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In our private lives, where every leisure activity now appears to have an associated application giving us a stream of information we never before knew.

“At this stage, I think all market participants expect more; greater returns, lower fees, greater transparency,” says John Hack, Senior Vice President and Head of Technical Relationship Management and Product Consulting at Arcesium, a New York-based middle- and back-office technology solutions and operations provider.

“It’s analogous to increased expectations we have in our personal lives. You can get all manner of data today through your mobile phone – so shouldn’t that extend to gaining insight into your hedge fund investments?”

Data processing power has helped to transform the financial industry, thanks to the rise of GPU-powered applications; GPUs are Graphics Processing Units, commonly used by video game developers. Today, not only hedge fund managers but all asset managers, are looking for ways to deploy next generation technologies to improve the way they absorb and process vast data sets. The aim being to improve data management, liquidity management, cost of execution, margin management. The list goes on.

Ultimately, technology advances have pushed fund management into a new data-rich realm.

And in some ways, this is unsurprising given that we experience a data-reach world...
Trusting data is vital for data management

Hack believes that the next iteration of technology will be more self-service in nature, where all key players in the hedge fund industry, including the front-office team, will have greater access to data.

“I don’t expect all portfolio managers to become Python programmers but I also don’t think it will be acceptable to have a two-week turnaround to wait for new data fields in a report they are used to receiving.

Technologists are going to spend more time building tools to push that data upstream to users, and give them actual access to the data. That way, someone looking at the data will know what alerts were generated, what issues were checked and cleared; all that contextually data will go directly to the end users where they can manage it themselves, knowing it is the same high quality data as that shared with their prime brokers, fund administrators, etc,” comments Hack.

This comes down to trusting the data the PM, CRO or CCO is looking at any point in the day. As more data fields and sources are utilised, the more critical it becomes that hedge funds trust what they are looking at. This is especially important when a hedge fund seeks to widen out its investment strategy, perhaps to include a new trading instrument or market segment.

Suddenly, the portfolio manager might start trading credit or swap instruments which the operations team have never had to consider in relation to compliance processes and reporting.

Arcesium is at an advantage here, to support managers as they look to scale their business, as it has a strong technology backbone, given that it spun out of one of the world’s largest and most complex multi-strategy firms (DE Shaw). With combined client assets north of USD125 billion, Arcesium is well equipped to help hedge funds flex in one direction or another, as they evolve their investment strategies.

Gianluca Lobefalo is Head of Quant Strategies at Algebris Investments, a USD12 billion global asset management group founded in 2006. Most of its investment activities are fully systematic and as such technology plays a key role.

Lobefalo says he sees two trends unfolding. The first is that there are more and more non-systematic strategies utilising technology. This is becoming a feature not just of the quant or systematic trading space but of all investment strategies.

“Secondly, solutions that would have required huge capital investment are becoming much more accessible to managers thanks to technological advances,” says Lobefalo.

These two trends are increasing demand for technology he says.

Limits of machine learning

“Market structure has also changed,” continues Lobefalo. “Now there is a strong dominance of trade volume being concentrated in passive strategies, but only some are systematic passive strategies. This is driving a concentration of liquidity at a specific time of the day, typically at the close of market, when there is a rebalancing among passive strategy portfolios.

“Active strategies need to keep up, in terms of processing new information and speed of trading, with these passive strategies. Even traditional long-only strategies are being forced to incorporate technology advances into their normal investment strategies because of the speed required in the closing option.

“Having a technological component to investment and execution is becoming a more relevant part, no matter what strategy you follow.”

When asked how technology is being used by the quant team at Algebris, in terms of portfolio construction, Lobefalo says that the markets are so complex and continually changing that it requires an equally continual evaluation of data sources.

“It would be extremely challenging to run a systematic strategy without re-setting data...
and analysing new sources of data,” he says, adding that machine learning is one of the most used and least well understood terms in the investment industry.

“There is little evidence yet of the successful application of machine learning in investing. It’s an interesting field to explore and we’ve been using machine learning techniques since 2009. Humans always look for solutions to fix all our problems. Unfortunately, life is not so easy. Machine learning tools can be used successfully in some fields, such as data analysis, and to a less extent investing but for marketing purposes, to say that you use machine learning has become very fashionable.

“We take a prudent approach. Any technological innovation cannot replace common sense. Human beings will always be in the driving seat of investing. Machines can help you be more disciplined in what you do. They can help to optimise processes but they cannot replace the core of the investment process; the human mind and judgment.”

“Machine learning is good at finding patterns in data and matching up disparate data sets. That can be directly applicable in data reconciliation from an in-house system to the Street, and it also can be applicable to the challenge of relating alternative data sets to tradable assets and determining whether there is a genuine trading signal to act upon.

“Machine learning is playing more of a supporting role in both cases, and I think that will be the case for some time,” says Hack.

Bill Neuman is Senior Managing Director, Product & Engineering at SS&C Eze. He argues that the biggest advances in machine learning, across all industries not just finance, have been where large amounts of data have been available.

One element that he thinks will help to take machine learning to the next level in finance, will be to have large amounts of data, which by implication, will mean greater collaboration between fund managers.

“I am suspicious of any offering that says to an asset manager, ‘We will use just your data to help optimise your execution quality’,” comments Neuman. “If it were easy or cheap to look at an aggregated view of all trade activity in an anonymous fashion, and use that as inputs to improve trading algorithms, everybody would be doing it.

“The question is, to what degree would hedge fund managers be willing to participate in such data sharing exercises? Even in full knowledge they would be anonymous, to help them, but also their competitors, do a better job?”

Bill Neuman, SS&C Eze

“As it is, this remains an interesting data problem. The question is, to what degree would hedge fund managers be willing to participate in such data sharing exercises? Even in full knowledge they would be anonymous, to help them, but also their competitors, do a better job? That’s a big question to ponder today.”

Alternative insights

To help support its hedge fund clients in respect to data management and analysis, Siepe, a leading provider of data management and IT solutions, provides a range of tools that allow managers to analysis alternative data sets overlaying their historical portfolio data. This is leading portfolio managers and analysts to uncover new insights and to understand what impact that alternative data might have had on portfolio positions.

“It’s as much looking back as it is looking forward,” comments Jilbert El-Zmetr, Head of MSP Operations at Siepe. “I think there’s a lot of power in this for existing managers who have a lot of their own historical position data, to fuse it with alternative data sets to see how different the portfolio would have looked if it had been positioned differently, based on insights from that alternative data set layer.

“We’re looking at partnerships with some alternative data set providers to integrate those two things together. I think it could really change the way people invest, not only from a research and idea generation perspective but also an execution perspective.

“There’s so much data that can be used for idea generation for future trading.”

Arcesium’s Hack observes that because
technology providers are making hedge funds more efficient, it is enabling managers to allocate some of their middle- and back-office staff to front-office supporting roles “to give their traders more power and improved trading capabilities”.

“That’s what you want to see as an investor: the manager really focusing on the trading strategy, not on reconciliations and accounting. That’s what Arcesium can do.

“There is true evidence of technology directly improving hedge fund managers on the efficiency side; if they can save money in one area they can deploy it elsewhere and expand the investment team. They can also benefit from faster time to market with trading strategies. People are turning around launching hedge funds more quickly than ever before,” opines Hack.

Flexible technology... and agility
We live in an era where cloud-based server deployment, the creation of AI protocols and the creation of smart workflows are now realistic tools for managers to use. It’s a new era because of the computing power that now exists but the challenge people face is that we are still in the early stages of this new data era and as such the standards have not yet been set.

It’s important to therefore maintain a flexible structure; not just managers, but their service providers such as the fund administrator, who holds all of the fund data.

This is the opinion held by Mike Canni, COO, Opus Fund Services, who says: “If you build your product solely based on current capabilities, by the time you’ve finished building it the technology would have changed. It can take years to build something, by which time the chances are the technology has become obsolete and so rigid that it would take another decade to change it; it becomes a Sisyphus-like challenge.

“Any technology solution created today needs to be built on flexible foundations and modular in nature.

“Suppose next year there’s a new cloud computing solution that is ten times faster but requires some parameters for you to plug into it? If you’re not able to take a piece of your software and attach it, you won’t be able to take advantage of that new higher speed development.

“There is true evidence of technology directly improving hedge fund managers on the efficiency side; if they can save money in one area they can deploy it elsewhere and expand the investment team.”

John Hack, Arcesium

“The way you collect and store data and output the data – those connections need to be as flexible as possible. It is easier to achieve this by operating under agile development methods.”

To illustrate the point, Canni refers to one USD1.5 billion hedge fund that has 2,000 investors and who was recently audited by the SEC. The SEC said, ‘these investors reside in various states across the US and we’re no longer going to allow your fund to send any material to any of them by email’.

“The manager had to switch overnight from using email and our team was able to roll out an online portal for them based on their exact requirements,” relates Canni.

“When a regulatory body comes in and says you can no longer send sensitive information related to the fund over email, if you don’t have a good flexible technology backbone to make a change, you’re going to get stuck.”

Canni provides a second illustrative example of how flexible technology benefited this same manager: “Once a year, the manager would pay out an income distribution received from some of its fixed income products to investors. A request was made by some investors to increase the frequency of those payments to quarterly or monthly. We were able to shift our technology to fully automate the calculation of interest per investor and automate the creation of the bank wire, as well as automate notifications to the custodian. With a click of a button, the manager is now able to pay out interest distributions to all 2,000 investors, and report it to them via the online investor portal.

“Fund administrators using off-the-shelf software products could in no way adjust and make those changes.”
One area of technology development that Siepe is looking at, and where it is spending a lot of time with managers, is utilising Office365, which traditionally people think of as just email, word and excel document management but as El-Zmetr points out, “the tools from Microsoft have really evolved”.

“We are starting to provide clients with more functionality through some of the workflow tools and collaboration tools that are available in Office365 that allow us to integrate electronic communication with instant chat messaging, for example, where people can discuss ideas.

“Integrating such tools into their daily workflow, and ensuring they remain compliant from a retention perspective, is one aspect, in addition to giving them dashboards and tools to use for reporting and analytics; not just on the portfolio management and data warehousing side, but also in relation to research ideas, using the Microsoft platform to generate alerts when specific conditions are met.

“Funds have a process they need to follow to get approval to trade off of a restricted list. If someone wants to trade from a restricted list, they can use the Microsoft platform to generate request forms, or acceptance and rejection-type alerts for their compliance teams, without having to build bespoke systems.”

Cloud developments

Cloud technology has unequivocally changed the way that hedge funds run their operations today. It is not an exaggeration to say that the public cloud, led by the growth of Amazon Web Services and Microsoft Azure, has been a game changer and arguably given small hedge funds the opportunity to compete on a level playing field with the biggest, most technologically sophisticated hedge funds.

A few years ago, the debate over public versus private cloud raged on, but many of the early concerns surrounding privacy and data security have largely been banished.

“The industry has completely accepted it as the way forward – we run our managed services in the public cloud using AWS and Microsoft,” affirms El-Zmetr. “We are now at a point where the biggest funds, the prime brokers, and the most successful service providers are all using the public cloud. Discussions around security and business continuity are no different in the public cloud than they are in the private cloud; that’s why the adoption of the public cloud has really accelerated as managers look for the most modern and innovative solution to grow their business.”

Managers face shrinking margins and increased performance expectations, so they want to spend as little as possible on the operational side of the business; the public cloud helps them do that and systems that use the cloud: investment management systems, PMS/OMS/EMS systems, are sitting in the cloud. This is giving managers
Security remains at the forefront of managers’ minds, says Neuman. He says that SS&C Eze processes hundreds of technical due diligence questionnaires from clients every year, with cloud security front and centre.

What asset managers need to ask themselves is, if they deployed a system within their own office building, would that be more or less secure than a cloud service provider with global clients and who spends millions of dollars on its data centres and physical and network security measures?

“We are one of relatively few firms who have earned the ISO 27001 security approval as well as the specific cloud security certification, ISO 27017, and cloud privacy, ISO 27018,” says Neuman. “Those are important seals of approval for a cloud vendor to demonstrate its commitment to security.

“We designed Eclipse with the principles of ‘zero trust’ and “least permissions” in mind. No single service must trust other services in the cloud, and both users and services operate with only the permissions required to serve their stated functions. These principles, combined with strong firewalls and employees access restrictions, help to prevent attacks from within or outside of the system.”

“We have mainly used the Private Cloud to date,” states Phillip Chapple, COO at Monterone Partners, a European equity long/short hedge fund. “This has given us a flexible but resilient infrastructure which enables us to develop the business while providing the security and controls expected.”

When asked what technology tools/systems had recently been prioritised by Monterone, based on available IT budget, Chapple confirms: “We implemented a new OMS/PMS last year, this was due to a combination of increased regulatory requirements, the need for shadow accounting and enhanced risk tools.

“In an environment where there seems a stream of new regulatory requirements, it is critical to try and future-proof as much as possible by dealing with vendors who can be pro-active and provide solutions as the new requirements occur. Otherwise the need to then layer multiple systems can create additional workflows and risks to ensure all data is reconciled and interpreted correctly.”

a more reasonable, lower cost solution as they look to get their fund up and running.

“Gone are the days when everybody had to have a dedicated OMS, a dedicated accounting system, spending hundreds of thousands of dollars a year on these systems. The time it takes to launch a fund has really shrunk because technology has evolved and allowed that to happen,” adds El-Zmetr.

At SS&C Eze, while some of the components of the Eze Investment Suite were originally built as on premises apps, they are now commonly cloud deployed with positive results. Its Eze Eclipse platform, however, was natively built in the cloud from the start. The rapidly growing platform was aimed initially at emerging hedge fund managers, but is now growing to other market segments.

“It’s been interesting to see what’s happened over the last year,” comments Neuman, discussing cloud technology. “What I’m seeing is that the asset management industry, at all levels, has turned a corner relative to their perspectives on the cloud.

“A couple of years ago, some of our clients were cautiously optimistic around cloud technology, with larger managers, in particular, saying ‘We are happy to see you in investing in this area but it’s not for us’. In the last 12 months, however, speaking with those same clients about our product roadmap and the fact that we have Eclipse, some are now saying ‘The cloud is imperative for us today’. So I do think the market has shifted its views on the cloud.”
What lies ahead?

Asking industry professionals – both managers and technologists – what the next technology trend might be invites a wide range of opinions and responses.

From a front-office perspective, SS&C Eze’s Neuman says “the one thing we can’t overlook is regulation and the impact that could potentially have on the front office’s ability to execute”.

He says without automated systems to help keep portfolio managers out of trouble, in terms of how and when they want to shift their investment strategies as markets move, hedge funds will struggle to remain agile.

“Automation requires a strong system to help them avoid any guardrails being put in place; whether it’s beneficial ownership reporting, margining rules, transparency reporting under MiFID II, etc.

“Our compliance tools are one of the ways asset managers can solve the regulatory problem.

“We see a lot of customisation of strategies, as investors opt for separately managed accounts and this is one way our manager clients are looking to differentiate themselves. This requires good technology system capabilities to trade and monitor a well-defined investment strategy as per the investor’s tailored needs. I think in the front-office, that is becoming an important trend,” explains Neuman.

Over at Algebris Investments, Lobefalo believes the next leap forward in technology will happen when, rather than if, quantum computing becomes available.

“It will offer a completely different scale of calculation but I think we are still a few years away,” he says.

Quantum computing will allow managers to analyse many more sources of data, “and in terms of optimisation, whereas I referred to parallel computing reducing the time to a few hours, I think quantum computing would reduce the time to a few seconds. It will allow us to analyse exponentially many more data sets, and many more markets,” says Lobefalo.

On the back-office side of things, the one area that excites Opus Fund Services is how technology has the potential to change how investors subscribe to hedge funds.

Currently, Opus services approximately 700 hedge funds, all of which have their own unique subscription document with different fields that investors submit via email. Overall, it is a very inefficient process and one that affects the whole industry.

“We see a big opportunity here,” says Canni. “We are in a discovery phase at present with a number of law firms to see what can be done to standardise subscription documents, and move them into an electronic format. Why have 700 different formats, which are all asking for the same information from investors, just in different ways?

“We’ve built an online tool that allows the fund manager to type in the name of a prospective investor’s email and allows the investor to log in to the portal to fill out all the necessary information. We’ve built it with the intention to show it to law firms and ask them, ‘If we roll this out further, would you advise your clients to use it?’ The feedback has been very good so far.”

The industry is ready to move towards something like this, especially because cybersecurity is becoming a much more serious topic. All these subscription documents moving between the manager, the investor, the fund administrator, the custodian...they are being emailed everywhere and in different formats and it allows for malicious activity by sophisticated hackers to look at the patterns and act as if they are the investor and make fraudulent transaction requests.

“It’s a real risk. Greater standardisation of the subscription process, however, and moving to an electronic format, could be a way to reduce that risk and improve the security of how sensitive fund information is shared,” concludes Canni.
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One of the key benefits of the platform-as-a-service model is that it gives smaller and emerging hedge funds the chance to utilise industrial-strength technology tools and applications that are commonly afforded to only the industry’s largest management groups.

Siepe, a leading provider of data management and IT solutions, was founded in 2012 and has evolved to offer investment management solutions – spanning portfolio management analytics, performance attribution and data warehousing – and managed IT cloud services to empower hedge funds to scale quickly and efficiently, in lockstep with AUM growth.

The firm thinks of itself as a technology advisory services business that works in harmony with its clients to achieve the optimal business outcomes that any good COO/CFO is driving towards.

“Our experience and subject matter expertise in the hedge fund space is valuable and I think the industry should take advantage of people who can bring that substance to the table,” says Jilbert El-Zmetr, Head of MSP Operations at Siepe. “We help COOs make the right decisions and that’s the kind of relationship hedge funds should strive for with their technology providers; whether it’s front- to back-office systems, managed services technology, cybersecurity, compliance, etc.”

Managers become more dependent on technology as their fund evolves and grows, and investor due diligence increases. To overcome what can appear a never-ending technology conundrum - How much to spend on IT? How many tasks to outsource? What technology is appropriate? – COOs should look to partner with vendors who take a more consultative approach to the relationship; those who invest time in the client to understand their fund strategy needs.

“Vendors should then be able to provide the most appropriate technology solution and collaborate with the client through the onboarding/implementation process,” says El-Zmetr. “The vendor should look to continually develop the relationship; it shouldn’t be purely transactional.

“We may not have all the tools a manager needs to achieve their objectives but we will bring our expertise to bear and support them in using the tools we do have, whether these relate to our managed services technology on the public cloud, data warehousing, or data visualisation, all the way through to workflow tools which aid investment from a research management perspective. We then integrate those tools so that they work seamlessly for the fund, allowing them to leverage their data in a transparent way and reduce operational risk.”

Doing so not only gives the manager a best practice solution from a compliance or an alpha generation standpoint, it also helps provide them with a single source of truth on which to build a competitive edge.

“We spend a lot of time advising COOs on which pieces of technology they need, and we introduce them to other service providers to support them in areas that we are unable to. This, I think, is another selection criterion: to choose technology partners with deep partnerships across the industry.

“Every manager is different in terms of what they need from a technology perspective. We have seen 200 to 300 fund
launches over the last 15 years so we can share insights on what managers have done for different strategies: how they integrated different technologies and what were the results. More managers are outsourcing compliance, for example. Rather than hire and retain individuals, they can turn to their service provider who has the subject matter expertise because of the numerous clients it has to support. This allows them to give managers the best ongoing advice on what they should be doing to meet both investor and regulatory requirements,” outlines El-Zmetr.

Meeting investors’ operational due diligence expectations requires well-developed system processes, compliance controls and as much workflow automation as possible. This helps to standardise the reporting process and convey a clear, consistent message to investors on fund performance, as well as to regulatory authorities.

El-Zmetr says that this middle- and back-office component is an important aspect of its business and relates to its data warehousing capability, portfolio analytics, portfolio intelligence and reporting capabilities.

“Everyone wants to leverage the data they have and possessing a tool that allows them to do that makes life easy for managers – they don’t have to dig through spreadsheets to conceptualise and generate their own reports, which can be very time consuming and prone to errors.

“By using our platform, their time can be better spent on the investment process and generating alpha,” explains El-Zmetr.

Large hedge funds with ample IT budgets may look for a bespoke reporting solution, or develop one in-house, but this is a luxury that few emerging managers can afford.

In recent years, technology advances have overcome this problem and gone a long way to democratise investment management, in terms of quality of technology prowess. Now, managers of all shapes and sizes can partner with Siepe and use an array of investment management solutions. These include reporting tools that bring all of their data together – including past and current portfolio positions – and visualisation tools that accurately reflect portfolio performance.

“It is important to find a service provider who is willing to grow with the fund from both a spend and complexity perspective. It comes back to the point about partnership. Are your service providers really willing to grow with you or are they giving you a cookie cutter solution that falls short of your expectations and needs?” posits El-Zmetr.

In many ways, the cloud has become the great enabler, in the sense that managers are free to dial up and dial down the amount of technology they use that best suits their business needs at any given time.

“The evolution of the public cloud has enabled funds to be much more elastic to shrink and to grow when needed, to allocate resources from a technology standpoint when necessary, to add integrations and capabilities when available, and only have to pay for it as and when they need it,” says El-Zmetr.

He adds: “We might start working with a client on portfolio accounting or portfolio reporting or data warehousing, before we work with them on the managed services side. Some clients will engage with us on both sides because they see the value of doing so. They understand the investment process, front to back, and want a true turnkey solution – where we are effectively functioning as their outsourced COO.

“It’s all about showing managers what tools are available and what are best suited to their business needs. We can’t provide a full front to back OMS/PMS, for example, so we work closely with a few key players including Eze, Enfusion, Broadridge, etc.”

A fund manager shouldn’t worry about how to fit technology together; that’s not what investors are paying them to do. Ultimately, whatever the final arrangement, Siepe helps plug it all together, depending on the manager’s preferences.

Going forward, El-Zmetr thinks COOs will need to be even more tech savvy than they are today because the level of technology being used in hedge funds will continue to grow: “They are going to be using more systems and leveraging more data. That’s why partnership is key. A COO will either need to have excellent relationships with their service providers, or they’re going to have to be able to do it all themselves.”
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Overcoming the data management challenge in business scaling

Interview with John Hack

The ability to properly scale and build AUM for long-term success should be top of mind for any hedge fund manager. Luckily, thanks to incredible advances in technology over recent years – particularly in relation to cloud-based platforms – efficient scaling, without losing control, is eminently achievable.

Moreover, by partnering with institutional-quality technology providers, managers are able to improve their entire data management process through greater automation. In turn, this ensures that the front through the back-office works off of the same, consistent data sets; a key requirement as firms seek to use a wider range of data vendors.

John Hack is Senior Vice President and Head of Technical Relationship Management and Product Consulting at Arcesium, a New York-based middle- and back-office technology solutions and operations provider, which spun out of the D.E. Shaw Group in 2015 in a joint venture with Blackstone Alternative Asset Management.

Arcesium currently supports a select portfolio of clients with combined assets north of USD125 billion.

Hack says that in relation to hedge funds using alternative data sets, one of the biggest challenges, particularly at scale, is associating the data with tradable assets. How effectively and quickly one can manage the mapping exercise is, says Hack, “the difference between a real market signal and missing out on what could be a good investment opportunity”.

“Those managers who succeed in this exercise are going to be able to evidence that with their returns; that is where you start to see investor appreciation for effective data management.

“A hedge fund manager is always looking for an edge. Today, this remains an area where there is potentially still real alpha, so firms are going to do what they can to go after it. Aside from the most quantitative hedge funds, there is a push within the hedge fund industry towards data-driven or data-oriented trading,” comments Hack.

Indeed, ‘Quantamental’ trading has emerged as a trend in recent years as fundamental managers including Tudor Investment Corp and Third Point LLC have sought to incorporate more data-driven quantitative processes into their business model. The same is true across the traditional long-only asset management space.

However, it is one thing to start incorporating higher volumes of data into the front-office, but quite another to do so such that portfolio managers trust the data they are looking at with which to derive new insights and trading ideas.

Whether it is social media data, weather data, agricultural or shipping data, hedge funds can only derive value out of it if the data has been mastered and normalised, ideally as quickly as possible. Doing so can help the front-office trade confidently, and mitigate the risk of false positives by inaccurately interpreting the data on their screens.

“The key to all of this is proactive data cleansing, particularly in the middle- and back-office,” remarks Hack. “There has already been a lot of focus on making sure data in the front-office is cleansed to some
extent. But as far as the middle- and back-office goes, I think it is still an emerging theme to apply proactive data cleansing. Firms consistently underestimate how much their front-office relies on data that falls into the middle-office bucket. Things like historical bond ratings or dividend yields aren’t as exciting as satellite imagery and yet they are foundational to investment models.”

The crux of proactive data management is “applying a set of rules to the data as it comes into the system before anyone looks at it”. Moreover, “those rules and associated data alerts need to be both qualitative and quantitative”.

“Technologists need to ask their end users what checks and controls they need, what data issues arise, and what their pain points are. But they also need to look at the data edited by humans. Something smells wrong if an operations person is going back at month-end or a couple of days after a corporate action to fix a problem. That’s a signal for technologists to generate a rule to proactively address that same data set, and associated concern, the next time around.”

Arcesium has built a fully integrated technology platform to meet the most complex post-trade challenges faced by hedge funds and to support them in customising their own data management solution. Expanding on the point Hack makes about ‘bad smelling’ data, Arcesium has constructed a dedicated tool around data alerting within its Financial Data Stack; a series of modular technology products designed to give managers a single version of the truth.

“We have thousands of rules that we’ve built over time that were generated by querying our user base as well as by looking for those bad smells in the data. Every piece of data passes through a series of checks as it comes in to our system. Firms are finally starting to rally around a single source of truth.

“This concept is not new, but I think today it is becoming more of a reality,” explains Hack. “The front- and the back-office need different views of the same data, not different data. It has to be the same information, just aggregated differently and transformed a particular way. If you perform that transformation across multiple systems, that’s a risk. If you’re using the same data set, front to back, at different points of time, without knowledge of the timescale difference, that too is a risk.

“All of the data we warehouse on the platform is bi-directional and bi-temporal; this is key to solving the timescale problem.”

The wider implication of this is for hedge fund managers to create a more efficient middle- and back-office and a better-informed front-office.

Utilising a technology platform where the data elements are formally modelled by Arcesium, but which also have potentially an unlimited number of user-defined fields or attributes that can be associated with the trading instrument/strategy, empowers managers to scale and to flex in any direction.

Arcesium’s Security Master allows clients to customise the way they visualise data sets across the entire data lifecycle. Data points can be accessed programmatically using a host of API libraries available in Java, Python and C#. In addition, the Arcesium Transaction Master has the ability to source trade and fill data from OMS providers and trading venues; this data can prove especially valuable for post-trade analysis work such as TCA and best execution, among other tasks.

No matter what the data source, everything can be managed through one system. Arcesium’s tools talk to one another and directly to counterparties on the Street and, as Hack stresses, “We’re using this to drive our clients’ business operations”.

“We are feeding their OMS, we’re providing analytics to the portfolio managers and the risk team, we’re running data feeds downstream to support investor service solutions. It’s all open architecture on the platform.

“We have a suite of APIs that service all this data, we have self-service reporting capabilities, and it’s all done on the cloud. The same APIs that we use to push data into the user interface are the same APIs our clients have access to, which is immensely powerful. They can use these APIs for portfolio modelling, scenario analysis. The data that goes out to the Street is the exact same data being used by our clients’ middle- and back-office teams,” concludes Hack.
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GENEVA®
by SS&C Advent
Cloud hosting can help improve system agility
Interview with Roger Woolman

Security concerns will always occupy the thoughts of any hedge fund COO, given the extent to which the cyber threat landscape has evolved in recent times. This can present a challenge when determining how much IT budget should be allocated to keep a hedge fund’s data safe and secure. However, advances in cloud technology mean that a more cost-efficient, robust solution now exists for COOs and CTOs to consider.

Given that cloud-enabled hosted solutions are becoming more popular, this is leading not only to cost savings in relation to ongoing software upgrades but also improved security controls as well. At SS&C Advent, its cloud-enabled solution, Advent Outsourcing Services, gives hedge funds the opportunity to host their core systems in audited, accredited data centres with strong security measures and SSAE16 certification.

“Data centres are very secure these days,” says Roger Woolman, Business Development Director, Asset Management & Alternatives at SS&C Advent, “so there is less of a cybersecurity concern for hedge funds. Ultimately, the cloud model is becoming standard best practice from a security and operational efficiency perspective. I would estimate 70 per cent of our new clients take a hosted version of our private cloud offering.”

Managers can avail of a range of hosted system tools on AOS including: Advent Portfolio Exchange® or Advent Geneva® for portfolio management, Moxy®, a trade order management system and Advent Rules Manager® for trading compliance among others.

Woolman explains that an a la carte approach is taken to hosting, where SS&C Advent can provide an array of services depending on a manager’s individual needs.

This could evolve into co-sourcing or full outsourcing with operational input from the SS&C Advent team.

“As AOS is fully maintained by us, managers can add additional outsourcing elements and make significant cost savings in terms of middle and back-office headcount. When it comes to outsourcing, it ultimately boils down to total cost of ownership,” suggests Woolman.

Disaster recovery and business continuity planning is a key focus of investor due diligence questionnaires, as investors look for assurances that managers have the proper controls and processes in place to mitigate risk.

In that regard, hosted cloud solutions like AOS are proving to be hugely beneficial, with Woolman stating “Our core competency is data protection, with respect to both our own data and that of our clients.”

SS&C Advent has data centres across the world, and such is their level of security, hedge fund COOs and CTOs have become more confident handing that over to their service providers, “which wasn’t the case a few years ago when hedge funds still had data protection concerns with the cloud,” adds Woolman. “They are happier and more confident to outsource data protection to us. It helps with their disaster recovery and it is part of our expertise.”

As with any hosted solution, it is only as good as the technology backbone supporting it. SS&C Advent is well aware of this, investing roughly 20 per cent of its global revenue into R&D.

“The aim is to be self-servicing and to achieve that you need to be operating in the cloud, with the right technologies in place for it to work.

“A big part of our current R&D focuses on this self-servicing model for clients. Advent
Geneva® now has web-based work spaces, which allows us to interact with clients’ specific asset classes. Clients can manage more workflows through one screen or one user interface, rather than hopping from one system to another. These web-based work spaces are a good example of next generation technologies we’ve introduced for managers,” explains Woolman.

Large established hedge fund managers need agile systems to support them as they build out new investment strategies and invest in new markets and asset classes. Their legacy IT infrastructure can present limitations, and introduce multi-system complexity. This places added pressure on their IT infrastructures, leading to operational inefficiencies, increased overheads and a growing inability to service clients properly.

To overcome this, they need an overlay solution that can work with those underlying systems and reduce the demand on data management, aggregation, portfolio attribution and reporting grow exponentially, without managers having to completely reinvent themselves.

“The layering principal as it applies to the cloud, without having to tear out the plumbing of one’s existing IT infrastructure, has helped larger managers reduce costs,” comments Woolman. “In terms of demonstrating those savings, when we meet with new clients we have to put a cost proposal together, and we also have to consider the value statements that we make or the benefits we describe when selling our software. If we are selling a hosted or cloud version of the software, how would that compare to the cost of it being an on-premise solution?

“Over the years, there has been a trend towards system consolidation and that has made the cloud even more appealing to managers, as it means they face fewer integration challenges, or issues with systems overlapping. The cloud has become a de facto solution for a lot of fund managers now.”

Simplification of business, system consolidation and the desire to reduce the total cost of ownership: these are all key drivers behind cloud adoption.

The agile and interactive nature of the cloud has allowed managers to benefit from self-servicing. They can better interact with systems, using mobile devices, etc, but in terms of the biggest benefit, using a hosted solution has meant that managers can now save money by limiting the number of middle and back-office headcount. Repetitive tasks that don’t need any discretionary input, such as loading trades and doing reconciliations, are well suited to the outsourcing model.

It can be easy for technology groups to get carried away and offer tools or solutions that only benefit a small number of clients. Ultimately, there has to be a clear use case that best responds to managers’ changing needs.

Technology is more of an enabler than a business driver for SS&C Advent which has allowed it to service clients and deploy software in a different way.

The drivers for cloud technology use among fund managers are varied but reducing the total cost of ownership, with respect to software and running costs, has become a demonstrable benefit.

“I think for new managers especially, a hosted solution should be the de facto choice. Ultimately what they want to do is get the benefit of a system like Advent Geneva®, but without having to take on the implementation and ownership of that system. The costs associated with that deployment are also beneficial to new managers. They want high quality core data for their front-office systems and they also want to appeal to investors.

“In that sense, a hosted solution is a no brainer,” concludes Woolman.

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When SS&C Eze developed the Eze Eclipse platform, the technology group had one eye firmly focused on start-up and emerging hedge funds, many of which face significant cost challenges in today’s marketplace.

By building the platform from the ground up in the cloud, SS&C Eze is able to offer managers a single, front- to back-office solution that supports them in their daily workflow, wherever they are in the world, without having to outlay any infrastructure costs.

“We aim to solve that entire problem with one platform that has been designed from the ground up to integrate everything together so that there are no workflow process inefficiencies and lower operating costs, which can translate to lower total cost of ownership for clients,” says Bill Neuman, Senior Managing Director, Product & Engineering at SS&C Eze.

“In addition, clients accrue benefits in other areas such as security, disaster recovery; things that a manager would typically get asked in an investor due diligence questionnaire. The Eze Eclipse investment solution now has over 60 clients and the adoption rate is accelerating.”

The platform was built using a modern technology approach with APIs at the heart of the construct, in line with industry best practices. There are more than 120 microservices all working in concert on Eclipse. Neuman says each can be scaled up or down “depending on the current system load. This provides an unprecedented level of reliability and scalability to meet managers’ growing needs.”

That ability to scale efficiently is paramount in today’s highly regulated, cost-intensive industry. Emerging managers live or die based on how well they manage their burn capital to run a hedge fund business, regardless of how good performance might be. This applies equally to established managers who are looking to outsourced cloud solutions to streamline their operations and reduce the overall total cost of ownership.

Neuman explains that the API-first approach to building Eclipse makes it uniquely flexible, where all of the platform’s microservices communicate with each other using RESTful APIs. As REST is a standard protocol, customer applications can communicate with Eclipse using the same means that are employed throughout the platform.

“This means that asset managers seeking to automate trading strategies with a proprietary application can use Eclipse APIs to create their orders, confirm compliance, and then execute without any extra development work on our part,” comments Neuman.

Such are the advances in cloud-based technology platforms that managers now have greater capacity to deliver tailored solutions to investors, such as separately managed accounts. Without having the right tools to manage all the resulting complexity, the operating costs for managers could rise uncontrollably.

This is why technology is so important today, to help managers keep their businesses efficient while enabling them to offer a differentiated service at the same time.

Increasingly, managers are looking to gain efficiencies and spend less time and energy on non-core tasks in order to focus on generating alpha in their strategies. Much of that focus on improving the efficiency measure has been in the middle- and back-office, in Neuman’s view; seeking to eliminate repetitive manual tasks to get more value out of each member of the team.

“What resonates with clients I speak with is that their most valuable asset is the intellectual horsepower of their employees. If they are spending time on manual tasks such as tri-party reconciliation at the end of the day, that is wasted effort.

“Clients are looking at ways to reduce their costs, and do more with the same number of people, as their businesses get more complex. We think Eze Eclipse is one solution to achieving this goal,” concludes Neuman. ■
THINK ALTERNATIVELY.

fund administration
/fund adˈmiːnəvoʊʃən/

noun: administer; 3rd person present: innovation; plural noun: innovations

1. Calculation of the net asset value ("NAV") including calculation of the fund’s income and expense accruals and pricing of securities at current market value

2. The action or process of innovating a new method, idea, product etc. "Opus redefines the fund administration industry through innovation"

www.opusfundservices.com
Simplicity can often lead to the best outcomes

Interview with Mike Canni

Innovation in the funds industry tends to be an overused buzzword. This is understandable, given that innovation touches all aspects of our daily lives, from the way we measure our health and fitness to the way we travel and work. There is a natural tendency, therefore, for companies to say that they are constantly innovating as if, by not doing so, they risk being seen as obsolete. Thirteen years ago, Opus Fund Services was borne out of the need to introduce true innovation in response to the over-reliance on inefficient, manual-driven processes that prevailed in incumbent fund administration groups. The aim was clear: to build a fund administration business from the ground up that focused on efficiency, low risk and high value.

“We reflect our emphasis on innovation by the amount we spend on it,” says Mike Canni, COO. “Across the business, our single largest spend is our innovation team headcount cost. We look at innovation from the standpoint of creating the ultimate client experience; one where the cost is low, delivery is fast, the product(s) is accurate, and we provide clients with the most up-to-date tools and security measures.”

Innovation is applied at Opus in order to benefit every one of its clients, not just a handful of standalone customised workflows. This is not innovating for innovations sake, but to bring tangible gains to hedge fund businesses in the form of value creation.

Last year, Opus introduced JET, an automated ‘straight through’ NAV calculation engine. The automation of fund accounting entries has resulted in NAV processing times reducing by over 90 per cent.

“One of the key requirements when developing a new product like JET is that it can be used to service a USD5 million fund exactly the same way as a USD2 billion fund. This ensures we are able to drive down the cost of servicing funds on the smaller end of spectrum where cost ratios are of significant importance, whilst also allowing for significant investment in the unautomated discipline of client service for those managing billions of dollars. This approach provides our clients with a true institutional quality experience throughout all stages of a fund’s life cycle,” stresses Canni.

JET does everything from accruing fund expenses to reconciling cash, gathering portfolio accounting data, allocating P&L to investors, determining the management and incentive fees, generating statements, alerting clients to review and approve the NAV, not to mention the ongoing scheduling of investor statements. “JET is currently being used on 100 per cent of our hedge fund clients,” Canni confirms.

There is a tendency to overly complicate fund administration with too much innovation. At its core, fund administration is a straightforward activity: keeping track of a fund’s investment book of records. As such, when it comes to building the business logic to create a balance sheet or an income statement, it is no different regardless of whether the instruments being traded within a strategy are stocks, bonds, loans or swaps.

“Risk reporting or analytics reporting require specific systems and that’s where some fund administrators overcomplicate things. The business of fund administration is quite simple; it’s just debits and credits,” says Canni. All of Opus’s technology is proprietary with regards to workflow management and automation. During the design and implementation phase multiple iterations are developed.

As Canni says in conclusion: “Any product we create has multiple sprints so that if a new technology comes along during that iteration process, we pivot. When we design a new product like JET, we break it down into multiple sprints. The overall engine of the product has to be ‘plug and play’ to allow it to tap into new technology advances.”