for faster NAV and period-end processing;
- An operational view for enhanced reconciliation support;
- More accurate and granular performance views for internal rate of return and time-weighted return.

By working off a single data source that can support multiple consumers, Woolman states that firms "no longer need to maintain numerous copies of the same data in different solutions, or implement controls to ensure it remains consistent across the enterprise".

"What we are proposing with this overlay solution, initially, is time to value. You can achieve value very quickly, without having to affect or change your IT infrastructure too much, or go through the upheaval of replacing any systems.

"A specialised, standardised data warehouse is a very different proposition, in my view, to data warehouses of the past. Asset managers know what they want to do but the more important question is how to do it? We think an overlay solution such as Geneva is an effective way of creating a multi-consumer data model for the future," concludes Woolman. ■

To learn more about Geneva, please visit: globalassetmanagement.tech



Chapter 2

Achieving operational excellence in a multi-asset world

On 2nd February 2018, global stock markets suffered their first serious bout of the jitters for some time. The Dow Jones Industrial Average fell 665 points to end the day down more than 2.5 per cent as the market reacted to a potential interest rate hike by the US Federal Reserve. The volatility continued, when, on 5th February, the FTSE 100 fell 3.5 per cent during the day before recovering to end the session down 1.9 per cent.

The contagion spread to Asia, with Japan's Nikkei 225 index falling close to 5 per cent and the Hong Kong Hang Seng index falling 4.9 per cent.

It is during these periods of volatility that a well-diversified portfolio can provide

investors with much needed downside protection. According to Goldman Sachs Asset Management, the current environment, with a risk of the US economy overheating, a dynamic approach to asset allocation is needed. One that uses an equity strategy that looks beyond the major developed market benchmarks and a fixed income approach that seeks returns outside of developed market government and corporate bonds, they suggest.

Asset managers are seeking ways to respond in kind to investor demand for multi-asset strategies, not only to protect them against future volatility but to find new sources of alpha.

Operating in this multi-asset world is not necessarily that straightforward. As Roger Woolman, Business Development Director, Asset Management & Alternatives at SS&C Advent, points out, while adopting a multi-asset approach offers opportunities for growth, supporting the more complex portfolio management requirements involved creates considerable technical and infrastructure challenges.

All too often, says Woolman, firms' existing systems simply can't handle the new asset classes.

Part of the problem is that investment firms have tended to operate in silos, with different investment teams covering individual asset classes. Over time, this has led to the creation of a multi-tiered IT infrastructure, with disparate systems being used for different asset classes.

As firms look to develop greater multi-asset strategy capabilities, it calls upon them to try and consolidate their systems.

"Some of the emphasis today is on asset managers having to diversify their asset class coverage to satisfy investors," says Woolman. "To do that, you've got to make a business case and start a new investment strategy.

"We've seen it happen quite a lot among fund managers who decide to operate in illiquid asset classes. Firms who diversify into PE, RE, loan products and such like, perhaps don't have a system that suits these illiquid asset classes. Their systems have been designed and built to trade in highly liquid areas of the markets, not necessarily to support more illiquid asset classes."

Multi-asset portfolios are, by their very nature, complex to monitor because of the sheer range of financial instruments spanning FX, rates, global equities, commodities and fixed income. This requires technology tools to support scenario modelling, risk management, transaction cost analysis, and collateral and financing optimisation across a broad array of instruments, transaction types and currencies.

"An IBOR infrastructure able to deliver accurate data in near or real-time so managers can easily aggregate positions and view exposures. As well as multi-asset performance attribution capabilities to meet



"I do think enablement is the key to this. The ability to react quickly when things change and knowing that you have a system that can accommodate new strategies, can be quite empowering from an investment perspective."

Roger Woolman

asset owners' growing calls for detailed performance analysis," observes Woolman.

Dipping the toe

Asset managers will typically feel they way in and steadily build a multi-asset strategy rather than attempting to re-invent themselves overnight. As they dip their toe in, and expand the breadth of financial instruments, they seek to rely on existing systems. This is fine over the short-term but as firms become more ambitious and move into multiple new asset classes, the demand on data management, aggregation, portfolio attribution and reporting grow exponentially.

This places added pressure on their IT infrastructures, leading to operational inefficiencies, increased overheads and a growing inability to service clients properly.

"We often see similar problems arise following an acquisition or merger," states Woolman. "Acquiring expertise in target markets is a fast way for firms to build up their multi-asset capabilities. Oftentimes though, you end up with two different businesses, each using different systems and all of a sudden, where you thought had created efficiencies you've actually ended up inheriting inefficiencies - perhaps one system is being used to support listed securities, another for swaps, another for bank loans and so on."

This is not a case of asset managers being blinkered. They know that relying on multiple systems is less than ideal but often it simply comes down to a case of 'needs must'. Ultimately, they have to be seen to be responding to investor expectations and keeping pace with market evolution.



Industry convergence

Indeed, the multi-asset world is really just part of a much bigger picture of blended activities with respect to firm types, asset classes, active versus passive management, liquid and illiquid trading in 'hybrid' funds being pursued by hedge fund and PE managers and so on. This blending or convergence trend has become an important trend in recent times.

"It's not always about knowing what you need, it's about finding the best solution. The Advent platform has proven its worth in the multi-asset arena for many years. Geneva is widely used by global fund administrators as well as asset managers because of its multi-asset capabilities," says Woolman.

That gives some comfort to asset managers who are facing a crossroads and deciding the best path to take. Do they embark on a large internal project to integrate all their systems or do they find something that simplifies and rationalises the operation and also potentially in an outsourced capacity?

Sustainability to support future growth

Whatever the decision, sustainability has to be a key objective. In other words, an

integrated, front- to back-office platform, with rich multi-asset and multi-account functionality that provides position-level detail, and allows firms to view all their exposures across their entire book of business.

"There is definitely a scaling aspect to the future integration of systems; you're only as good as your weakest link. Even if you succeed in connecting two disparate systems, it doesn't mean you have a scalable and robust solution.

"Another angle to sustainability is how assets manifest and how products evolve and change. To accommodate that future-proofing element, asset managers need to have a certain approach to architecting a system and how assets are created on that system.

"As an asset class's characteristics change, or an entirely new asset class is created, we don't have to build something from scratch. We look at how that asset works, how it behaves, and we use an object-based approach to define it and accommodate it on the Geneva platform," explains Woolman.

Integration is an enabler

A single integrated platform to support true multi-asset strategy capabilities may not be a panacea, *per se*, but it is certainly an enabler. Without an agile system infrastructure, asset managers face continued operational pressures when trading new assets and instruments. And with so much regulatory compliance to contend with, the more firms are able to achieve a complete overview of instrument positions, risk levels, collateral and margining levels, etc, the more adept they can become at satisfying both regulator and investor expectations.

"I do think enablement is the key to this. The ability to react quickly when things change and knowing that you have a system that can accommodate new strategies, can be quite empowering from an investment perspective. If different market opportunities are being presented, you want to be able to act on them, to be agile.

"This quicker time to market can make an asset manager more competitive and become proactive rather than reactive," concludes Woolman. ■

Chapter 3

Cloud-based flexible deployment of technology

A game changer for asset managers?

The flexible deployment of technology using cloud-delivered solutions and hosted services is, in many ways, levelling the playing field with asset management. Historically, using the best systems in large, sophisticated IT architectures to support complex trading strategies was the preserve of the biggest managers.

But in many ways, the rapid evolution of cloud technology has revolutionised what is now possible, with smaller managers equally able to avail of industrial-strength technology without having to worry about how to pay for it all. Advances in cloud delivery access and security are giving asset managers, regardless of size, the opportunity to leverage the latest mission-critical technology tools and analytics from third-party specialists. This shift from in-house system deployment to outsourced cloud-based solutions has been a key feature of the asset management industry.

“Larger managers have a lot of systems and a lot of legacy issues and they may want to do something new but without having to consider the knock-on effects to existing systems and architecture” says Roger Woolman, Business Development Director, Asset Management & Alternatives at SS&C Advent. “If you have a cloud-based system that sits in place like an overlay, and which allows you to introduce a new system on top of the existing IT architecture, then it doesn’t necessarily have to be on premise. It could be a private cloud solution or an outsourced managed service which is also hosted.”

A number of years ago, hosting was the initial choice, often done in conjunction with third party companies.

Woolman says that the hosting piece has changed over time to include more management of those solutions on the cloud. Today, Advent does outsourcing on a bespoke

basis, depending on the specific client.

One can think of this cloud deployment evolution in a similar way to software solutions. Years ago, just as it increasingly made less sense for managers to build their own software, and led to increased use of third party software providers, similar conversations now take place in terms of software deployment. And, to some extent, the outsourcing of automated daily tasks such as reconciliations and middle-office tasks.

“Why would you build software when you’re not in the business of building software? We’ve extended that logic to cloud services. If you want to solve something quickly, the private cloud allows people to act more quickly without having to jump through a lot of IT hoops.

“Today, firms have much greater choice and flexibility in how they structure their technology and operational environments,” comments Woolman.

There are those asset managers that opt for a wholly on-premise deployment of in-house developed or third party technology solutions; or some combination of both. This model has long been favoured by the largest investment firms thanks to the control and customisability it affords.

However, the cost to implement and maintain this type of infrastructure, and employ the IT staff to support it, has been beyond the budgets of many small and mid-size asset managers. Often that has left them dependent on manual processes and Excel workarounds.

Which is why, in Woolman’s view, the ongoing development of cloud delivered technology solutions and hosted services is such a game-changer.

“That said, you’ve got to be able to deliver timely information, because that’s often when managers would seek to develop something

in-house in the first place. They still want access to their underlying systems, they are just doing so in a different way, via the private cloud environment,” he says.

With cloud technologies, firms no longer face a significant upfront and ongoing in-house infrastructure and system maintenance burden. Instead, they get on-tap scalability, reliability and operational flexibility, with faster system deployment, simplified maintenance and upgrade processes, guaranteed business continuity and disaster recovery, and a lower total cost of ownership.

The business continuity point is actually key. Institutional investors are looking closely at BC plans before allocating to managers, seeking assurances that if a major event (terrorism or natural catastrophe) prevented them from getting to the office, it would still be business as usual. Those who continue to rely solely on on-premise system architectures cannot necessarily provide that assurance.

Also, when a firm uses cloud-deployed software they can concentrate on things like the security aspects.

“If there’s less for them to do in terms of managing that environment they can concentrate on core tasks, in terms of servicing investors and making sound investment decisions, rather than having to think as much about operational considerations. It adds value if you’ve got a secure offering in a private cloud,” says Woolman.

Moreover, the effort to perform an upgrade is significantly different, compared to on-premise systems. If there are any significant changes to software that require testing or parallel processing, in a hosted or managed solution the upgrades are easier to handle.

“As technology changes, one of the key things that a software provider will do is make software patches easier. We are in an environment where businesses need to be bespoke but without necessarily wanting bespoke software. Bespoke software is never easy to maintain or upgrade because of the very nature of how it has been designed. We don’t take that approach in terms of customising software. Rather it is about customising how clients configure that software and deploy it,” confirms Woolman.

He observes that there tends to be a policy-based approach taken by firms as they



move software off premise and into the cloud, confirming that in some cases, managers are having to change vendors because their current software doesn’t have the requisite functionality to be hosted in the cloud.

“We take these things for granted and assume it is a simple process of moving software from one place to another. But it’s not as straightforward as that. It depends what the architecture looks like and what the on-premise deployment looks like. Some solutions aren’t naturally suited to the cloud.

“In terms of outsourcing, we also handle regulatory reporting through a dedicated portal that clients can use as a one-stop-shop for all of their regulatory reporting needs. It’s hosted and can be accessed from anywhere. There are various deployment methods and flexibility when outsourcing and regulation is an excellent example; it’s always evolving and there’s always new regulation for compliance teams to keep up to date with.

“Another piece we see outsourced a lot is the middle-office reconciliation piece,” says Woolman.

Regardless of what software solutions are used to support middle- and back-office services, the key to everything is flexible deployment. Each manager’s operational and investment needs will vary. Some will want to maintain all their technology and operational capabilities on-premise, while others seek some degree of cloud-delivered technology and/or co-sourced or outsourced operational services. This a la carte approach suits firms who are in the process of moving across to cloud deployment.

“You can’t change things overnight. Ultimately, we are talking about solutions here not products. They inherently require a menu-based approach in terms of deployment, in terms of the components included in that deployment, with productised software to create efficiencies,” adds Woolman.

The use of the cloud has become more than a trend. It permeates our personal lives as well as our business lives – we store documents, photographs and music in the cloud. It is the nature of the world we live in. Asset management is no different in that respect. It’s time to reach for the cloud. ■

To learn more about Geneva, please visit: globalassetmanagement.tech