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Setting standards (and avoiding regulation)

The financial crisis underscored the need for transparency in complex and opaque areas and investors and regulators alike are now demanding unprecedented levels of disclosure.

These demands are reinforced by new global standards for performance reporting: GIPS 2020 and ILPA 3.0. "Firms that prove themselves capable of adhering to these reporting standards will surpass those that delay their journey towards compliance," says Anne Anquillare, chief executive of PEF Services. "We feel the future belongs to those who are able, not only to generate alpha, but to demonstrate those returns clearly and position them within the full spectrum of investment options."

Indeed, the ability of U.S. private equity firms to embrace these standards could prove critical to the preservation of a light regulatory environment. Democratic presidential candidate Elizabeth Warren's "Stop Wall Street Looting Act" provides a hint of what's to come if the industry fails to take proactive steps.

"If we, as an industry, don't make significant gains in transparency and standards, regulators will step in," Anquillare says. "It feels as though we are one bad headline away from regulation. We are running out of time."

With the demands on transparency escalating, and the stakes so high, a growing number of firms are turning to outsourcing partners to alleviate the burden of their fund administration requirements—and to outrun the regulators that are snapping at their heels.

LP demands
It isn't only the regulators that
are becoming more demanding.
Increasingly sophisticated limited
partners are no longer just interested in
IRRs. They require a broader range of
data points and greater level of detail,
as well as the ability to manipulate data
according to parameters such as vintage
year, geography or sector. And all in real

Not only is this additional burden on the back office leading a growing number of firms down the outsourcing route, but LPs are even insisting that managers outsource fund administration as a condition of commitment.

"Bernie Madoff did the fund administration industry a favor," says James Wheatley, senior vice president at Mainstream Group. "He showed how a powerful CEO can influence an internal back office. Without that separation of duties, investors worry about the influence GPs may have. When those in charge of the checkbook realize their money is safer if the books of record are managed by someone outside, then a spike in outsourcing is sure to follow."

Some investors, for example Dutch pension fund PGGM, are offering a pass to GPs with whom they have worked for a long time, explains Wheatley, but nonetheless, the trend is toward LPs demanding an outsourced model.

"I can think of five occasions in the past year where firms have made the decision to outsource because an investor said they wouldn't come into the fund unless they did so," adds Melanie Cohen, managing director at Apex Fund Services.

Fund admin 2.0

LP and regulatory requirements for greater transparency are also driving a need for substantial investment in technology. Until recently, it was not uncommon to find in-house teams, and even outsourced administrators, relying on Excel spreadsheets and basic general ledger software packages. That is no longer the case.

"Growing complexity, demand for transparency and the need for secure communications are driving the adoption of technology which offers increased visibility, accuracy, and security," says Anguillare. "For many firms, the solution is to invest in technology that supports greater detail and transparency, whether that technology is maintained on-site or provided as part of an outsourced fund administration solution."

Outsourced fund administrators are increasingly looking to embrace automation technology, meanwhile, as a shift in pricing model from billable

hours to fixed transaction fees, has placed pressure on margins. For all but the largest in-house functions, however, the required investment has proved too

"As systems continue to develop and there is increasing complexity around data, the effort and cost required to maintain an effective software platform is escalating," says Justin Partington, group head of funds at IQ-EQ.

"Realizing automation opportunities will require investment of a high scale," adds Chris McChesney, head of alternative fund services at Brown Brothers Harriman. "Not all general partners will have the ability to make those investments and will, therefore, look to partner with those who can."

Cybersecurity threat The threat levels have never been higher. A little over half of U.S. companies reported a cyberattack in 2018, up from 38 percent a year earlier, according to Hiscox. Nearly a quarter of private equity firms experienced a cybersecurity threat in 2018, an EY survey found, with 58 percent of those threats considered to be at least moderately serious

And with more and more data now available-and critically in the cloud rather than on premises storage facilities-the onus is to ensure the highest standards of cybersecurity, with fund administrators and technology firms offering vital protections: "We get asked about how data will be held in terms of hosted services, for example, as well as who has access to that data," says lain Robertson of eFront. "Clients are doing much more stringent due diligence with a view to understanding the security models."



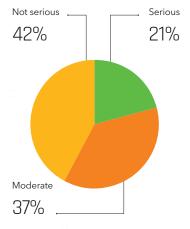
A 2018 survey of private fund managers by EY revealed that more than one in five had been a victim of a cybersecurity breach.

Has your firm recently experienced a cybersecurity breach?

22% 78%

Source: EY 2018 Global Private Equity Survey

If yes, how serious was the breach or incident?



■ A new generation Fund administration outsourcing among U.S. general partners is being driven, in particular, by a proliferation of spinouts. Last year, Boston Consulting Group revealed that there were 2,296 private equity funds in the market-an all-time high. It concluded that this was largely due to the founders of the original private equity houses proving reluctant to cede control. Instead, a new generation of investors have taken their track records and set up shop on their own.

"Over the past five to six years there has been a quantum shift towards outsourcing, particularly driven by emerging managers," says Wheatley. "Investors that have come out of the big houses such as Apollo and Blackstone, have seen this large cost center and all the effort required to manage it, and realized that all they really want is to do deals."

Maturing fund services market High cash conversion, margins and growth rates have lured investors into the fund administration space for years. As some administrators, such as JTC, successfully make the leap onto public markets, the appeal is only growing. But acquisition activity among administrators themselves has really heated up over the past 24 months. Recent deals of note include Vistra's acquisition of Radius; IQ-EQ's acquisition of Augentius and Apex's acquisition of IPES.

In addition to jostling for jurisdictional access, fund administrators are chasing scale to facilitate technology investment and to lower overheads while maintaining margins, and, in some cases, to attract buyers.

For managers and their underlying investors, mergers and integrations can sometimes mean disruption, with both LPs and GPs warning that administrators must work hard to maintain service levels during this

Consolidation has also resulted

in a pronounced polarization. "The biggest players are mopping up the market, while a handful of boutiques remain," says Simon Gordon at JTC.

"The danger is that the industry giants focus their attentions on megacap managers, while the smaller players only have the resources to service the smallest funds. Mid-market firms could find themselves underserved," Gordon adds.

The job's just got harder Indeed, there is no doubt that fund administration is a growing distraction for private equity firms. Structures are more complex and reporting more widespread. Regulation, meanwhile, is proliferating across the world. The job of the fund administrator has gotten harder.

"Once a relatively simple task, fund administration has become a resource-intensive and complex activity, requiring a higher headcount, greater expertise and more sophisticated technologies than ever before," says Anquillare.

"Expectations among investors and regulators have also grown, requiring general partners to develop new capabilities and efficiencies to collect,

Fund admin M&A reaches fever pitch

NOVEMBER

U.S. Bancorp scoops AIS Fund Administration.

JULY

State Street seals deal on Goldman Sachs Administration Services.

Sumitomo Mitsui buys Daiwa Global Asset Services division.

SS&C completes \$897 bln GlobeOp bolt-on.



NOVEMBER

U.S. Bancorp acquires Quintillion.

Mitsubishi and Banking Corporation buy Butterfield Fulcrum.

2012 2013

2014



AUGUST

Maples buys Vistra's Singapore and H.K. business.

BNP Paribas acquires Credit Suisse fund admin arm.

Circle Partners swoops for Caledonian Global Fund Services.

MARCH

Mitsubishi UFJ Fund Services buys Meridian.

G Bernie Madoff did the fund administration industry a favor. He showed how a powerful CEO can influence an internal back office 77

James Wheatley, Mainstream Group

manage and report on a greater range of fund data. Out of necessity, industry pressures have transformed outsourced fund administration into a viable option for funds of every type and size."

Partington adds that the U.S. private equity industry is at an inflexion point, as firms review their sizeable backoffice teams and consider if they should continue to invest in-house or to outsource.

"For a growing number of GPs, outsourcing brings scale, helps the organization to cope with seasonal reporting and also allows fund

managers to deal with SEC filings and compliance matters with ease and in a cost-effective fashion," he says.

While a more onerous regulatory environment means European firms have long embraced outsourcing, U.S. firms have historically preferred to retain control of their back-office functions. But a combination of regulatory pressure, LP demands and the need for substantial technology investment have led GPs to rethink their strategic priorities. Outsourced fund administration is now increasingly the norm, on both sides of the Atlantic.

DECEMBER

ALPS adds on Kaufman Rossin Fund Services.

AUGUST

SS&C in \$425 mln deal with Citi Alternative Investor Services.

MARCH

2015

Carlyle snaps up Conifer Financial Services.

Apex expands with Pinnacle Fund Admin.

NOVEMBER

Mainstream buys Isle of Man's Galileo Fund Services.

SEPTEMBER

SS&C expands with Wells Fargo Fund Services.

JUNE

Intertrust in £435 mln (\$558 mln; €498 mln) merger with Elian Group.

MARCH

Sanne builds scale with IDS Fund Services deal.

JULY

SGG Group buys Augentius.

JUNE

Apex adds \$165 bln AUM with Ipes.

Vistra acquires Radius from Hg

JANUARY

Ocorian enters Luxembourg and Mauritius with MAS International.

2016

NOVEMBER

Link Group gobbles up Capital Asset Services.

2017

OCTOBER

Apex buys Deutsche Bank's fund admin business.

SEPTEMBER

Sanne takes on Luxembourg Investment Solutions.

Apex acquires Equinoxe Alternative Investment Services.

AUGUST

2018

Ultimus Fund Solutions buys LeverPoint Management

2019

JULY

Gen II acquires Quilvest Luxembourg

Ocorian merges with Estera

MARCH

Deal double for Apex with Broadscope and Atlantic Fund Service



Editor's letter

What does the M&A boom mean for service levels?



Graeme Kerr Senior Special Projects Editor, Buyouts

f any sector is entitled to experience growth pains, it's the fund administration industry. Assets under administration broke through the \$10 trillion barrier last year buoyed by private equity firms embracing outsourcing. There are a myriad of reasons why: LP demands for transparency, regulatory pressures, technological change that requires high levels of investment, to name but a few. So bigger? Most definitely. But better? That depends who you speak to.

The big fund administrators do talk a very good game. Whether it's the increased complexity around data, the (very real) cybersecurity threat, or just the fact the private equity industry needs a helping hand to cope with a more onerous reporting regime, their pitch is powerful one.

"The effort and cost required to maintain an effective software platform is escalating," says Justin Partington, group head of funds at IQ-EQ. And that helps to explain why the fund administration industry is in the midst of an M&A boom as firms scoop up competitors to acquire technology, services or clients.

11 The big fund administrators do talk a very good game ""

The evidence on how this affects service levels is anecdotal, but CFOs that Buyouts spoke with in compiling this report had definite misgivings that something was being lost in the search for scale—the personal touch or a more collaborative approach.

It's not necessarily a cost thing: Joshua Cherry-Seto, the CFO of Blue Wolf Capital, tells us how one of the large fund administrators offered them a price that was "30 or 40 percent less than the other bids" but Blue Wolf opted for a provider that was "truly devoted to the middle market space."

But then maybe that isn't such bad news. The heartening thing about Cherry-Seto's tale is that yes the big firms have got bigger to the point where they can undercut the competition. But want something more niche and more mid-market focused? Then that's available too. There's something for everyone in the modern fund administration industry. Bigger? Yes. More choice? Most certainly.

Graeme Kerr



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Traen ten

What does it take to diligence modern software investments?

Traditional technology diligence is a one-dimensional approach that can't spot the new risks inside today's increasingly complex software environments.

Rather than looking at technology in a vacuum, our pre-transaction diligence programs integrate customer, product, technology, and go-to-market perspectives into a single holistic analysis. We systematically evaluate the quality and maturity of a company through 25 diagnostic modules — proven to identify areas of hidden concerns.

Informed by decades of operating experience, our full-spectrum diligence reports provide you a clear set of actionable recommendations. Coupled with a prioritized value creation roadmap, we help you drive enterprise value post-transaction.

Whether you're acquiring a pure SaaS business or a technology-enabled services company, Thinktiv helps you identify transaction risks while uncovering the best opportunities for value-creation.

\$7.5B

2-YEAR TRANSACTION VOLUME

200+

VALUE-CREATION PROGRAMS

\$540M

BAD DEAL AVOIDANCE

13

SECTOR & INDUSTRY COVERAGE



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Digital diligence for tech investors



Software and tech-enabled companies offer real rewards, provided GPs adequately vet both the technology and its market during due diligence, says A.7. Watson of Thinktiv

Private equity is bullish on the tech sector and has been for quite some time. One year ago, tech-focused funds were close to raising \$72.8 billion for that year, according to PEI data, up from the \$60.2 billion raised the year before, and the trend hardly seems to be waning. But can all that capital be wisely committed?

Rob Kotecki spoke with A.J. Watson, chief growth officer of Thinktiv, a consulting firm that specializes in helping private equity firms navigate the complexity of software and technology enabled investments. They discussed best practices for software and tech-enabled investors to use during due diligence to help protect capital.

What makes due diligence into a software company more difficult for GPs than say for a manufacturer or a distribution business?

In many ways, software, and other tech-enabled businesses, are like any other product

SPONSOR THINKTIV

or service that GPs are acquiring, but there are unique complexities. GPs often bring in third-party experts to look at IT infrastructure, back-office security, or opensource compliance. But they sometimes overlook the connection between how the software gets designed, built, and brought to market.

There are three views that need to be integrated here.

First, understanding what problem the solution solves. Then there's the product's design, technical architecture and its limitations. Finally, there's how this product is explained and sold to customers.

GPs might conduct this type of diligence in silos, but the threads have to be brought together because they all impact one another. Unfortunately, this unified perspective is easy to miss, which can create a hole right in

the middle of the due diligence process. We sometimes see this because one group may be neck deep in sales diligence, while another team will be testing the technology without ever investigating the relationship between the two.

Returns potential can only be discerned if the firm understands where the product sits relative to its competitors, and if the product's technical architecture can handle that growth. GPs have to understand the relationship between the technology and its market.

That best-practice approach asks if the technology is built for a purpose that customers want, if that value proposition can be sold, and if that technology can support further value creation. Otherwise tech may end up being a drag on the business.

The digital diligence we provide marries customer-centric inputs with product strategy and technical considerations to get to the heart of value for the investment. Traditional IT diligence just can't answer these questions.

How well do private equity firms understand this?

Most do. Most know they don't have that deep technology experience and will tap outside consultants. But they really need to understand exactly what those experts are bringing to the table because this unified perspective is hard to come by. You can't get a value-focused perspective from advisory partners who are just career auditors or consultants. That's why a partner like Thinktiv is so important. After bringing hundreds of products to market, we know what matters when the rubber hits the road. We bring decades of real-world experience to our private equity clients to help them during pre-transaction diligence.

How should GPs vet their outside consultants when looking for help in the due diligence process?

There aren't a lot of providers that specialize in this type of diligence, but I think what's important is that whoever is conducting the diligence has a clear perspective on the product and technology, in the specific terms of its market. Otherwise, digital diligence can end up missing major problems by simply looking at the technology out of context. This is critical because sometimes seemingly insignificant details become major issues. For example, in a situation where an IP address is part of the transaction, how are the addresses being managed? Are they coming along in the sale or not? Is this a critical deal point? Or does it even matter?

Frankly, for most software businesses, that detail is innocuous, unless they're a marketing or a customer experience platform where the deliverability of email is directly tied to an IP address where they were sent from. In these instances, knowing if the IP addresses are healthy and coming over with the asset is critical. That's not a technical question, that's a value creation question, but it has massive implications for technology. More importantly, it has massive implications for the long-term viability of the business.

How else can digital due diligence help?

In another situation, diligence might ask if the architecture is performing and the company will say, "We have 100 percent up-time, but with a 15-second delay for a page load." This seems like a clearly bad outcome in many situations, but it gets more nuanced

depending on the nature of what that business is looking to offer. Vetting technology in these situations isn't just about whether a software performs, it's whether it performs in a way that creates value. For example, what customer outcome is more critical in this example, quality of answer, timeliness, or availability?

How does this approach differ from other vetting procedures?

To be clear, there's a lot of great back-office IT due diligence teams in the space, but they're looking at ERP systems, CRM systems, accounting systems, even the kind of software and systems that support the operational functions of the business. IT diligence has begun to superficially extend into the product itself; like server infrastructure or other operational elements, but it ends there. It provides very limited perspective on the importance or risk from the maturity of the product itself.

Back office IT doesn't consider why a product is fundamentally valuable. Instead, it may prioritize the language the product is written in or focus solely on the structure of the tech. But it will miss how the technology interacts with other services being provided and how that amplifies or inhibits growth. IT diligence typically does not inquire about how software design and development lifecycles are correlated to customer behavior or the ability of the platform to scale. That's

"Vetting technology in these situations isn't just about whether a software performs, it's whether it performs in a way that creates value"

problematic. Firms open themselves up to significant transaction risks when the digital diligence gets divorced from what actually drives value in the investment.

We believe that GPs need to know if technical decisions are working toward value creation or against it, and that's hard to do. It requires knowing what experience the customer values and is willing to pay for, while stepping back and understanding how the engineers, designers, and marketers who are creating that product experience are aligned to that value.

Integrating these perspectives creates a more accurate picture of the potential of a given business. When we do this for clients, we also look at the value creation that's likely to take place in that GP's holding period, so they can optimize it. GPs don't want to see a tech business plod along during their ownership, only to sell it for a modest return to a strategic buyer that ends up unlocking a fortune from the business.

Don't PE firms tap ex-CEOs from the sector to deliver this as an in-house operating partner?

We work with operating partners all the time, and they're a great asset, bringing a vertical experience that's incredibly helpful. They've got a huge role to play when it pertains to market trends and operating the company post-close. But the pace with which technology is moving makes it difficult for any one operating partner to remain up to speed with the best practices in product development, product line and delivery.

And product or technical diligence is a skill in itself: knowing what questions to ask; when to dig deeper; that sense of when something doesn't feel quite right. Great operating partners know that identifying all possible risks by themselves is impossible, so they rely on our maturity model that involves more than 25 modules that have been hardened and refined over 50 transactions supporting almost \$8 billion in Enterprise Value over the last 24 months. We do this every day, and that experience makes our process both efficient and very rigorous, with concise reports to maximize the investment in that diligence. Ultimately, tech investments can be high-growth engines, but the only way to determine their potential is to understand not just if the technology works, but also if it works in a way customers are willing to pay a premium for.



Why scooping up rivals can be bad for business

Amid the ongoing M&A among fund administrators, questions remain as to whether these larger players can deliver better technology and more offerings without jeopardizing their service to GPs. Rob Kotecki reports

t first glance, this may seem an odd time to discuss the difficulties facing the fund administration industry. According to the 2019 eVestment survey of alternative asset administrators, the industry's assets under administration (AUA) just swelled to \$10 trillion, an 18.78 percent increase over last year's AUA. According to that same report, the median respondent grew their AUA of private equity and private debt assets by 11.35 percent.

This boom isn't a mystery. Fund

administration has only gotten more difficult in recent years, driven by regulatory complexity and the increasing demands of LPs. Today's administrative responsibilities require cutting-edge technology and sufficient staff to handle the workload, so GPs are all too happy to outsource that headache to a service provider. But that still leaves administrators looking for aspirin.

Given how few GPs are firing their administrators to bring all that work in-house again, a lot of firms are proving up to the task. But that doesn't mean service providers aren't facing pressure on price while needing

to continually invest in technology and talent retention, and perhaps even new offerings, as GPs diversify into other asset classes like debt or real estate.

To solve this, some are turning to M&A, scooping up competitors to acquire technology, services, clients or a combination of all three. Private equity, flush in the midst of a fundraising boom, is betting big that its administrators can be another platform play, consolidating the industry, and as a result, granting stellar returns alongside timely LP reporting. But these new larger players face issues that might jeopardize service levels,



allowing smaller independent firms to poach unhappy clients. Still, the demands of administering funds today might favor the big over the boutique.

Table stakes

The new normal can squeeze administrators of all sizes. "One of our clients explained that our ability to handle fund administration was just table stakes," says Anne Anquillare, CEO and president of PEF Services. "They signed with us because we could deliver a higher level of service with a seamless portal technology that would streamline their investor communications."

And while that client credits the technology for landing their business, price still matters in such a competitive market. "There are pressures to reduce our fees, which just means that we have to work more efficiently and leverage technology to meet service expectations," says Onno Bouwmeister, global sector head, private equity, of Vistra. Another administrator admitted it is common to lower prices as part of any bidding process. And this pricing pressure doesn't take into account that "table stakes" service is only getting more expensive for administrators to provide.

For example, one service provider noted that no matter the size of the administrator, they still need to invest in data security

"Cost is always a factor, but we were able to find that niche firm big enough to have both expertise and scale"

JOSHUA CHERRY-SETO **Blue Wolf Capital**

software to meet the requirements of institutional LPs, and that software costs the same whether they administer \$12 billion or \$120 billion in assets. The shop managing the latter will be able to spread that cost over a much wider customer base. Due to the global nature of the asset class, administrators with only U.S. clients still need to comply with the European Union's new GDPR standard.

So, when a larger administrator comes knocking to buy a smaller peer, there's good reason to answer the door. The past few years have seen a wave of M&A deals in the industry, as firms like SS&C, Apex and SANNE have been bagging acquisitions to expand their geographic reach and service offerings.

But Apex, which has been closing on a slew of deals over the past few months, isn't looking for market share alone. "Our priority is to create the strongest product offering we can, not just growth through acquisition," says Peter Hughes, Apex's CEO and Founder.

Instead, Hughes is focused on whether his firm expands their product offering, and whether Apex can help the acquired company serve its current clients better. Apex is also looking for targets that can blend well with its current systems. "If it's a firm in a new geography that also uses complementary technology, that starts to look attractive to us," says Hughes.

The rise of the owner/client

Even with fund managers outsourcing more than ever before, not all administrators have the deep pockets or ability to raise sufficient debt to make these acquisitions themselves. Private equity is playing a major role in this wave of M&A activity, not just as new clients, but as investors. Genstar acquired Apex, Permira owns AlterDomus, and Public Pension Capital and FiveW Capital back Viteos, just to name a few.

"Our acquisition strategy has been in place since Genstar invested in us in 2017, and it was predicated on building the broadest product mix out there," says Hughes. "They understand that's what drives organic growth."

And they are bullish on the sector, with one administrator admitting getting calls



about their growth plans and looking to invest. The nature of private equity, no matter the era, is to deliver returns after a finite period of ownership. Which begs the question: How many of the current shopping sprees are for the long-term viability of the administrator, and how many are part of a roll-up play for short-term growth and a sale?

Of course, fund administrators argue that being able to operate in more jurisdictions and service more asset classes can only better serve clients, and with the benefits of scale, costs stay reasonable. But the nature of fund administration may complicate matters.

"We appreciate continuity because there

"There are pressures to reduce our fees, which just means that we have to work more efficiently and leverage technology to meet service expectations"

ONNO BOUWMEISTER Vistra

Seto, the CFO of Blue Wolf Capital. "Some portion of a firm's business will be unique to their investments or history, and that means outsourcing will make more work before it makes less."

Sometimes GPs will be working with the same people at an administrator, but ownership changes are bound to distract staff from the normal course of business. "Long term, these mergers might deliver real value," says Jill Calton of UMB Fund Services. "But in the near term, the firm is servicing both clients and the merger." This can include incorporating a recent acquisition's improved tech offering, which clients may appreciate in time, but such transitions are rarely free of hiccups.

Even if the transition period goes



smoothly, some clients may not appreciate their bulked-up provider. "We've seen some private equity firms enter an RFP process because their administrator lost personnel or feel they're not getting adequate attention now that they're a smaller fish in a much larger pond," says Calton.

Not all giants are clumsy

However, these larger administrators appear sensitive to the situation. "When we acquire a business, we perform the commercial diligence to ensure that their clients are happy, and we make sure to incentivize client-facing staff to stay," says Hughes. "If we don't force a new technology on them and maintain the same level of service, but with a wider product mix, clients continue to be happy."

And private equity doesn't seem to disrupt administrators permanently. Vistra is on its third private equity owner, as Baring Private Equity Asia invested in the administrator in 2015. "That support has allowed us to invest in technology and staff and buy

ourselves into niche areas like capital markets and the servicing of aircraft leasing, including asset-backed securities transactions," says Bouwmeister. In 2018, Vistra acquired the administrator Radius from Hg Capital. "Those investments helped us become a truly global administrator."

Even the largest players in the space are aware how important the service element is. "We take a very customer-focused approach to integrating a new acquisition," says Rahul Kanwar, president and chief operating officer of SS&C. "We meet a lot of customers, and solicit their feedback to shape our product plans, integration plans and development initiatives. Customers quickly gain access to our broader set of services and improved technology, which improves their overall experience."

The reality is that every administrator is under pressure to keep up with their clients' increasing size and complexity, either by acquisition or by building what they need internally. That takes money, which may favor larger administrators going forward. But that doesn't mean smaller peers will disappear.

Firms like PEF Services pride themselves on offering their clients stability of service with high rates of talent retention, but they also look to spend smartly in technology. They connect their portal directly to the books of the fund, so that there is limited downloading and uploading of documents, which courts security breaches and user errors in the numbers.

Others, like UMB Fund Services, don't feel the need to acquire companies in order to broaden their suite of services. Instead, they develop relationships with third-party providers that they can refer clients to as needed. UMB Fund Services also takes advantage of the expertise of its parent company. "Through our larger organization, we're able to provide services beyond traditional fund administration, such as credit facilities," says Calton.

And while administrators of all size will admit that current technology and compliance requirements may provide barriers to entry, they fully expect new entrants to appear with a cutting-edge technology or with a focus on serving a particular niche. Given the amount of money pouring into the industry, no one should be surprised if real breakthroughs arrive, which will hopefully address today's headaches better than two aspirin and a longer workday. ■



The partner model

"When we were looking for an administrator, one of the largest firms in the market gave us a price that was 30 percent to 40 percent less than the other bids," says Joshua Cherry-Seto, the CFO of Blue Wolf Capital. "But we were looking for more of a partner, who was truly devoted to the middle market space. Cost is always a factor, but we were able to find that niche firm big enough to have both expertise and scale."

One CFO admits that larger administrators may make sense for the mega-firms that are only looking to access technology and outsource tasks, but administrators also act as outsourced operational teams. In lieu of adding a VP of Finance, or other more managerial level roles, they require a close collaboration that boutique firms offer as a core value proposition.

And a fund administrator argues that while GPs like exits, they don't always appreciate changes in control at their service provider, especially if it changes the operating model that they chose in the first place, or requires getting a new team up to speed on their own processes.

K E Y N O T E I N T E R V I E W

How that \$2 cup of coffee can land you in hot water



Given the scrutiny around fees and expenses these days, GPs are careful in allocating travel and related expenses, but recording such costs and recovering these costs can be a complex process, says Noel Furniss of TripsWare

Right now there's an executive assistant out there trying to reconstruct a GP's recent trip, with nothing but a pile of receipts and a calendar, trying to figure out who to bill for that trip to LA. Twenty years ago, a good guess might have sufficed, but today, an investment firm is liable to have fine print in that LPA assuring LPs that every bottle of Perrier will be tracked.

The SEC may not care about the bottle of water per se, but they do care about a GP living up to the travel and expense policy found in that agreement. So we spoke with Noel Furniss, principal and founder of TripsWare, an online expense reporting provider designed specifically for the PE and investment industry, about how to best track and recoup those travel and related expenses while at the same time adhering to regulatory scrutiny and best practices.

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TRIPSWARE

Your company specializes in an

online solution devoted to T&E expense reporting for the private equity industry. What makes this process different to non-PE firms that it needs a separate system to manage? One of the main differences is the fact that ongoing expenses need to be tracked for several months or longer until the outcome of the project becomes known, at which point the costs can be appropriately billed, written off or partially reclaimed. The investment professional will often have their assistant log their expenses into the firm's expense system or Excel spreadsheet allocating as best they

can, based on a calendar to see if they were

visiting a portfolio company, fundraising or conducting due diligence into a potential investment.

Then the assistant will submit that report to the investment professional to review and approve, and then it goes into the workflow to a mid-level manager if applicable, or directly to the accounting department to review before integration to the GL. Can these expenses be recovered? If so, from where? The closing deal, after three to six months or more of due diligence? The fund, after a long period of fundraising? A portfolio company? How do travel expenses get handled versus professional fees such as legal service? All these moving parts, different people involved, and the uncertainty of what's recoverable contribute to the complexity and the need for a dedicated solution to assist with handling these nuances.

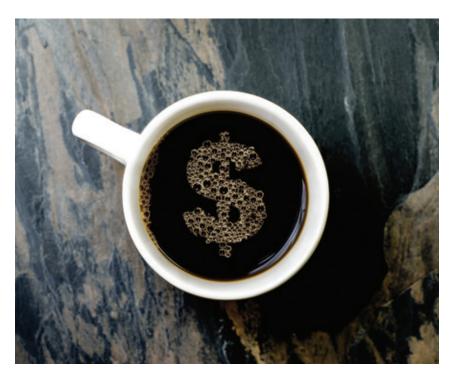
Another issue is the timely recording of these expenses. If the credit card is a corporate paid account, quite common in the PE arena, the management company may front the payment but it might be a few months before the firm has real transparency around why these expenses were incurred. Do you expense these charges or put them on the balance sheet, as there is a high likelihood of recovering these expenses at some time in the future? What about handling Cash Out of Pocket expenses that may be submitted weeks or months after they are incurred? Regulators are focusing more and more on ensuring the recording and recovery of expenses are timely and accurate.

Automatic GL integration is key, and it's important that your expense solution can easily sync with your GL to give you the details you need. Our goal at TripsWare is to automate the transactional nature of the monthly expense burden and enable you to get all this information into your GL, so you have the transparency and detail for reporting and bill back. This leverages the investment you have made in your GL system, minimizes the risk of errors and puts you in control.

But that headache isn't just a matter of workload. Regulators have made the proper allocation of fees and expenses a priority, so the compliance angle gives this process real stakes. How do GPs ensure they stay in the good graces of, say, the SEC?

To remain in good stead, there needs to be alignment of internal policy and SEC/IRS or other regulatory oversight. Maybe the firm has adopted a legacy set of guidelines that govern what requires a receipt, what per diems might be in place etc. Is this in alignment with the IRS guidelines in terms of what constitutes proper substantiation and adequate records of those expenses? And then there's the SEC. And their concern may be rooted in whether the GP is living up to terms spelled out in the LP agreement. TripsWare incorporates your firm's policies to identify violations and assure compliance.

If your internal policy indicates that a receipt is required for all expenses, you may be called on to prove you are adhering to policy. But if regulatory guidelines state that receipts are only required for expenses over \$75, you might be able to relax your receipts policy. The SEC wants to ensure you uphold the agreements you have in place for the



fund or LP and remain consistent with your policies.

It seems a GP would be better off erring on the side of a policy that may be less rigorous, but one they can faithfully abide by.

Perhaps, but they'd still have to meet LP requirements. For example, a client who manages commitments from public funds may need to properly allocate that \$2 cup of coffee across multiple funds or entities based on AUM or NAV or contribution to the deal. This may result in \$0.02 of that \$2 going to Fund VII – it's required to be compliant. TripsWare can handle this type of splitting, but you need to ascertain if this detail is necessary. If so, make sure you can produce the transparency that the SEC requires.

What advice would you give to **GPs seeking best practices for** streamlining how they handle T&E recording and allocation?

The first thing is to ensure you have a policy that is compliant, is realistic and can be adhered to. Make sure this is consistent with other agreements with LPs, funds, etc, that you have in place. Next, optimize the workflow so that the allocations you get on the front line can be prepared by an executive assistant with little or no pre-requisite knowledge of what

is recoverable or non-recoverable, billable or non-billable. The executive assistant should be able to allocate an airline cost to Portfolio Co. ABC and the system handles the details on the back end. Make it easy for the GPs or travelers to sign off on these expenses so that you are getting the most accurate information. Once you know you have the best information at the time, automate the import to the GL to minimize any transcription errors. When it's time to bill back for these expenses, ensure you have an accurate invoicing system that properly tracks what is recoverable, and, of course, that you are only recovering expenses to which you are entitled.

Finally, you will need a way to be able to effectively and efficiently report on all this activity so that when the management committee wants an update on outstanding receivables or the SEC queries you on fundraising activity from three years ago, you are able to produce the necessary details. 'Doing what's always been done' with regard to T&E, such as relying on Excel, manual processes and piece meal methods is inefficient and costly. And compliance violations can cost a lot more than just the late fees on your credit card.

Implementing a soup to nuts, automated T&E solution such as TripsWare will address many of the challenges faced by PE firms today with regard to T&E reporting and compliance.



Guarding against a cyberattack

Private equity firms are fighting back in the face of escalating risk, amid growing pressure from LPs, writes Amy Carroll

ybercrime is a booming business and the threat levels have never been higher. A little over half of U.S. companies reported a cyberattack in 2018, up from 38 percent a year earlier, according to Hiscox.

And—as financial institutions involved in the regular transfer of large amounts of money, but with relatively lean organizational structures and limited IT and security manpower—private equity houses are a cyber-criminal's dream. Nearly a quarter of private equity firms experienced a cybersecurity threat in 2018, an EY survey found, with 58 percent of those threats considered to be at least moderately serious.

The vulnerabilities, for private equity, exist at three levels. First, there is the transaction process, which will inherently involve the communication of deal-critical information. Then, there are the risks associated with the management of portfolio companies and the implications for exit value—Yahoo's price tag famously fell by \$300 million after a series of breaches in the run-up to its 2017 acquisition by Verizon.

Finally, and most importantly for those responsible for fund administration, there is the private equity firm itself and its relationship with limited partners. A failure to take the necessary steps to mitigate fund-level cyber-risk may result, not only in punitive financial losses, but in significant reputational damage.

Future fundraising prospects, in particular, could be devastated if LPs fear their assets are inadequately protected. Indeed, a recent *PEI* survey revealed that 90 percent of private equity CFOs consider strong cyber-credentials to be a must-have for investors.

Key threats

Money transfers between private equity firms and their LPs, are, of course, a particular source of vulnerability. Typically, cyber-criminals will seek to gain access to these funds through phishing schemes.

By taking control of the right person's mailbox, they can identify invoices or outbound wire instructions, and either initiate or change a transfer so funds end up in their own account. By setting up a fake domain that closely resembles a real one, they can prolong their scheme indefinitely while avoiding alerting the firm.

Meanwhile, as cyber-criminals become increasingly sophisticated, they may also monitor emails for valuable intellectual property, which can be used to extort money.

"Fraudulent phishing attacks and network attacks remain a regular threat for all industry participants, with key risk areas involving those for immediate financial gain, including misdirected payments and virus-related malware," says Justin Partington, group head of funds at IQ-EQ.

"Moreover, hackers are getting smarter and issuing fake capital call notices to high volume funds of funds which has resulted in the administrator being compelled to stay 'on-guard' at all times."

Indeed, human fallibility is widely believed to be the greatest cyber-risk of all. "Large amounts of cash are always moving about in private transactions, involving many people, and people are weakest link in cybersecurity," says Anne Anguillare, chief executive at PEF Services. "If you have 'capital' in your URL, then you are a target."

What should firms be doing?

Ensuring that you have the right technology in place to protect your-and your limited partners'-funds is a fundamental starting point. Multifactor authentication or biometric credentials represent basic, critical safeguards.

But implementing a cybersecurity strategy is not about installing a tech solution, running a penetration test and then congratulating yourself on a job well done. Threat actors continually evolve, and cybersecurity must, too, be considered a work in progress.

It is also vital that cybersecurity is not viewed as purely an IT issue. Starting at board level, cyber-awareness must be integrated into company culture to create a sense of collective responsibility. All employees should follow protocols when sending emails, for example, or in securing personal devices.

Regular and effective training are therefore essential, according to Melanie Cohen, managing director at Apex Fund Services. She adds that her team's cyber-awareness proved critical when a private equity client's security failed.

"Even if your own cybersecurity environment is good, your client's environment may

Are your fund administrator's cyber-credentials up to scratch?

Private equity firms are increasingly choosing to outsource their fund administration, not least to leverage superior cybersecurity.

But when it comes to cybersecurity credentials, not all outsourced administrators are equal and conducting thorough due diligence should be a priority.

"Fund managers should be looking for administrators that have had a respected firm conduct their full external cybersecurity reviews, have implemented controls based on the assessment, and followed it up by continuously updating security protocols to protect client data and money," says IQ-EQ's Justin Partington. "In this context, an emerging trend is the hiring of a chief security officer—which is increasingly becoming a must, given the security threats to businesses in the current era."

PEF Service's Anne Anquillare, meanwhile, adds that fund administrators must be able to prove the successful completion of an annual SSAE 18, System and Organization Controls (SOC) 1, Type 2 audit examination, in accordance with the American Institute of Certified Public Accountants attestation standards.

"This examination provides a comprehensive and in-depth review of a service organization's controls and tests their operating effectiveness," Anquillare says. "Companies that successfully complete an annual SOC 1 examination can demonstrate a higher level of security assurance and operational visibility than those that have not."

While SOC 1 Type 2 audit standards protect the integrity of data and documentation, the right technology protects it against cyber-threats by keeping sensitive information, including capital calls, distributions, financial statements, K-1s and other fund-related documents, in a secured digital environment.

A fund administrator must use platform technologies with advanced security features, including two-factor authentication and extended validation SSL certificates for all sensitive data. It must also have regular training for all staff and have cybersecurity firmly embedded in its culture.

be exposed. Our staff are all trained to look out for red flags and, in one particular instance, due to that, we were able to catch it and alert the client, which then involved the FBI."

Meanwhile, any robust cybersecurity strategy must also consider, not only prevention, but emergency incident response. Fast action and good communication following an attack can mean the difference between a glitch and a disaster.

A work in progress

The private equity industry has taken significant steps in response to escalating cyber-risk in recent years. Awareness and education have ramped up dramatically, according to Partington, with considerable help from the Big Four firms which have established cyberconsulting and assessment units to help the asset class prepare for these risks in an optimum manner.

"Cyber-risks are increasingly being ac-

tively discussed at board level and receiving the required focus, be it physical office security, network security, phishing and email attack defenses, or employee awareness and training," he says.

But there is still more work to be done, not least in controlling contagion effect. Indeed, firms are experimenting with AI, RPA and blockchain in attempts to mitigate exposures with partners and trading activities.

"We believe the challenge is that there are new participants every day, with varying degrees of technology, security and processing capability," says James Ferguson, head of Americas at Intertrust Group.

Ensuring that standards, regulations, oversight and governance are managed is a top priority. From there, ensuring all parties to a transaction are locked-in participants, with equal security provisions, adds value, Ferguson says. "If even one player in the life cycle is exposed, it creates vulnerability for all."

K E Y N O T E I N T E R V I E W

Automating private assets: A work in progress



Private assets automation is still in its earliest stages. But change is on the way, says the product executive responsible for the alternative fund services business at Brown Brothers Harriman, Chris McChesney

Where is the private assets market currently on this digitization and automation journey?

If the path of automating private fund assets were a 200-meter dash, the runners have arrived at the track and are just starting to stretch and warm up. In other words, it's still very early days. There has been some progress around digitization, for example in the way in which investors share information relating to deals in data rooms, or how investor statements, capital calls or distribution notes are presented to limited partners through web-based portals. But early victories around automation are even more limited. Some notable progress has been made around the automation of investor allocation calculations and fee calculations, but many operating functions are still dominated by manual processes.

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Why do you think these asset classes have been relatively slow to modernize—while often embracing digitization from the perspective of their portfolio companies?

Fundamentally, private market investments are done through negotiated bespoke deals. Private market investments are far from homogenous—a deal to invest equity in a commercial building is very different from a private loan made to a middle market company, for example. Due to the sheer variety of investments being made, as well as the lower overall volumes in these asset classes, it becomes harder to use standards for recording, tracking and valuing private deals. Without

standards, digitization and automation become an even bigger challenge.

Which areas of private assets operations do you consider to be most ripe for automation?

Behind the push toward automation is the limited partners community demanding increased transparency on investment performance, fees, and on the risks contained in their portfolios. One of the areas that is most ripe for automation, therefore, is the production of reporting from both general partners and asset servicers, and then—at the same time—the consumption of that reporting by limited partners. That is where we are focusing some of our automation efforts in developing interactive client interfaces that provide dynamic visualization of information and workflow.

We are also are starting to see progress albeit imperfect—in the automation of the waterfall calculations. That is a good example of where the limits of automation are now being tested.

What advantages would increased automation bring to private asset markets?

Limited partners realize that increased automation would help them achieve better control, transparency and efficiency. But there are benefits for all market participants, including LPs, GPs and asset servicers. Ultimately, automation will accelerate the process of fundraising, as well as deployment and realization of investments. Greater automation will also upend cost dynamics in private market investing and will lead to wider participation by more retail-like investors.

What do asset servicers and general partners need to be doing in order to drive automation further?

First of all, asset servicers need to keep investing in, and improving on, their core processing systems in order to have wider coverage across asset classes and flexibility to accommodate complicated deals and multi-layered fund structures. In their role as the primary book of record, asset servicers also need to

"Servicers need to think of themselves as information service providers rather than black box processors"

provide GPs and LPs with better access to their data. Servicers need to think of themselves as information service providers rather than black box processors. In parallel, GPs need to make investments in systems that capture private investments, akin to the way trading systems record trades for public markets. These systems need to record deals and be capable of connecting to the downstream systems used for ongoing administration.

What are the biggest challenges for the private assets market when it comes to realizing more automation?

One of the most significant challenges is that transparency doesn't necessarily benefit all participants evenly. Some GPs might

reasonably believe that the returns they generate from investing in private assets come, at least in part, from the opacity of those markets. Some GPs will find it compelling to compete, not only on the basis of their investment returns, but also on the sophistication of their operating models.

What about limited partners? What role do they have to play in driving digitization and automation forward?

LPs need to play a role in advocating for digitization and automation. As an example, digital subscription agreements would allow for potential scale and processing synergies, allowing GPs, LPs and service providers to reduce operational risk and costs-something everyone could benefit from. But adoption remains problematic-it is a business, rather than a technical, challenge that needs to be overcome (i.e. legal counsel accepting electronic signatures).

There is currently less outsourcing by private equity general partners in the U.S. than in Europe. Do you think the need to invest in technology will encourage more GPs to outsource?

First of all, the main driver behind the higher demand for outsourcing of private equity fund services in Europe is regulation. European alternative funds are more highly regulated and are often compelled to use third-party providers for some fund functions. It is unlikely that the U.S. will follow the European regulatory model anytime soon, so it will be other factors that will make outsourcing more common.

Realizing automation opportunities will require technology investments of a reasonably high scale. Not all GPs will have the ability to make those investments and will, therefore, look to partner with those that can. In the U.S., it will be more of a technology-related opportunity than a regulatory responsibility that leads to a growth in outsourcing.

Do you think private markets will ever adopt automation to the extent that the public markets have? What does the future hold?

Yes. I believe that private markets will, at some point, have very high levels of automation. I don't think it's a question of if, but rather when and how and who leads the way.

Automation in action

Many diversified asset managers have portfolios that include both direct private investments and LP positions in private funds that are structured as partnerships.

It is not uncommon for large asset managers to have hundreds of positions in underlying funds. Even though statements and other communications from GPs have been digitized over the past decade and are readily available on electronic portals via download, the tracking and monitoring of these indirect investments is a source of frustration and inefficiency for the investment industry.

Brown Brothers Harriman (BBH) has been engaged by asset managers to streamline the intake and aggregation of this private fund information. In the first phase of implementation, BBH applies standard workflows and common data structures to facilitate a single point of access for information users. We then organize files by date and type for ingestion into downstream systems. In the second phase of process redesign, we apply robotic process automation to the information collection and organization processes to further improve both efficiency and scalability.

Through improvements to workflow, use of common data structures and implementation of a supervised robotics process, BBH is helping investors realize the benefits of substantially faster access to investment information and lower the overall cost of private market investments.

A race for supremacy

Private equity fund administrators are embracing digital differentiation as tech advances accelerate outsourcing, writes Amy Carroll

riving value through transformation is private equity's raison d'etre. And, over the past decade, digitalization has become one of the most significant levers for improving operational performance at portfolio companies.

And yet, the digitalization of private equity firms themselves lags behind comparable industries. This is starting to change, however, beginning with fund administration.

Escalating LP demands, the threat of increased regulation, security concerns and competitive pressures all mean that Excel no longer suffices. The industry has been forced to abandon its fondness for formulae in favor of embracing new technology.

"Technology is increasingly being adopted across all fund structures, functional and administrative levels," says James Ferguson, head of Americas at Intertrust Group. "Automation and operational simplicity are being sought more and more in order to increase scale and volume, while reducing costs and manual touch points."

This new technology comes at a cost, however. And private equity firms increasingly see outsourcing as the most efficient way of taking advantage of advances. The fund administrators themselves, meanwhile, are investing heavily in tech differentiation as

they fight to win their share of this expanding outsourced market.

"We leverage institutional grade technology processes. Without that, it becomes a very difficult pitch," says James Wheatley, senior vice president at Mainstream Group. "It would be hard to explain to a potential client why you are still using QuickBooks and Excel in an outsourced model. You need to have that technology there, whether it is proprietary or third party."

James Duffield, head of business development at Aztec, adds that technology now permeates all aspects of modern fund administration. "Technology is transforming everything from day-to-day accounting and financial reporting to the organization and coordination of board meetings and correspondence with investors, not to mention the multitude of task management, file transfer, banking and other systems in play too."

Automating administration

The use of technology in fund administration broadly falls into two camps. First, technology is being used to robotize operations that have historically been performed manually.

Automation is increasing on several fronts, according to Anne Anquillare, chief executive of PEF Services, including infrastructure, performance reporting, fund database management and security.



"We are seeing
new entrants being
disruptive with nimble
ideas. I think the
pace of change and
automation will only
accelerate"

JUSTIN PARTINGTON IQ-EQ



Fund administrators are developing or buying automated carry waterfall calculations. They are automating SWIFT banking transactions from banks into fund administration software and are streamlining bookkeeping by adopting transaction-based accounting flows that move away from double-entry journal accounting. "These may not sound like the most exciting developments," says Justin Partington, group head of funds at IQ-EQ, "but they are genuinely transformative."

Automation is driven by the need for efficiency. The demands placed on the industry are proliferating and pricing pressure means these cannot be met by manpower alone. "You can't just throw bodies at the additional demands being placed on fund administration," says Iain Robertson of eFront.

"I would characterize progress so far as

gentle," adds Partington. "People are just dipping their toes in the water. But we are seeing new entrants being disruptive with nimble ideas. I think the pace of change and automation will only accelerate."

As the heavy lifting subsides, the fund administration industry is having to reposition itself-to reimagine the value-add it can bring. And it is here that the second technology push comes into play-data analytics.

LPs are demanding ever more complex and detailed information about private equity performance and the deals that underly it. "The biggest demands of technology that we see are around availability of data itself, as opposed to simple reporting," says Scott Kraemer, managing director, alternative investments, at Vistra. "It's about transparency and the ability to delve into different kinds of information on your own terms." Because

Ending the Excel love affair

What's one of the biggest problems facing the back office?

Excel is not sustainable, says Serge Krancenblum, IQ-EQ's group executive chairman. Some private equity firms "don't even see the problem with Excel," Krancenblum says. (IQ-EQ is the former SGG Group of Luxembourg which provides investor services to asset managers including PE firms.)

PE firms can use Excel to "build everything," adds Krancenblum, but they fail to take into account some issues. Excel is "too risky" because its programming is not documented. It's also difficult to audit, he adds. What happens if the person who created a spreadsheet disappears? Krancenblum says it would be difficult to determine if a spreadsheet "is done the right way" if that person leaves.

Krancenblum has been with IQ-EQ for a quarter century, including as its CEO from 1993 to 2015. As such, he has a lot to say about the PE industry. One of the biggest issues is the independence of data. The U.S. doesn't require PE firms to outsource the back office, "even after Madoff,"

LPs, however, are pressuring GPs here to outsource the back office. There are some benefits to that practice, Krancenblum says. When a GP outsources, they understand what has to be paid by a fund and what they must pay: "When you internalize, you never know."

IQ-EQ is owned by Astorg Partners, AlpInvest Partners and management, according to PitchBook. The company produces more than \$100 million of EBITDA on \$350 million in revenue. An IPO could come in two to three years, Krancenblum says. "It could also be sold to a larger PE fund in the U.S."

not only are investors demanding an everwider range of data points, the timeliness and manner in which they demand to receive them are changing too. In the early days of formal fund administration, quarterly financial statements would be distributed, as a PDF, by email.

Gradually, providers started to offer clients dashboards and charts to enrich their reporting, but the information nonetheless remained static. Now investors are demanding access in real-time through interactive, online portals. They want to be able to interrogate the raw data.

"A purpose-built portal that delivers greater visibility and real-time access to underlying investment performance data sourced directly from the books and records of the fund is a game changer," says Anquillare.

"Investors in private equity funds are becoming more sophisticated," adds Melanie Cohen, managing director at Apex Fund Services. "They want to drill down, they want detail, they want more look-through reporting. We need to provide that without hiring an army of people and technology is responding."

Meanwhile, eFront's Ludovic Legrand believes systems will now begin to be integrated across the capital flow. "Investors have historically had to take the data they are given and manually input it. It's completely inefficient. The next step is to dynamically connect data from underlying portfolio companies to GPs and ultimately LPs. A few fund administrators have started to do this very recently. I think that it will be the next big trend."

Re-shaping an industry

There is no doubt that the level of technology now in play is radically altering the dynamics of the sector. An ever-dwindling number of managers are prepared to invest the time and money required to maintain cutting-edge inhouse functions. Indeed, even smaller third-party fund administrators are struggling to keep pace, a significant driver of recent M&A.

An army of agile platform vendors and app developers has also grown up around the industry. The growth in cloud-based systems, in particular, is making implementation and integration easier and cheaper, meaning there is less cost to taking on new technology and less risk of failure.

"More modern development tools mean that it is also much quicker for developers to

Staying in control

As fund administration systems shift to the cloud and more and more data is shared, questions of access, ownership, security and control are being thrown into the spotlight.

"It's difficult to define best practice," says Aztec's James Duffield. "But in our view, intensive education and awareness of phishing and other threats is imperative, as is having the right processes in place, particularly around identity verification and investment in secure technology, such as portals, as well as specialist resource."

IQ-EQ's Justin Partington adds: "We have worked with one of the Big Four to analyze all of our integrations. We have seen what's happened with the Panama Papers, Paradise Papers and Lux Leaks. There are 30 to 40 different parameters that we look at, from physical security, to data breaches. Alongside keeping on top of regulatory licenses and permissions, it is the critical area that keeps your business."

"Technology is

transforming

everything from dayto-day accounting and
financial reporting

to the organization

and coordination of
board meetings and
correspondence with
investors"

JAMES DUFFIELD
Aztec

build for niche markets," says Sam Metland, head of private equity product at Citco Fund Services. "That means more systems become available for our industry where it was not considered a big enough market in the past."

Indeed, fund administrators have lapped up the plethora of technology solutions on offer and Excel is fast becoming a relic. The next stage is to consolidate platforms.

In recent years, many administrators have accumulated myriad systems focused on different parts of the data lifecycle, as well as on different alternative asset classes. Furthermore, rampant M&A means individual firms have inherited disparate technology bases. "A handful of players are moving away from silos to a vertically integrated system," says Legrand. "It is where they need to be."

Of course, technology will never entirely replace people, particularly in private equity, where service levels remain the most significant selling point. Firms are placing greater emphasis on the level of skill they employ in order to support the tech being put in place. "We have a strong need for efficiencies, not only to be competitive in the market, but to make sure our people are focused on process improvement and client service rather than redundant or manual work," says Anquillare.

But, despite the continued importance of human resource, the use of technology is increasingly becoming a critical differentiator and fund administrators are digging deep to fund a wholesale digital transformation. A fund administration technology arms race is well and truly underway.

Additional reporting by Luisa Beltran

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Waterfall automation: Face your fears







Automation can minimize mistakes and optimize carry, while still leaving GPs in control of this vital calculation, say Riyaz Gadiwalla, Rebecca Symonds and Scott Pearson of EWM Global

Why is the ability to accurately administer waterfall calculations quite so critical?

Rebecca Symonds: There are two calculations that drive private equity firms. The first is fund performance—the IRR being generated for investors. The other is the way in which the firms are actually going to make money themselves. I liken it to how a lawyer or accountant, who gets paid by the hour, will meticulously track the time they spend on a client. Waterfall calculations are the lifeblood of the organization. They determine how the GP will make money based on the profits it is generating for investors. That's why it's so important.

To what extent is the private capital industry embracing waterfall automation today?

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RS: We are-slowly-starting to see the industry embrace automation. Slowly, only because it is such an important calculation for these firms. Initially, we began to see traction for automation as a secondary calculation—a second set of eyes, if you will. Now we are starting to see much greater appetite for automation as the primary source. There has been a significant spike in interest over the last 12-18 months.

What makes waterfall calculations so complex?

Scott Pearson: They are complex because they are based on a series of individual negotiations with underlying investors. Certain investors may be charged a higher or lower fee or may be excluded from some investments, for example. There may be timing differentials. We see firms that may have multiple variations of already complex waterfalls across 80 to 100 different funds.

There are those who say the complexities mean waterfalls are too complicated to automate.

Riyaz Gadiwalla: The complexity really comes down to the way negotiations are structured. Firms do sometimes have concerns about whether an automated system is capable of dealing with that complexity, but we have a configurable platform that provides flexibility in both areas.

We also have an agile development process through which new functionality is released every eight weeks, which means

we can adapt to any nuance that comes our way, either in terms of an individual firm's requirements or new regulation.

Finance teams also sometimes have concerns around retaining control of what, as you say, is a vital calculation. They fear the black box effect. Is that fair?

RG: I think what we offer is the opposite of a black box. Automation makes companies review their information. As part of the implementation process, they are forced to reassess LPAs and the way waterfalls have traditionally been calculated. Sometimes complacency has crept in and things are being done in a certain way, simply because that is the way they have always been done.

SP: I could see firms being concerned about a black box, if the system was simply producing a final carry figure, with no backup as to how that number had been reached. But any automated system worth its salt is going to provide complete transparency around all the variables that go into the calculations, freeing up the GP to spend more time on the things that they were actually hired to do.

So, how much time and resource does development take?

SP: There is always that initial setup that has to take place, but we are finding that after that initial migration of historical funds, the ongoing maintenance of introducing new funds to the system is really very straightforward. The complexity lies in each clients' calculation, but that complexity is replicable -albeit with slight variations.

Adding new funds takes a matter of minutes, whereas people will need to go through every single cell in an Excel sheet to ensure the logic in the formula is being applied correctly. There is always an upfront cost with any investment into your business. There's cost associated with moving into a new building, for example. But once that's completed, you would never look back and say, "I wish we were still in that smaller space."

RS: Making that investment is important from a business security standpoint as well. If your key players who hold all the knowledge around the calculations suddenly leave, you can end up in a real mess. It is worth investing that time and energy to get everything set up in the right way within the organization. You

"Automation makes companies review their information ... Sometimes complacency has crept in and things are being done in a certain way, simply because that is the way they have always been done"

RIYAZ GADIWALLA

also have the reassurance of having a partner company who can step in and help train new people so that knowledge stays fresh.

But does Excel not suffice, at least for smaller firms with relatively few live funds?

RG: Excel is obviously a great application. We couldn't get along without it. And for a small firm that has a couple of funds, five or six investors and a handful of portfolio companies, yes, Excel can work just fine.

But is that firm really optimizing the waterfall calculation from a modeling perspective? An automated system allows you to tweak the compounding methodology, or to exclude a particular expense from a distribution and see how that affects the preferred return. That can be challenging in Excel and even small firms will want to optimize the

most important calculation for the partners.

How should firms contemplating a transition to automation approach the move?

SP: Firms should look carefully at a provider's expertise and their experience with different types of waterfall methodologies. Most of these systems are also not just pure software that the client loads onto their own

They are SaaS models, so it is important to look at things like information security, multi-factor authentication and role-based access. Having a provider that is flexible enough to adapt and to develop new capabilities quickly as a firm grows and expands beyond its original requirements is critical too.

At one time, clients wanted a full-service platform where we ran the calculation, audited the calculation and provided them with the results. That has now shifted and firms are increasingly demanding that they are empowered to run their own waterfalls so that they retain control.

How do you expect waterfall automation to develop?

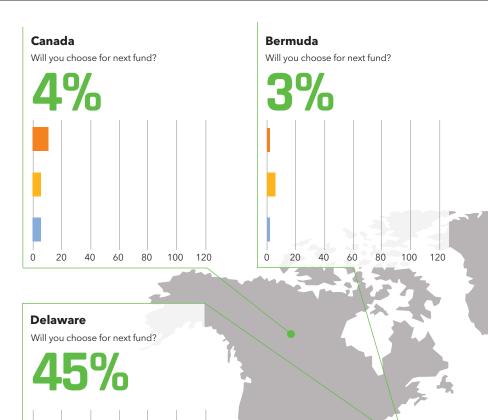
RS: We find it ironic that private equity firms' MO is to buy portfolio companies, make them more efficient, typically through digital transformation, and then sell them at a profit—but, until recently, they have been reticent to embrace technology for their own internal processes. We like to say digital transformation begins at home.

I think the private capital industry is starting to do a better job and over the next few years we will see a very different industry emerge—an industry that has truly embraced the power of digital transformation and is capitalizing on the technology available.

Founded in 2001, EWM Global is a provider of digital carried interest and co-investment technology. With all data on one platform, EWM Global clients are empowered to access and manage data as required while innovative technologies drive their cloudenabled services. EWM Global's mission is to replace outmoded processes and to alleviate inefficiencies and risks of in-house administration. With offices in Stamford, CT; London, U.K.; and Zurich, Switzerland, EWM Global serves over 350 funds, managing a combined asset total of over \$500 billion.

Rebecca Symonds is EWM Global's chief operating officer; Riyaz Gadiwalla is head of product management; Scott Pearson is head of private equity services.

Buyouts' parent company PEI Media surveyed 82 private fund managers this year, asking them about a range of fund domicile and regulatory issues. Delaware, the Cayman Islands and Luxembourg emerged as the top jurisdictions, with all three ranking highly in terms of regulatory framework, tax framework and business conditions



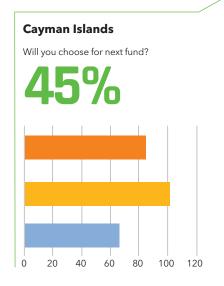
The jurisdictions were rated based on the following questions. Where respondents were asked to give three answers, the first answer was given three points, the second two points and the third one point. Regulatory framework Which of the following domiciles offers the optimal regulatory framework in 2019?

Tax framework

Which of the following domiciles offers the optimal tax framework in 2019?

Business conditions

Which of the following domiciles offers the optimal conditions for doing business in 2019, such as expertise?



20

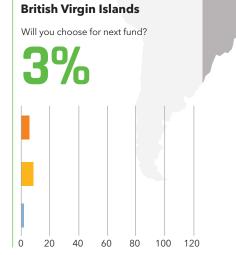
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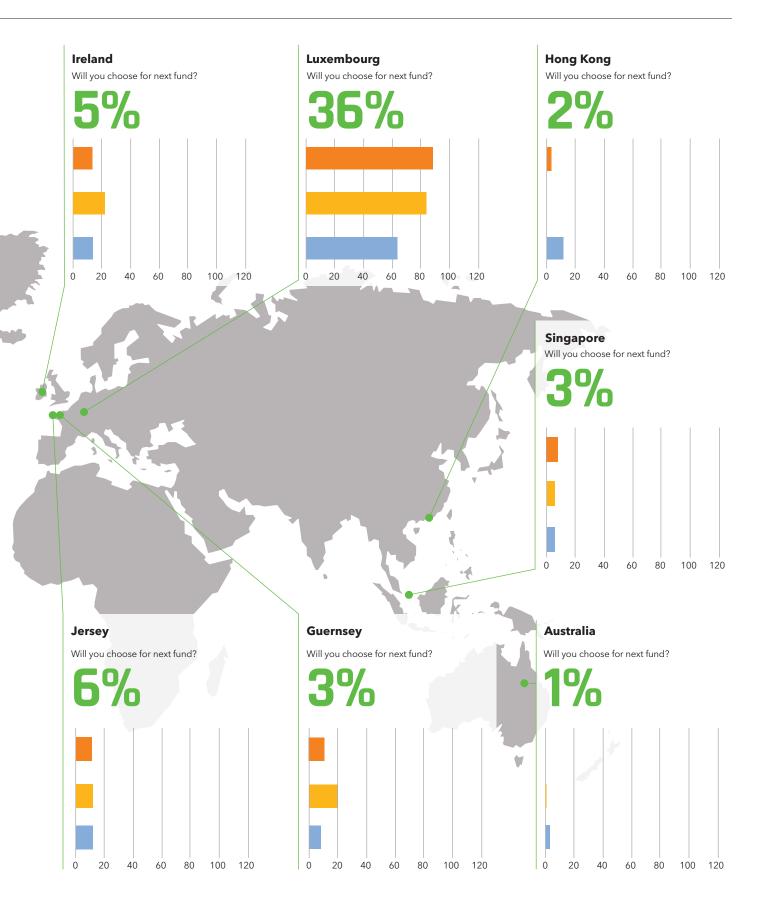
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Fund admin

How the world's most active firms measure up

S&C Technologies came out at the top of 2018's most active private equity and debt fund administrators, according to eVestment's Alternative Fund Administration Survey, writes Philippa Kent.

Of the 26 fund administrators that responded to the survey, SS&C had the highest private equity and debt assets under administration in 2018, with just over \$550 billion. It was followed by State Street, with \$384 billion, and SEI, with \$327.5 billion. Overall, it seems to have been a good year for fund administrators —17 of the respondents experienced a growth in private equity and debt AUA from 2017, with the median firm growing by 11.4 percent.

Firms use different metrics to measure AUA, with some counting committed capital, some invested capital, some combining invested and remaining committed and some gross asset value. ■

Share of fund admins surveyed that saw a growth in private equity and debt AUA in 2018

Growth of private equity and debt AUA of median fund admins surveyed in 2018

- * Excludes AUA associated with five recent acquisitions
- ** Figures as of year-end 2017
- † Includes real assets funds
- ^ Includes real assets funds of funds Data correct as of December 2018

Source: eVestment's Alternative Fund

The most active private equity and private debt fund administrators in the world, according to research from eVestment

SS&C Technologies State Street

SEI

Gen II Fund Services†

Citco Fund Services

Apex Group Ltd*

MUFG Investor Services

JPMorgan Alternative Investment Services

Augentius**

Brown Brothers Harriman

Northern Trust^

Vistra

BNY Mellon Alternative Investment Services

LeverPoint Management

Harmonic Fund Services

RBC Investor & Treasury Services

Viteos Fund Services Limited

UMB Fund Services

CACEIS Investor Services

US Bancorp Fund Services

NAV Fund Administration Group

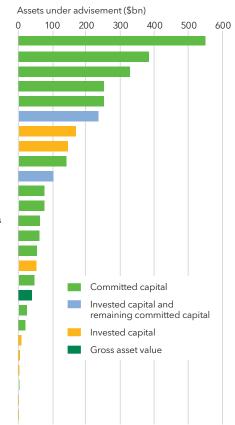
Horseshoe Group

Maitland

Stone Coast Fund Services

Circle Partners**

O'Connor Davies Administration



Apex Group*

RBC Investor & Treasury Services

Citco Fund Services

Gen II Fund Services†

MUFG Investor Services

Augentius

Vistra

CACEIS Investor Services

LeverPoint Management,

UMB Fund Services

JPMorgan Alternative Investment Services

Northern Trust^

BNY Mellon Alternative Investment Services

US Bancorp Fund Services

Harmonic Fund Services

Brown Brothers Harriman

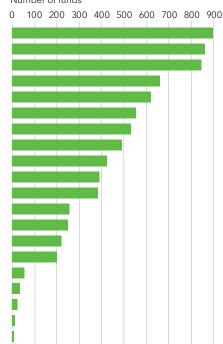
Horseshoe Group

Maitland

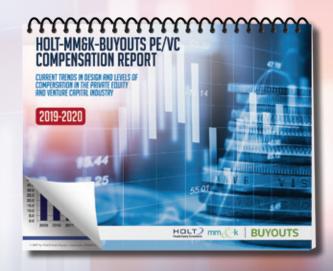
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The report also features break-outs for Canadian and Asian firms.

Part 2 includes the average, median, bottomquartile and top-quartile salary, bonus and carry distribution and carry points assigned to employees in 30 different job titles at firms grouped by investment strategy and AUM. Sample groups include:

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- Venture capital firms (small, mid-sized and large)
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