



ATTACK ORIGINS

#	COUNTRY
540	Venezuela
22	China
20	Saudi Arabia
10	United States
3	Taiwan
2	Thailand
2	Russia
2	Brazil
2	Bulgaria

ATTACK TYPES

#	PORT	SERVICE TYPE
137	3390	unknown
136	8080	http-proxy
135	3391	savant
132	3389	ms-wbt-server
15	137	unknown
7	445	microsoft-ds
6	110	pop3
5	50856	unknown
5	3306	mysql

ATTACK TARGETS

#	COUNTRY
569	United States
20	Saudi Arabia
6	Liechtenstein
5	Taiwan
2	undefined
2	France
1	Philippines

LIVE ATTACKS

TIMESTAMP	ATTACKER	ATTACKER IP	ATTACKER GEO	TARGET GEO	ATTACK TYPE	PORT
17-04-54.548	Cantv Servicios Venezuela	186.93.66.28	Caracas, VE	Lynnwood, US	http-proxy	8080
17-04-54.558	Singlehop Inc.	198.20.69.98	Chicago, US	Nama, PH	NFS-or-IIS	21
17-04-54.638	Chinanet Neimenggu Province Network	1.183.97.11	Baotou, CN	Vaduz, LI	unknown	10
17-04-54.814	National Computer Systems Co.	46.151.209.45	Riyadh, SA	Riyadh, SA	unknown	13
17-04-55.141	National Computer Systems Co.	46.151.210.66	Riyadh, SA	Riyadh, SA	unknown	13
17-04-55.439	Germaine Lawrence School Inc.	66.203.84.164	Arlington, US	St Louis, US	unknown	33
17-04-55.820	Comcast Cable Communications Inc.	71.193.170.197	Oregon City, US	St Louis, US	isakmp	50
17-04-56.108	The National Computer Systems	89.144.99.116	Riyadh, SA	Riyadh, SA	unknown	17
17-04-56.444	Webhosting.Net Inc.	173.230.225.1...	Miami, US	Miami, US	unknown	13

Opalesque Roundtable Series '15

FUND OPERATIONS ROUNDTABLE

Opalesque Roundtable Series Sponsor:



Editor's Note

Advancement of technology creates efficiencies and market access, but a new and ever-transforming world for Executives in Fund Operations.

The quantum leap in technology available to alternative asset investment managers has unquestionably increased productivity and market access for asset managers, and allowed managers both market access and opportunities for growth.

However, the impact of technology has led to critical and ever-changing decisions regarding the operations and infrastructure of investors and managers. How operational executives address potential operational pitfalls related to technology, among a myriad of other evolving concerns, has become one of the daily challenges that asset managers face every single day.

Managers must continue to innovate and allocate their resources to technology, while handling increasingly sophisticated challenges like cybersecurity, and integrate those concerns with additional regulatory reporting demands, investor relations requirements, and extensive required third party service provider relationships. Measures to protect the information of portfolios, client names, and even underlying hedge fund managers are top priorities given this network of relationships and external concerns.

Hackers and rogue nations have become an ever-present threat to managers, as evidenced by the Great Online Bank Robbery of the Carbanak Cyber Gang stealing \$1 billion from 100 banks worldwide, siphoning money directly from banks and financial institutions.

These external threats, along with investor demands for greater transparency and an ever-changing regional and global regulatory environment, which also affects operations in how firms track regulatory requirements to remain compliant in allocating trades, have made operational integrity and due diligence a constantly evolving mandate for both fund managers and investors.

This is a must-read for investors, operational executives, and fund managers.

The Opalesque 2015 Fund Operations Roundtable, sponsored by Arthur Bell CPAs, took place September 2015 in New York with:

1. Gregg Buckbinder, [Chief Operating Officer, Chief Financial Officer, Millburn Ridgefield Corporation](#)
2. Alan MacKenzie, [Chief Financial Officer, Chief Operating Officer, Gargoyle Group](#)
3. Corey McLaughlin, [Member, Arthur Bell CPAs](#)
4. Stephen Miller, [Chief Financial Officer, Chief Compliance Officer, New Providence Asset Management](#)
5. Vincent Molino, [Senior Vice President, Director of Operational Due Diligence, Permal Group](#)
6. Peter Murrugarra, [Managing Director, Head of Manager Due Diligence, ClearVest](#)

The group also discussed operational topics such as:

- Both investor and manager due diligence processes
- Investor red flags with managers, and how to make a fund more attractive to investors
- What issues keep operational executives up at night?
- Investor perspectives on: governance, compliance, background checks, structure, conflicts of interest, side letters, commingled vs. separate accounts, valuations, and more
- Cybersecurity policies and measures. Is it worth purchasing a cyber-security insurance policy?
- Why managers must also push their service providers to implement cybersecurity policies
- When to utilize your in-house technology, or migrate to third parties
- Why emerging managers need to know their "Breakeven AUM"
- Guidance on how to handle markets swings and a sudden increase or decrease in assets
- How and when to communicate with investors
- Why managers should be transparent with their counterparty terms of agreements
- Will there be a standard due diligence questionnaire in addition to the AIMA DDQ to facilitate the investment process and save time?
- Relevant changes in taxable income and tax classification by the IRS

Enjoy!

Matthias Knab
Knab@Opalesque.com

Participant Profiles



(LEFT TO RIGHT)

Greg de Spoelberch, Stephen Miller, Alan MacKenzie, Vincent Molino, Gregg Buckbinder, Peter Murrugarra, Corey McLaughlin.

Opalesque 2015 Fund Operations Roundtable Sponsor



Cover photo: Norse Attack Map (map.norsecorp.com). The attacks shown are based on a small subset of live flows against the Norse honeypot infrastructure, representing actual worldwide cyber attacks.

Introduction

Peter Murrugarra
ClearVest

My name is Peter Murrugarra. I am a Managing Director and Head of Manager Due Diligence for ClearVest. We are an alternative investment platform, providing access to both established and emerging managers, to independent registered investment advisers and the wealth management community here in the US. Minimum investment levels are generally \$100,000 or \$250,000 with the managers we are working with.

As we are also an RIA, we conduct extensive due diligence on our managers. For independent wealth managers, we augment their research capabilities and enhance their value proposition to clients and prospects, as building out resources for research can be onerous and costly.

ClearVest is a joint venture between two different firms, Clearbrook Global Advisors and The Alpha Cooperative. Clearbrook is a pension fund consulting company based here in the US which advises on about \$30 billion in assets. The Alpha Cooperative specializes on outsourced infrastructure for different hedge fund groups, primarily emerging managers.

Vincent Molino
Permal

My name is Vincent Molino. I am the Senior Vice President and Director of Operational Due Diligence at Permal. We are a \$20 billion AUM alternative asset management firm owned by Legg Mason, having started as a traditional fund of funds over 40 years ago, when we were owned by the Worms Group. Not surprisingly the firm has significantly evolved over those years, although we do still have a traditional fund of hedge funds business, along with a private equity group based out of Boston.

Today we manage a wide range of portfolios such as managed accounts for retail and institutional clients, including some for very large institutions. We also work with underlying hedge fund managers through their commingled funds, and run one of the largest buyside managed account platforms in the industry.

What we have today gives us an edge over most of our peers, from the managed account platform to the technology we are leveraging, because only larger, well-resourced, alternative asset management groups are able to do those things. This is a strong selling point from our side, and has helped us be among the leaders in the alternative asset space.

Corey McLaughlin
Arthur Bell

My name is Corey McLaughlin. I oversee the audit, assurance, and advisory practice at Arthur Bell. Arthur Bell is a CPA firm that specializes solely in the alternative investment industry. We have about 140 professionals focused on this industry, helping clients such as commodity pools, hedge funds, private equity, venture capital, CTAs, investment advisers, broker-dealers, and introducing brokers. In addition to helping our clients in the traditional areas of audit, tax, and business advisory, which includes operations consulting, we provide services in trust and estate planning, and family office services, as we have tremendous experience in these areas through having many hedge fund managers as clients that have become ultra-successful and have had a need for these services.

Stephen Miller
New Providence Asset
Management

I am Stephen Miller, the Chief Financial Officer and Chief Compliance Officer of New Providence Asset Management. New Providence Asset Management was formed in 2003 to serve as the outsourced investment office of our initial client whose endowment the founding partners had been managing as volunteer committee members for five years. The firm's partners formed New Providence after experiencing first-hand the importance and impact full-time portfolio management had on making timely investment decisions.

However substantial an investment committee's experience and dedication, the challenges and complexities of today's markets require substantial manager due diligence, ongoing portfolio monitoring, thoughtful asset allocation changes, risk management, and accountability for investment performance. The governance model of a volunteer committee is not adequately equipped to provide this level of engagement with the portfolio.

The firm's active partners own over 95% of New Providence. As an independent firm, New Providence is able to access best-in-class managers and provide objective advice to our clients without conflict of interest. The firm's open-architecture platform allows us to identify and select the most capable managers without limitations. Furthermore, to ensure a full alignment of interests, New Providence principals have significant personal capital invested with the same managers, and on the same terms as our clients.

Alan MacKenzie
the Gargoyle Group

My name is Alan MacKenzie. I am the Chief Financial Officer and Chief Operating Officer at the Gargoyle Group in Englewood, NJ. Gargoyle is an alternative assets manager with approximately \$500 million in AUM/AUA. We currently manage two hedge funds, one 1940 Act vehicle and two institutional SMA products. All of Gargoyle's investment products utilize one or both of the Firm's primary areas of expertise...the construction of relative value stock portfolios and the dynamic hedging of equity portfolios through the sale of overpriced index call options.

Gregg Buckbinder
Millburn Ridgefield Corporation

My name is Gregg Buckbinder, and I am the Chief Operating Officer and Chief Financial Officer of Millburn Ridgefield Corporation. I am a Certified Public Accountant, and have also earned my Master's Degree in tax. I have been with Millburn for approximately 17 years. Before Millburn I began my career at the predecessor firm to EY working in both the tax and audit areas. I worked as a controller of medium-sized regional broker-dealer, and then was a divisional controller at a large multi-manager hedge fund and private equity firm.

The organization now known as Millburn was founded in 1971, so we have been in business for over 40 years. We launched our first private placement in 1977. We are one of the world's first systematic CTAs and originally focused on the commodity markets. Today we trade over a hundred diversified futures and forward contracts in interest rates, equities, currencies, and commodities. We also manage a diversified fund of hedge funds strategy, where we work with about 30 managers.

Our core CTA trading strategies consist of trend-following and increasingly multi-factor systematic modeling. We have developed an interesting research framework that captures a lot of data in the form of both price and non-price information. From this data our research team designs, tests and develops systematic financial models. The models are then included in a number of portfolios. This includes everything from managed accounts to mutual funds. We currently manage approximately \$1.5 billion across the various strategies.

70

percent of the world's surface is covered by water.



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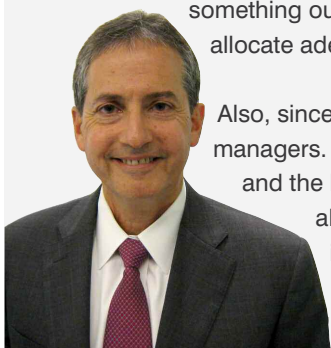
Alan MacKenzie: The biggest development at Gargoyle over the past year is the recent adoption of our 1940 Act vehicle by the Trust Company of the West (TCW). Effective July 13, 2015, Gargoyle became the sub-advisor to TCW on this fund (the TCW|Gargoyle Hedged Value Fund) which is currently the sole offering on TCW's recently-launched TCW Alternative Funds platform. We are excited about this situation because we feel it is a powerful combination, bringing the 15-year track record of our flagship strategy together with TCW's marketing and distribution strengths. This is an opportunity for Gargoyle to really increase its AUM. Over the years, Gargoyle has developed some terrific strategies with very successful track records, but we have not always been able to convert that track record into increased asset levels. Now, this partnership with TCW should help drive our asset growth going forward.



Gregg, Millburn Ridgefield Corporation is 40 years old. In your experience, as far as the evolution of operations, hasn't there been a huge shift and increased emphasis in this area from the asset management side, especially post-financial crisis? What innovative processes and procedures have been put in place to help your operations run as smoothly as possible?

Gregg Buckbinder: Definitely. When I first started in the business things like reconciliations were done manually. We've watched the evolution to automatically reconciling accounts every day or during the day electronically, which helps to detect and prevent errors, and other modern technology such as electronic trading. Today there are few physical trading pits left. Most trading now is executed electronically and with straight-through processing. There are fewer errors being made, which means you can do a lot more trading volume and trade in more markets. Things have evolved, which has allowed growth, but the business is much more complex.

The good thing is that productivity has increased tremendously because of the advances in technology. Today, we are able to do a lot of things that we couldn't do before. The impact of technology is definitely one key driving theme to take from this Roundtable. Technology has been very helpful from a productivity and market access standpoint, but it has also posed a challenge to market participants because things have moved and transitioned very quickly. Once you figure something out, technology keeps changing, and as an asset manager you must continue to innovate and allocate adequate resources to technology.



Also, since the financial crisis there has been an evolution of product offerings from alternative investment managers. Historically, alternative investments were offered primarily through private placement partnerships and the like. Rule changes and the desire by investors for more transparency have created the ability for alternative investment managers to offer their products as mutual funds. This transition is in its infancy and has the potential to grow significantly. It is exciting and an interesting time for the business.

Peter Murrugarra: On the technology side, cybersecurity is of huge concern now, in terms of what policies and procedures are in place to make sure that the information is secure. This includes measures to protect your portfolio, even your client names and names of the underlying hedge fund managers that you may be investing with.

Another critical factor that comes into the technology discussion is the ever-changing regulatory environment which also affects your operations and in general how you track regulatory requirements. You need technology tools to facilitate your processes, to be able to make sure that you are compliant in allocating trades, for example.



Vincent Molino: I would like to start from a high-level overview about my responsibilities, because I think that really affects all of you. Then I will drill down to these different points because I think I can add some insight.

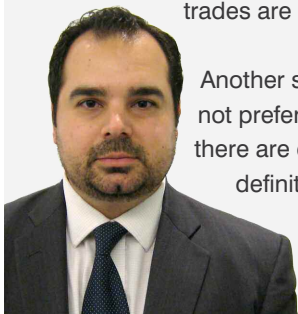
I started doing Operational Due Diligence at J.P. Morgan's fund of funds in mid 2008, but by year-end things started to change drastically. Throughout 2008 and 2009 I was on the front line, seeing managers who previously had never had operational issues before, but now began taking actions like setting up gates and implementing special purpose vehicles. Still, many other managers were simply failing. What was interesting about then and now is this shifting dynamic, combined with other events such as the Madoff scandal, which really made operational due diligence come to the forefront more than ever before.

Since then, when I meet managers I come armed with a few "must-haves" that I think all of you should be aware of. **Number one, your service providers all need to be independent service providers.** That means your auditor and your administrator—funds should not self-administer anymore.

With regard to **compliance**, many smaller firms traditionally had one person that was not really a compliance officer, but was a CFO or COO and also wore the compliance hat. Depending on the size of the firm, that can still be fine, as we understand that you are running a business and there is a cost involved. However, at the same time, regulatory and compliance matters have become so complex and detailed that we want to see experience and regulatory responsibilities in action, such as a regulatory calendar. We do this because there are so many requirements, particularly if you are registered with the SEC and CFTC, along with marketing in Europe under AIFMD, that compliance has become a full-time job in itself.

So when we are knocking on the door with regards to compliance, we are not only looking at your compliance program, but also scrutinizing the individuals responsible.

There are other basic things, such as you can't trade with an **internal broker-dealer** anymore, that's just really unacceptable unless you are using the broker-dealer for private placement services. We need to be able to make sure that your trades are being housed somewhere external to your firm.



Another simple example where things have happened and changed over the years is cash management. It's not preferable to have just one person signing off on **cash management**. You need to have at least two. Now, there are examples of firms where you will find family members working together. In that instance, you most definitely cannot have the same family members signing off on cash.

Gregg Buckbinder

Do you look for the administrator to be the ones that handle the cash management when you're doing due diligence? Does it present a problem when the managers manage the cash operations directly?

Vincent Molino: We want to see both sides involved in the cash management process. We want to see that the manager is communicating with the administrator or custodian, and most importantly that **two sets of eyes or two signatories** are signing off on the manager's side before it goes to the administrator. This isn't a knock on the administrators, but the reality is that most administrators have a lot going on. They're not always paying attention to everything. If you already have built into your process that at least on your side as a manager you have two sets of eyes there, that is one less risk that we have to worry about.

Regarding technology, this is such a massive and important element of money management. We like to see **improved technology** in terms of our managers using order management systems, portfolio management systems, and accounting systems, all of which is dependent on complexity of the strategy and the size of the firm.



Regarding the '40 Act fund, that is a struggle for us now because traditionally we, as ODD professionals, were looking at hedge funds, and then we started to look at private equity funds, and now we have '40 Act or other registered funds. The struggle for us is how much due diligence do we need to do, because you have that extra layer of regulation on top of the '40 Act structure. We don't want to make our job or the manager's job any more difficult, but at the same time we have to realize that we have a fiduciary responsibility to our clients to perform extensive due diligence. That's something we are trying to put together because '40 Act funds are very popular now. Such products help the industry grow, but at the same time people in roles like mine have to figure out the appropriate level of due diligence for those vehicles.

The last thing I will address is **cybersecurity**. That is absolutely the hot topic right now. The most important thing I would address or the question I would ask managers is, "Have you had a cybersecurity breach?" This could be in the form of someone getting into their trading system, or it could be a hacker getting into the administrator's system, where they are able to see your registrar or your list of clients. Protecting client information is one of the biggest issues funds are facing right now. We try to bring in investment banks occasionally to consult with us on this issue, because it is a very real concern for all parties of the business. The technology group of one large investment bank told us that the reality is that hackers or anyone looking for this information might not really be looking to get into the hedge fund—as they are not interested in your trades, for example—but **they are looking to use you as a backdoor to get into the banks**. This for them is the pot of gold at the end of the rainbow.

The last element of cybersecurity that we are talking to managers about is cyber-liability insurance. Managers wonder if it is required and if they need it—this is certainly something that we are trying to understand because a lot of managers do not know what it is and struggle with calculating the cost benefit.

Gregg Buckbinder: We researched cyber-liability insurance policies, and the insurers will not really cover that much. A primary issue is that in many cases, if you have an event or breach that happens, you're going to take certain actions like get credit reports for those people impacted and put them on credit watch alerts. Those are the costs that insurers will cover in the insurance policies. However the insurance companies are going to put so many exclusions in the policies, that an insurance policy with good coverage could be prohibitively expensive.



Greg de Spoelberch

So in the end, you deemed it wasn't worth it to get the insurance?

Gregg Buckbinder: Yes—at least for the short-term that was the conclusion we came to. We do have a cybersecurity committee that looks at our process, protections, and any potential security breaches. The key is that you have procedures in place to know if you actually had a breach. It is important to have policies and procedures and software that goes through your application logs, your internet logs, and your firewalls to be able to say with reasonable certainty that you are prepared and have every angle covered. Our team knows when people are trying to break into our network. The point is to have the controls in place to make sure they do not succeed—and monitoring your systems all of the time.

Password protection and requiring employees to change their passwords are important controls, along with two factor authentication. We've done a lot of upgrades to the security of our VPN (Virtual Private Network). As an example, we have an application on our phones, so rather than having a token, you have to put in a second randomly generated number to make sure it is actually you going into the VPN system as opposed to somebody breaking in.



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Corey McLaughlin: In connection with cybersecurity, one thing that managers need to keep in mind as well is that potential breaches don't stop at their walls. Gregg mentioned VPN's. In addition, managers need to consider cybersecurity around cellphones and all mobile devices, including laptops, particularly ensuring they have the required appropriate controls to protect the security of information.

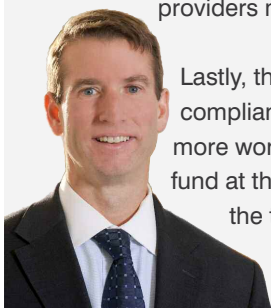
There are also a lot of other people connected to managers that have access to the manager's information beyond the employees. At certain times your service providers, including your administrator, your auditor, your tax firm, and your attorney, all have access to extremely confidential information that can be damaging to you and your client base if there is a leak.

This is why it is important that managers talk to their service providers to understand what kind of cybersecurity policies they have in place and how well protected they are. Our firm has been lucky in the sense that we grew up within the alternative investment industry, and the industry has always been very protective and secretive. We have built those considerations into our processes, and I think that with independent service providers handling such critical information, the protection of information by those firms is an issue that investors and managers need to consider carefully.

Circling back to the fact that technology enhances efficiency, advancements have certainly made a lot of operational elements smoother, faster, and more efficient. But there have been a lot of developments in the alternative investment industry that have made things less efficient. Vince was touching on this earlier, and managers have to deal with regulations and operational strain that they did not have to consider 10 or 15 years ago.

Today, firms deal with regulations promulgated by the SEC, the CFTC, AIFMD, FINRA, IRS, NFA, as well as others. All of these different regulatory bodies and requirements need to be fully understood, including associated forms and filing requirements. For example, FATCA filings, Form ADV, Form PF, Form BE10, Form BE180, to name a few, add a tremendous amount of work to managers. In addition, all of these filings are springing up regularly and often with short windows for compliance. This all needs to be managed along with the increased regularity and scrutiny of associated SEC examinations.

SEC examinations are also driving additional items that managers need to be aware of and monitor. One day you wake up and see the results of an SEC examination, and items such as **expense allocations** are coming under significant scrutiny, specifically how expenses incurred by managers are being applied to their sponsored funds. Managers have to constantly review things like that to make sure they are safe and protected, because some of the sanctions that are being levied are pretty serious. You also have investor due diligence and have to manage their expectations. For example, I think there is an expectation from investors that **managers perform regular due diligence on their service providers** to ensure those providers meet certain criteria.



Lastly, there is a high amount of scrutiny on the industry. With that scrutiny, additional tax and financial reporting compliance items are now required. There is also more aggregation of information, which translates into a lot more work. The moral of the story is that it has become increasingly more difficult for a single person to launch a fund at this point in time. To monitor all of these elements, you really need operational help because to try to be the trader, raise capital, and also perform all operational items is a monumental challenge.

Alan MacKenzie: To add to the technology theme that we have been discussing, over the past two years Gargoyle has been undergoing a technology migration away from homegrown, customized technology tools, to commercially-available tools. Gargoyle had a successful 25-year history as a proprietary options market-making firm, and as part of that business we had built specialized tools to perform functions like quoting electronically on the options exchanges, risk management of our option portfolios, and so forth. These were terrific tools that did all of the things that we needed for that business.



As we built our alternative asset management business (starting in 1997), our natural inclination was to use those tools as needed to manage that new business.

What we found over time, however, is that maintaining those tools was a very expensive endeavor. It also made ODD examinations more difficult, given the complexities in demonstrating the efficacy and robustness of those tools. When we closed our options market-making business in 2013, we decided that a better approach to running our business would be to find commercially-available tools, ideally fully integrated tools that provide the whole suite of EMS, OMS, T+1 reconciliation processes, historical trade database, and portfolio accounting. We are now at the back end of that migration. The move has been very helpful in not only lowering the cost structure of our firm, but also providing confidence to institutional investors who come in from time to time to kick the tires on our technology infrastructure.

Stephen Miller: Regarding technology, it has allowed the alternative world to expand and become what it currently is. The types of products and the investments that people can make now probably wouldn't exist without technology. But from an operational standpoint, it has created more work now than ever before. A lot of the issues we deal with in Anti-money laundering (AML) and Know Your Client (KYC) protocols, and cybersecurity have become even bigger issues now when through the internet it has become possible that people hack into systems and steal data. From an operational standpoint, that has created a lot of work for all of us.

As a manager of managers, when we look at the technology side of things we want to see that everyone is doing what they should regarding cybersecurity. That means having correct systems in place and multiple backups. One thing that I like to focus on is making sure that even though the administrator has all of these systems in place and the manager is communicating with the administrator and the brokers, that there are also people in-house with the manager who know what is going on and who understand the technology.

I feel that whatever systems you put in place, if you do not have someone who understands what is going on internally, the firm is losing something. The administrators are focusing on their side of things, brokers are focusing on their responsibilities, and **often there is not someone from the manager's side focusing on all of this technology and how everything is integrated with checks and balances.** I think you can lose a lot without knowledgeable, internal professionals, because even though we want to have systems in place to automate our business, without the proper checks and balances, when a mistake occurs, you do not know that it has occurred and is hidden in a software program. When the mistake is found, it is then usually too late.



Emerging managers 20 years ago could open an office, call up a broker, and begin trading. Operationally, today you have to set up all your systems and procedures prior to launch, and also hire the right people who should have experience in the business. You cannot hire someone who has no alternative experience, because the alternative world is so different from the traditional investment world.

Corey McLaughlin: Interestingly, I also know a lot of investors are looking more and more at third-party systems and making sure that managers use them. However, those third-party systems do not always fit what advisers are doing, a disconnect that can cause, to your point, some serious problems and issues.

Steve hit on that point very well, where if you try to use a third party system that doesn't fit exactly what you are doing and if you do not have good controls and checks and balances, you could find yourself with issues that are difficult to resolve. I'm curious, Alan, from your perspective, do investors understand that? That *"yes, third-party systems do provide some additional protections, but may not always be the best thing to use in all circumstances?"*



We have seen in some instances in the tax world, where if a firm just has a system that cranks out allocations, you will not get the right results. Sometimes Microsoft Excel is just a better choice for certain aspects of the strategy and system, so I'm curious to hear your thoughts on that.

Alan MacKenzie: We, of course, rely on our tax accountants, Arthur Bell CPAs, for our hedge fund tax allocations. Therefore, that is not really an issue for us. With regard to our technology migration, there is no doubt that when you move from homegrown, customized tools to third-party, commercially-available tools, there is a give and take. As I mentioned earlier, there is a cost benefit of being able to reduce technology overhead through reduced development and maintenance costs, but you lose some of the customization power that you would normally have with in-house technology. We felt comfortable that we chose a trading technology partner who showed a willingness to customize certain tools for our specific needs, but there's no doubt that the tools are not quite as sophisticated as the ones we had originally built internally to support our options market-making firm.

Fortunately, our hedge fund business and our liquid alternatives business do not require the same tools that our options market-making firm did. The options market-making business was mainly driven by the ability to connect directly to options exchanges and the speed with which you could communicate with those exchanges. Before we made the commitment to undergo our technology migration, we went through a pretty thorough process of making sure that what we were adopting would meet our ongoing trading needs. This technology migration was less about accounting and more about trading operations, T+1 reconciliation processes, and historical trade database maintenance. It did involve portfolio accounting, but with respect to fund general ledger and capital account allocations, that's already being handled by existing accounting systems that were previously implemented by Gargoyle.



Gregg Buckbinder: Interestingly, one of the things I was hired to do at Millburn when I started was to implement a full service back office operation process similar to what you see today at an administrator. This was in the pre-Madoff era where US hedge fund managers typically managed their own back office operations. We went ahead and licensed SS&C's Total Return system and Total Reconciliation system as part of the process.

We went through a significant conversion and replaced the spreadsheet reconciliations with an automated process. We created an internal control environment with checks and balances, and a documented review process for our monthly financial statement close cycle. We self-administered all of our funds, and I think we did it in a manner on par or better than most of the administrators.

After the Madoff scandal broke, operational due diligence professionals like Vincent came to my firm and told us we needed to engage an independent firm to perform many of these operational functions. Subsequently, we went ahead and hired outside administrators for our funds. For certain funds, we utilized the administrators for NAV-light services, where their services were limited to verifying the existence of the assets, independently pricing all assets in the portfolio, and providing a transparency report to investors. For others, we employed full service administration, where they would handle all the cash operations and perform every single part of the back office process, but **we never gave up shadowing the books and records for all of our funds.**

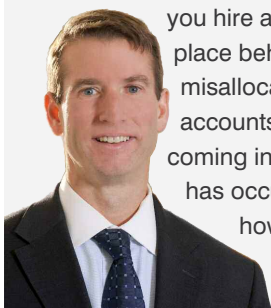
Therefore, we take it to another level of due diligence, because with our own employees we are doing substantially the same thing that the administrator is doing. The additional oversight provides an extra layer of internal control. I always tell people that **we can delegate the work, but we can't delegate the responsibility.** If something goes wrong, I cannot go to my investors and claim that the administrator made a mistake. The way we approach this is we reconcile the NAV every month that we prepare to that of the administrator to make sure there is no more than a 10 basis point difference between the P&Ls.



Also, if for some reason the administrator had a problem with their system and were unable to strike a timely NAV for the fund, as the manager we still have a responsibility to get the numbers to our investors. If this did happen, we could deal with it, because we actually do maintain the shadow books and records. Steve, I think your point is really good because managers need to look closely and make sure they do not rely too heavily on a third-party.

When people like Vincent visit our firm to review our operations, they appreciate our shadowing process and the extra comfort it provides. However, it is costly to shadow everything. It is expensive to license the software, pay the administrator, and also to hire the people to do the shadowing. I struggle with this because there is a lot of pressure on fees. You have to look at that **cost structure** and ask if it makes sense. While we have no plans to scale back the shadowing process, it is something that we will continue to review and see if it continues to make business sense.

Corey McLaughlin: I think what Gregg does is very impressive, and shadow accounting is often expected nowadays. Even if you hire a third-party administration firm, which almost everyone does now, you will need to have good controls in place behind that to make sure you are fully aware of everything that is happening. If even one thing is misallocated or a single mistake is made, and that mistake is not caught in a timely fashion, it can cause partner accounts to be misstated. Correcting misstated partner accounts can be difficult given that there are investors coming in and out of the fund, fees are charged and collected, and trying to resolve those issues after all of that has occurred can be a challenge. From my perspective, managers need to think about that decision, weighing how much they should **monitor a third party administrator**.



Vincent Molino: I appreciate everything that Gregg is saying, and I agree with you, Corey, that no one does it better than one's own firm. This is because you know your processes, you know your systems, and you know your books and records.

However, there is a multiplier effect to doing things the way you described that affects our business too. Let's say hypothetically you have investors that are sovereign wealth funds and family offices or insurance companies. These investor types are not going to be as worried about a NAV restatement unless they redeem and they see that numbers are off and they are due money. But for other investors like Permal, or another fund of funds, there's a multiplier effect on what we do, because then our NAV that we are reporting is based on the NAV that we received from you, so we have to do all of the recalculating and explaining to our investors too. That can cause headaches for us as well.

We as investors in the industry understand that there are costs to all these things requested, but that is really a reflection of the cost of investing in these vehicles, which typically are charged as management fees and as other expenses. Fees are also something that we scrutinize because **most managers historically charged an investor for nearly every cost, irrespective of whether or not it was directly applicable to a fund**. As managers and investors now better understand the cost of doing business in the industry, the cost may mean paying a little more for additional third-party service providers, but if it ensures processes and controls are working, the redundancy should be worth it, from our point of view. I think everyone in the industry is willing to accept that comment because the trend in the industry appears to go along with that observation.



Peter Murrugarra: It is interesting when you take pension funds and some of the other institutional investors into account. They have been the driving force in delegating the direction of fees. There is recognition on behalf of those investors that there is a certain amount of cost to run a hedge fund firm, but at the end of the day, it seems like there's now **more pressure than ever on fees, regardless of what kind of costs come into play**. These fees just keep coming down.

In the past, fund of funds had a very large presence because they were the middlemen in many cases for larger pension funds and other institutional investors. Today, you don't see as strong of a presence from the fund of funds that you saw in the past. The most direct result of cost pressure I see is really in the consultant side. You have to advise on at least somewhere in the neighborhood of \$10 billion to be able to gain traction with some of the smaller pension funds. You're also taking on the full fiduciary risk on behalf of these underlying pension funds and other institutional investors.



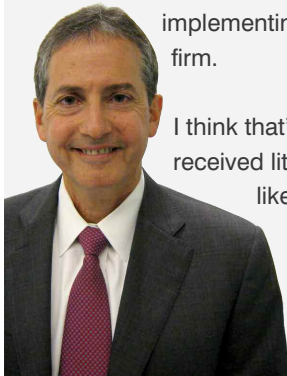
So I do think that costs are coming under more pressure than ever before, and this is coming from the institutional investors. And while there is pressure on fees across the board, it is affecting elements of the industry differently.

I'm also curious about the viewpoints of the other panelists on outsourced services, such as an all-in-one CFO and CCO and their merits. For some of the larger investors in the room, do you see it as necessary for a firm to graduate from having their services outsourced, versus having everything or certain aspects of outsourced services in-house?

Alan MacKenzie: We have a hybrid approach at Gargoyle. We have full-time executive officers like me covering the CEO, CIO, CFO, COO, and CCO roles. However, we do use several outside service providers. We, of course, use the traditional hedge fund service providers, including third-party administrator, independent auditor, and tax accounting firm, but we have recently started to engage additional outside services for specific areas of expertise. Most notably, we just hired a firm to handle proxy research and voting on behalf of our hedge funds and our 1940 Act vehicle. We also recently engaged a top compliance consulting firm to advise Gargoyle on matters such as compliance with the GIPS standards and SEC advertising rules, in addition to providing traditional assistance on routine SEC filings. We are definitely a believer in using outside services, particularly when we don't have the expertise in house and when it can help make our operations run smoother.



Gregg Buckbinder: We take a similar approach to what Alan just described. Currently, we look at outsourcing services on a hybrid basis. For example, our tax functions were all done in-house in the past. We have certain funds where we issue thousands of K1's. We had been outsourcing that service, and the provider was not getting all of them out on time to investors, so we started doing it ourselves. We wrote the system and spent a lot of time, effort, and money implementing that. However, after a while we realized that operating that way did not match our competencies as a firm.



I think that's the kind of self-reflection that is necessary sometimes—to have the ability to recognize that we received little value from preparing those returns ourselves, so perhaps it makes more sense to hire a specialist like Arthur Bell, who is very good at this service, has scale, and can probably do a better job than we can.

An important point is that we still have a system of internal control that oversees what they are doing. While we no longer prepare these returns, we do review and test the tax allocations to make sure they are accurate. This is cost effective for our firm because it frees up resources.

Regarding technology, areas like outsourced email backup are really helpful, because none of us probably want to get into that business. It is usually a good idea to look across your business and consider hiring firms that specialize in an area that can provide a service in a better and more cost effective manner than you can do yourself.

Regarding the compliance side of things, we have a dedicated Chief Compliance Officer who is very knowledgeable and involved in the industry, and we do most of the compliance work ourselves. We do outsource certain elements of compliance via third-party systems. Specifically, we use a compliance system that monitors factors like political contributions, gifts, employee trading, and insider trading among other things. It equates to a central hub system, where employees report required compliance obligations, and we have automated the data collection and reporting process through this system. It is an outsourced software product, but we are still the ones who manage it.

Regarding Alan's point, I agree that you do have to go through your whole organization and review what makes sense from a business point of view. The factors that go into that review are constantly changing, and I consistently evaluate the cost benefit of every element of our system.

Greg de Spoelberch

Regarding smaller or emerging managers or larger funds who use an outsourced CCO, when should they transition to bring capability fully in-house?

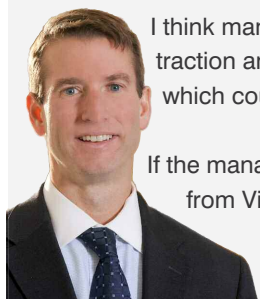
Stephen Miller: I wear both the CFO and CCO hats, and I can say from personal experience that the time commitment for the CCO role does take up a lot more time now than it did when I first started at New Providence 10 years ago. We do use a consulting firm to handle questions we may have and who performs mock compliance audits every year. We also use a legal team when necessary, and when recommended by our consulting firm.

With any business the question of cost always comes up. **What is the benefit of bringing additional compliance personnel in-house as opposed to outsourcing?** I think it depends on what type of firm you are, and for investors who are doing their due diligence on the firm, what is the CCO function and what concerns should the CCO have?

As far as hiring a third-party service provider, it is a tricky balancing act of not only cost benefit, but is bringing more people onto your staff actually helping more than causing potential additional problems? Most businesses are always looking at the best way for the firm to run most efficiently, and additional employees may be counterproductive. I could hire 10 people to help on the compliance side of things, but with those people comes the added complexity of team structure, oversight, and reporting.



Corey McLaughlin: In terms of outsourcing, particularly for start-up managers, I think that emerging managers need to think hard about where they are going and what they want to be in the future. In many cases, I don't think enough time is spent on that by start-up managers. They claim they want access to institutional money, but do they understand what that means and what the firm needs to look like to even get a meeting?



I think managers can have an outsourced CFO or CCO early on. At the point where they really start to gain some traction and get attention from institutional investors, they might need to reevaluate the look and feel of their firm, which could mean a serious financial commitment to the business, particularly the infrastructure.

If the manager's investors are limited to family and friend money, the investment process is going to be very different from Vincent (or other institutional type investors) coming in and considering investing Permal's money.

Vincent Molino: One metric to use for emerging managers is the **breakeven AUM**. Consider the minimum amount of AUM that you need to manage in order to have the staff size that you use right now, whether it is one person in the back office, or multiple people. Once you verify that breakeven AUM, there should then be expectations and adjustments as you grow your assets. You may need to take on more staff, but if you start with the bare minimum you need in order to keep the lights on and pay your employees, hiring additional resources for a growing capital-base should not create much of a debate as to whether you need to expand the number of employees.

That's really where the trigger should start. Then, when you have more money in your pocket, or when the management company has a little more money in their bank account, you need to ask yourself what new things can we facilitate that are must-haves or like-to-haves that are being requested in order to operate in this industry?



Greg de Spoelberch

What is the primary concern of each of you given your roles that really keeps you up at night? Is it technology? Is it service provider relationships? What's that one thing that at the top of the list really keeps you up at night as your primary concerns as far as operating your companies?

Gregg Buckbinder: Performance is number one for me. I think anyone in a CFO role would say that. When your firm is doing well, your job and your life is much easier. It reduces much of the stress in managing an operation. You may have to address issues such as handling a large increase in assets, but that is relatively easy to deal with. If performance becomes negative, it could create issues such as a decrease in assets. That is probably one of the more challenging things, because it could create cost pressure on the management company and create a tremendous amount of anxiety among all of your employees. You have to figure out how to manage in that environment.

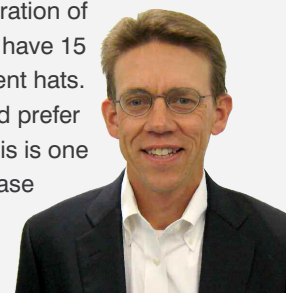
One of the ways you can deal with that stress is to try to **create an organization that is somewhat scalable**. If you do grow, it would be optimal to set up your firm where you do not have to add a lot of employees, and if you do shrink, you do not have to reduce the staff by many people. That sounds good in an ideal world, but it's really very challenging, because firms that do well and raise assets, tend to hire more people, to support the growing infrastructure. They will hire more compliance people, accountants, marketing people, traders, researchers, etc. It is easy to increase staff but much more difficult to decrease it.



Another thing that keeps me up at night is something that you just don't expect. The unpredictability of any business, such as an employee coming into your office with an unexpected development like a discrimination issue, could create problems for a firm. If a hacker broke into your computers and you had a catastrophic event, how would you deal with it? Those are some things that keep me up at night and concern me, the developments that are unpredictable.

Alan MacKenzie: We certainly worry about performance as well, for all of the same reasons that were just mentioned in terms of maintaining sustainable revenue to support our firm's overhead.

As the CFO/COO of a relatively small firm, I also worry about building the proper redundancy and separation of duties into our infrastructure of people and the roles that they each play. Our firm is relatively small; we have 15 employees, and, as is common in small firms, the officers and the employees often need to wear different hats. It is sometimes difficult to build in the separation and redundancy that an ODD officer like Vincent would prefer to see in an organization. We feel that we have done a reasonable job on that front but, nonetheless, this is one of the things that we continue to manage and plan for as our firm grows and as our management fee base grows. However, as Gregg just mentioned, you don't want to do it too quickly, so it becomes a balancing act.



Stephen Miller: Performance is the ultimate goal, but that doesn't necessarily keep me up at night because I have faith in our investment managers to invest the funds and protect against operational deficiencies such as fraud, theft, trading errors, or identity theft. That is why we do our operational due diligence and make sure there are systems in place to mitigate those risks.



We cannot control the markets, but we can prevent an operational failure. We are trying to avoid the Madoff scenarios, because those are scary and preventable.

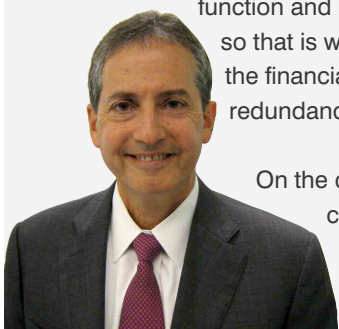
Vincent Molino: I am extremely appreciative of the position that you are all in, because I speak to people like you every day.

From my perspective, if I was the CFO or COO, the greatest concern would be regulatory matters. **If you say that you have specific processes and procedures from a compliance point of view, you had better make sure that you enact them every single day.** The one day that a regulator comes in and goes through your audit or starts going through your books and records, and sees that you missed that one thing you say you do daily, whether it be a sign-off here or a check there, will be the day that becomes a big issue and headline for you and your firm. These types of mistakes are really unexplainable to both regulators and investors, because you say that you do these things daily, but then it becomes a red flag because it is then known that you were not following your own process as written or stated to a third party.

The key is ensuring that you are doing everything you say you are doing, and following the letter of the law, or rule, that you have created for yourself. If you miss that one step, that can be the one detail that the regulator may pick up on and will turn into a much bigger problem.



Gregg Buckbinder: I agree with Vincent, but you also have that power to control those processes by setting up a compliance function and internal controls that are really strong. The things that concern me most are things I cannot control, so that is what makes asset managers anxious. You can create a controlled environment to make sure that the financial statements are going to be accurate, and manage your firm so that you have enough redundancy.

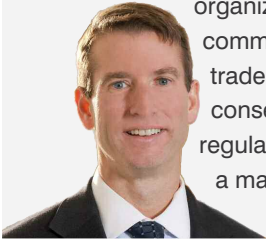


On the compliance side of things, I think that as long as you are diligent and you have the right compliance systems in place, including forensic testing on all these elements, you can feel comfortable that the regulators are not going to come in and have a problem with what you are doing.

Vincent Molino: I would only worry about things that I am in control of, and not focus on existential things such as market swings. To reiterate my point, if you have built the processes and the procedures, just make sure you are constantly checking yourself and the people working for you, making sure that they are performing their allotted functions.



Corey McLaughlin: I agree, what management companies sometimes overlook is making sure that everybody in your organization is aware of what is going on from a regulatory perspective, and that you are really training and communicating so that people are not unknowingly creating compliance problems, such as a cross-trade. A trader thinks that they can move a trade from one account to another just on their own, without investor consent. That could trip a wire. That is where communication comes in and why it is so critical. With more regulation, employees at a manager could not be aware of new requirements, and a lack of awareness can put a manager at risk.



Peter Murrugarra: There are a myriad of things that concern me regarding our interactions with managers. Did I ask the question in the right way about a manager's cross-trade history? Did I speak with the right people at the organization regarding those types of operations?

I could think of a fairly recent example. Late last year there was a relatively well-known hedge fund firm that had a CFO in place for years. He skimmed about \$12 million in total over a number of years in a very sneaky and sophisticated fashion. We do not have any exposure with that firm, but every so often it pops up in my head when I see things like that. I prefer to dig in a little bit more and consider, "Would I have been able to pick up on that, or would I have been able to answer all of my clients' questions if this had come up?"

Even if you are a firm that is running money directly with your trades, I think that operationally, if you think you have the right people in place, it is just as important to be fully cognizant of everything that is happening, and have those policies and procedures in place so that you really are in control of what is going on at your firm. You really don't want to be in the position of having to answer those questions down the road and become the future subject of a white paper.



Greg de Spoelberch

With the recent market swing and developments in China, what advice would you give to a smaller or more established manager on how to handle a market crisis or a huge increase or decrease in assets? Is there something specifically built into your system to handle that?

Stephen Miller: With market fluctuations, especially downturns incurred by emerging managers, we look for someone who is not going to change his philosophy. We know how they invest, and there is a reason we invested with them. We do not want to see them do something that is unexpected. Although it may work out in the end, we do not like it when managers trade contrary to what we expect them to do. This could be style drift, or simply erratic or panicked investing.



When you lose money, it is not the time to take a chance or unnecessary risk because you are trying to make it up to your investors. Stick with what you are good at. Your investors know what you are investing in and how you are investing. They understand your process and strategy, and will ride it out with you. If you are a good manager, you are going to recover. If you do something contrary to what investors expect, you might recover, but you run the risk of losing clients who do not approve of the "gunslinger" mentality of trying to make profits.

Stephen Miller: At New Providence, manager research is an essential part of what we do and is critical to constructing an appropriate investment solution for clients. We also believe ongoing due diligence to be equally as important as our initial due diligence, a basic philosophy that is often lost on certain providers of investment advice that are too narrowly focused on simply finding managers.

As an operating principle, New Providence never outsources manager research. Our Senior Investment Team, supported by five analysts, myself, and operations staff, directly interface with investment managers and lead all internal research processes. To emphasize the time and resources we devote to this process, in a typical year we have over 300 meetings with investment managers across numerous asset classes. In addition to the 25-30 core managers we currently invest with, New Providence tracks managers on our internal “Watch-List” across all major asset classes; we compile and continually update this list based on our proprietary work and recommendations from our network of managers, clients, industry contacts, Advisory Board members, databases, etc. We meet with these managers with varying degrees of frequency subject to how seriously we are considering them for client portfolios. As we become more familiar with, and confident in a manager’s capabilities, we will ultimately take actions to transition them to a more exclusive list of managers that we consider best-in-class.

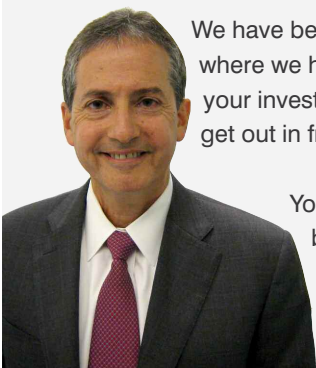
Data compiled on our “Watch-List” managers includes return streams, internal and external research documents, periodicals, AUM data, meeting notes, investment team biographies, and current and historical equity holdings and performance attribution.

Some of our operational due diligence will consist of reviews of trade and NAV processes, audited financial statements, computer system security and disaster recovery plans, business continuity, and compliance procedures and manuals. We also confirm relationships with important third party vendors such as the auditor of a fund.

New Providence’s oversight and analysis of managers is constant, and consequently, our Investment Team will make changes to managers or allocation at whatever frequency economic or managerial conditions warrant. Formally, our Investment Team and Analysts communicate with managers through proprietary monthly questionnaires and quarterly conference calls. However, conversations between New Providence and our managers also occur informally on a more frequent basis, often weekly, or whenever issues or questions arise.



Gregg Buckbinder: I think another important bit of advice to emerging managers or any manager that goes through a difficult period due to market turbulence is that you need to communicate with your investors. You have to explain to them what is going on, how you have or have not seen this before, and how you are staying the course with your strategy.



We have been operating for over 40 years, so you can imagine that we have had periods of time in our history where we have experienced drawdowns. When you have periods with drawdowns, you need to go directly to your investors and you should be proactive, and not wait for them to come to you with concerns. You have to get out in front of the problems, and explain what is happening and that you are comfortable with your strategy.

You hope that the investors will stay with you through the difficult times. Inevitably, some will not because that is the nature of the investing world. However, investors will most likely feel better and more comfortable if you stay ahead of their potential concerns and communicate well, and let them know what is happening.

Gregg Buckbinder: It is not really systematic, but we do monitor our drawdowns. It is more of an art than a science as to when to send out a special communication to our investors. We have done that several times in our history.

I have a subdirectory in my email of drawdown memos and other communications to investors. Other communications might be addressing things that may have concerned investors during the financial crisis such as counterparty exposure and the like.

Markets are volatile, and they do swing. What we are trying to do is create a positive return for investors over time that is not correlated to everything else. As long as we stick with our strategy and do not change significantly during difficult times, and communicate that to our investors, then we should be fine. If you are going to change, because strategies also do change over time, explain it to your investors before it becomes a crisis, so that they understand and have confidence in you.



Peter Murrugarra: I love the proactive approach to crises management. Back in 2006 and 2007 when I worked at a Japanese fund of funds, we had a mandate where if something drastic happened in the markets, we would reach out to all of our single investments. Even if it was a relatively contained event and US specific, let's say a corporate bond that defaulted for example, we would reach out to all of our investments, even if we knew it was unlikely to be a position in an Asian based managers portfolio for example.

I remember the way a particular firm with a European emerging markets strategy reacted when we first called. They were very put-off and standoffish, because the market swing wasn't directly related to their strategy. The second or third time that we called, regarding other market activities deemed significant, they did not want to answer any of our questions at all. Primarily

because of that, we actually ended up redeeming from this firm in 2007 as a result of the transparency issues. We

need to have responsiveness and transparency in good times and bad, and have an open channel of communication. This is particularly true of periods of market turmoil.

Unfortunately, the investors that stayed with that group got caught up when that particular firm then blew up in 2008. Because of experiences like that, I am very happy to have seen that in August, with all of the market volatility, managers with whom we have no relationship were sending out portfolio updates even though the market decline may not have directly impacted exactly what they do.



Vincent Molino: I will pick up where our investment team leaves off, because that is not my core competency, and they have their own due diligence methodology. Once we are presented with a new manager for the platform, we reach out directly to the manager and initiate an on-site meeting. An on-site meeting is always a must-have for us.

We also send them a pre-meeting questionnaire and list of documents that we like to see. Two to four weeks before the meeting, we have desk reviews to start to get an idea for who the manager



is and what they do. We want to understand their strategy, the size of their firm, and their operations, but most importantly, we want to get to know the people that we are going to be speaking with who run the firm day-to-day.

All that information is aggregated, and as a team at Permal, we then sit together to talk about and analyze prior experiences with other managers that may be similar, to use as preparation. That way, when we do our on-site visit, we come very prepared with appropriate due diligence questions.

I don't want to give away our secret sauce, but in our due diligence we also talk about **ownership structures**. We need to understand who owns the firm, so that we have a clear picture of who has skin in the game, and if anyone were to leave the firm, would that be detrimental to the firm and our investment?

We look at **conflicts of interest**. As I mentioned before, are there family members working together, and are there controls around that? Are there outside business interests? There are a number of managers that have outside investments or may own other hedge funds. That is something we want to know.

Then we look at the actual **structure of the organization**, reviewing how many people work there and what role each person plays in each function. We can therefore ascertain whether or not they have what we feel to be the appropriate people in place, or enough people to support the infrastructure. We stress that they need appropriately qualified people. Someone like Gregg would probably be great, because he has years of experience. Someone that is newer to the firm or industry we might scrutinize more heavily.

That plays into what we had spoken about previously; Do you need outside help? Do you need third party service providers in one or several areas? We may jump in and say that we don't feel that a specific person has the ability to perform a certain function or is stretched too thin, and that's why the firm may need to look into hiring a third party service provider to help with compliance or a certain area.

The next thing that we look at is the structure of the entity that we are investing in. Is it a **commingled fund or a separate account**? I do not want to dive into too much detail on the separate account side, but from the commingled side we will look at the terms of the fund to see if there are any onerous terms that we would like to see revised.

We will look at **expenses, redemption terms, and side letters**. Side letters are very important for us. We want to know who else is invested in the fund or what advantage they may have over us. Most funds do not practice this anymore, but historically there would be managers that gave preferential liquidity terms, redemption terms, or Most Favored Nation clauses.

We also consider if other investors have a **reduction of management fees and/or performance fees**. We understand that if an investor is going to write a big ticket, of course a manager might be inclined to reduce the fees to bring in the investment, but we need to be aware of that too.

The biggest thing that we look at in terms of commingled funds is **governance**. Governance is an important factor, and although it's discussed at every hedge fund convention and conference, it really is very important for two reasons:

Number one is that as an investor in the fund, I want to make sure that there is a mechanism and professionals who will represent the fund in a responsible manner. If you look at the past few years, there are any number of examples where service providers were essentially "rubber stampers," and were not performing a service for the benefit of the investors. I think the need for responsible governance will never go away with commingled funds, because investors want responsible monitoring of activities such as, for example, cross-trades. Or, if the manager wants to change the terms of the fund or bring a new position into the fund's portfolio that was not specifically detailed prior in offering documents, for example, you want to have representation for such manager actions.

Number two is that I think the structure and composition of the **board of directors** is important. The structure of funds is relevant to that conversation, because if they have a master-feeder structure, they may have a Cayman corporation for the master, where there will be board representation.

But if the master is a Cayman limited partnership, investors may want to request the manager have the board of an offshore feeder be utilized as an advisory committee for the master LP to perform some functions typically covered by a board.

When we dive into firm operations, we are talking about a thorough understanding of **processes and procedures**. We review all **systems** a firm uses, including order management, portfolio management, accounting, risk, and any other type of systems used for fund management. We have to fully comprehend the process. In addition, if you have a third party administrator perform similar functions, how does that interplay work with your firm, and who is doing the daily, weekly, or monthly reconciliations and record keeping?

The next big topic that we go through is **compliance**, and we break that up into two areas. There is internal compliance, which is the firm's responsibility over controls and employees, but also outside compliance, which usually covers a lot of the regulatory reporting of a manager to their respective regulator.

One point that I want to stress to everyone here, and especially to emerging managers, is the importance of **background checks** of managers and their employees. Background checks are absolutely vital right now. They should be inclusive of not only education, employment, and criminal records, but also credit checks. If you perform a credit check on someone, you can see indebtedness or monetary issues, and may be able to derive a behavioral trait that could indicate if there is a risk a manager or employee will commit financial fraud.

There is debate about the frequency with which you should perform checks, because there is a cost associated with them, but you should at least do them for initial employment.

The next important thing we review is **valuations**. Valuations are key and are dependent on the strategy of the manager. If we are talking about equity managers, most of the assets they are investing in are exchange traded, so there should be little question about valuations. When you start looking at more complex strategies, such as credit managers and macro managers, that typically requires different scrutiny. Is your firm trading in ASC Level 1, 2, or 3 assets? If there are Level 2 or Level 3 assets, and in particular Level 3 assets, who is valuing those assets?

Unless a manager is investing in some type of esoteric investment that they feel they have particular expertise in valuing, we prefer that valuations be done by a third party valuation agent. I am not talking solely about the administrator. The administrator should be part of that process too, but if we are not convinced of a manager's valuation policy or process, or their handling of such fiduciary responsibilities, we have to make sure they are pricing or marking assets correctly, and third party help is always a good way to address these concerns. And, by the way, that also helps us when reviewing fees as it adds an extra layer of protection for investors.

We all understand that in this business the reality is that a manager has an incentive to keep their assets valued on the higher side of valuations, because that is how they get paid. At the same time, we need to make sure that fees based on assets and returns are at a fair level, with operational costs built into those, because many of the operational issues that have come up in the past are valuation-related issues.

The last point that I would speak about for our due diligence refers to counterparties. Which **counterparties** do you use for trading and custody, and what are the terms of the agreements with your counterparties? It is interesting to see how counterparties do business with large and small managers alike, *as more often than not some service providers attempt to keep their terms of agreement secret, because they may have arranged more favorable terms for a smaller manager, as compared to a larger, because the smaller manager may have experience in negotiating better terms.*

Such an example could turn one's assumption on its head as you may reasonably be inclined to think larger managers may achieve better terms due to size and transaction volume. We have also observed other examples where managers that are similar in size and strategy could be using the same prime broker, or other type of counterparty, but the terms are completely different. This too can affect fees, which means counterparty agreements are something else that managers have to consider, because it affects your cost structure.

Vincent, how do you deal with a situation where the investment team really wants to make an investment, but there are some operational issues that cause your ODD team to refrain from giving a fund the green light? Who wins in that struggle, and what steps do you take?

Vincent Molino: That is an excellent question, and it is a question that I get asked by clients all the time. It is not a simple answer, but I will try to make it a simple answer.

The answer is that we work with our investment team to understand what the issue is. Permal has a benefit of being a very large firm, and we have the scale to influence our managers, so if we find operational issues, we can act like manager consultants and have them understand and agree to changes. Since I meet a lot of managers and I see what each is doing the same or differently, in addition to what's going on in the industry, I can give them advice and counsel on best practices or improvements.

The first thing we do is approach the manager and provide a solution to what we have identified as a problem. 85-95% of the time, managers go along with our recommendation because they want to improve their own operations, but also potentially receive an allocation from us based on making changes. That's where our scale comes in so as to provide leverage.



If the operational issue is too problematic or risky, or the manager will not acquiesce to our recommendations, then we absolutely have the ability to veto a manager. I am very proud that my firm respects our right to step in and stop the investment. When we do step in and veto, the investment team will simply stop moving forward with that firm because it is liability for them too. Operational risk is investment risk; the two are intermingled, so why take that chance?

Stephen Miller: Expanding on what you said as far as why pricing is very important, we appreciated that with the recent upheaval in the European markets some of our managers had hired third parties for pricing securities. These managers had procedures in place, and they were properly used.

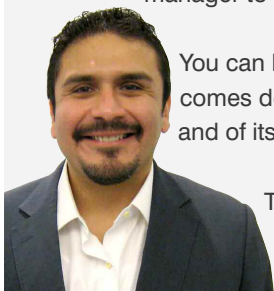
Coming back to the question of manager reliance on third parties, **I prefer not to hear that positions are priced solely by the administrator.** While the administrator may be the official books and records, the burden of valuation still sits with the manager. It is crucial that the manager is involved with choosing the pricing sources that are most appropriate for their portfolio investments. It is also important that there are regular procedures in place to oversee the administrator's efforts in valuing the portfolio.

Regarding terms with counterparties, specifically brokers, *you cannot take an International Swaps and Derivatives Agreement (ISDA), sign on the dotted line, and begin trading. First drafts come from the brokers and are extremely one-sided. You need the proper legal support to negotiate these agreements.* That is something that emerging managers need to consider carefully or they will get burned. One thing we always ask managers about is **who does the negotiations with the brokers?** Typically, a lot of firms now have their own internal legal staff, but many use outside counsel, which is very important.

I can imagine what may have happened with ISDA agreements when the markets blew up in 2008. In the past, brokers would never close out a contract, because they would never reject any business. In 2008, I am sure plenty of those brokers said to managers, *"You are down 5%. You have violated one of the terms of the agreement. We are closing out of your position, and by the way, we get to pick the price."* Brokers could decide what they wanted to do, and contractually you have no argument as a manager. We look for those potential problems with managers, which I think are very important these days.



Peter Murrugarra: I work with emerging managers, and there is still a reticence questioning why they have to provide their ISDA, agreement, PB agreement, or even administrator agreements. The irony is that it is really to your benefit as an emerging manager to have an open line of communication and to be open to change.



You can have great meetings with a manager or the operations and compliance representative, but when it comes down to asking for certain things, if they are reluctant to share information, that may not be a red flag in and of itself, but when you add up all the yellow flags, it is hard to invest with that manager.

The key theme to take home is that it is absolutely critical that emerging managers are aware that they need to have an open dialogue with their current set of investors and prospects.

Greg de Spoelberch

As operations experts, how active do you have to be on the marketing side of things? Do you coordinate and present with the marketing team, and how much of a part do you play? Are you involved on a day-to-day basis? Are you coming into meetings with investors?

Gregg Buckbinder: Absolutely. Investors want to know about your infrastructure, and they want to know about the operations of your firm. It is a very important part of the whole investing process now. A lot of investors that will come in have an investment team that meets with our investment experts, and they will also have an operational diligence team that meets with us, the operations specialists. We go through the same process that Vince took us through earlier, including all the checks and questionnaires making sure that we have all processes and controls in place, and have adequate compliance measures.

I am heavily involved in our marketing, and part of our compliance function is actually to review all marketing material that the firm produces. It is part of the compliance process to make sure that all marketing materials are accurate.

Firms have gotten into a lot of trouble by having **false statements in marketing material**. You have to keep it balanced and heed all rules and regulations. For example, if you are presenting hypothetical performance, this must be disclosed properly.

We have a Chief Compliance Officer that looks at all of that. After he and the marketing team complete the materials, my role is to give a common sense overall review of the marketing material. Is there anything in the documents that does not make sense or is confusing? I also work with our marketing team if we are structuring a new product.

This interaction is built into our process. It is similar to our monthly reports which go to our investors. We have a risk report that is sent out and includes monthly performance, all of our risk statistics, and all relevant details. I review all of those reports to provide an internal control function and prevent errors. So I spend a tremendous amount of time working with and supporting the marketing team. This includes anything from strategy presentation to more mundane things like reviewing marketing material.



Alan MacKenzie: We have a similar process when it comes to marketing materials in terms of review support. Our accounting department provides the performance numbers to the marketing department, as all relevant performance data is driven by that underlying accounting data.

Once the marketing department has updated the marketing materials, our Chief Compliance Officer reviews the materials to make sure that all of the proper disclosures and footnotes are in place, and so on. I also personally review all of the documents myself after those two departmental reviews have been completed.

When it comes to marketing meetings with investment teams or ODD teams, I am usually involved in both of those scenarios. I take on more of a supporting role when it comes to meeting with investment teams, but on the ODD side I tend to run those meetings in conjunction with our Chief Compliance Officer.



Our two portfolio managers tend to be the primary front line when it comes to marketing our investment strategy and explaining the nuances of our investment process, but having been a former option trader myself, I am often called into action to be part of that discussion. But, by far, most of my time is spent on the operational due diligence side.

Stephen Miller: As Chief Compliance Officer, it is automatic that any marketing materials that we send out need my final approval.

On the CFO side we have specific processes in place regarding the reporting of our numbers. Our accounting group produces the numbers, and marketing will then put them into their spreadsheets and charts. Ultimately, it is the accounting group that reviews those numbers. You want to have that accounting involvement and oversight review in place before the numbers go out.

When people come to our firm who could possibly invest, it is similar to our process in how we invest with managers; the process starts from the top with prospective investors. Our managing directors will typically have the first meeting with clients or prospective investors. We act as an outsourced investment office for several endowments and foundations that are clients of ours, so after that first meeting I will sit down with the Director of Finance from endowments or CFO's from foundations to answer any operational questions and explain our processes.

At these meeting, we discuss all operational points, our reporting cycle, how our managers and investors work with custodians, and so on. We are an outsourced investment office, so those questions are very important for our firm, particularly for complex portfolios. Investors may have a set of 25 separate investments, all with distinctive custodial relationships, and our clients rely on us to help manage these relationships.

On the fund side, we address issues like **taxation, accounting, and checks and balances**. We are a small firm of only 19 people. When it comes to day-to-day management of operations, as CFO I oversee the team who is handling those responsibilities, and I need to explain how our firm is set up to properly handle the operational functions.



Greg de Spaelberch

Is there anything in particular that you would like to see in the industry as far as new trends or developments that would make your life easier as operational specialists?

Gregg Buckbinder: I am constantly thinking about this, and I do not know if there's a way to deal with this issue, but for me a big improvement to the industry would be the operational due diligence process in dealing with managers.



We have our own standard due diligence questionnaire because we have a lot of experience going through the process, and we know what investors want. We will send those questionnaires to the due diligence representatives that review our firm, but they still want you to complete their own questionnaire. This becomes a very time-consuming process for our firm.

I would like to see a standardization of the process to make it less burdensome to the manager. Investors and diligence firms are asking us the same questions over and over, and I have to repeat the same process, just in slightly different ways.

Greg de Spoelberch

Arthur Bell has been specializing in the alternatives business for 40 years, so Corey, could you please address that?

Corey McLaughlin: I think it's a great point. You have reports such as Service Organization Control Reports (SOC) that address controls. Maybe the industry could consider a similar type of report, but from an ODD perspective. This way a manager could get a thumbs-up or a thumbs-down. This would save a lot of time and energy, and provide a consistent approval methodology for their processes.

The challenge the industry might face is that investors themselves are always going to have their nuanced methods, but if you could get rid of the redundancies, it would be a huge help.



Alan MacKenzie: This may not be the complete solution to the dilemma that you are discussing, but I have been at Gargoyle now for eight years, and we originally developed our own homegrown DDQs that our marketing department built with the intent to provide as much information as possible.

Recently, at the recommendation of some external ODD outfits, we started using the AIMA standard DDQs that are available to AIMA members. These are fairly lengthy documents, and we invested a lot of time to create four different versions, one for each of our products, with the exclusion of the 1940 Act vehicle which is handled by the fund advisor. We also took the time to put together all the requested attachment files referenced in the DDQ.



Thus, we have everything ready to go at a moment's notice, so when someone like Vincent at Permal contacts us and wants to set up a meeting, we have the DDQ and all the attachments ready to go. While this is not a complete solution, because many institutional investors have their own customized DDQs, I find that it gives us a pretty good start to the process. This is being done on an industry-recognized template, so it is a good starting point in terms of building confidence that you are providing answers to a lot of the commonly asked questions.

Peter Murrugarra: At the end of the day, we are fiduciaries, and we have to show that we have not only gone through the AIMA DDQ, but have prepared answers to questions that are above and beyond what the AIMA DDQ requires.

AIMA updates their DDQ every three years, and the last version came out in September of 2014. Since then, cybersecurity has evolved significantly to the point that the DDQ is almost outdated. That is why we have to cover all of our bases internally. The AIMA DDQ is a great resource, but we also like to ask some of the same questions in person to see if we actually get the same answer. We still have to discover if things are actually in practice.

I cannot speak to the point of whether one day there will be a **centralized due diligence database** that different investor groups are using, but I also believe that there are very valid reasons as to why these redundancies do exist, because investors have their own process that they value.



Vincent Molino: I want to echo what Peter just said, and also add a few things:

First of all, not all due diligence is created equal. There are elements on both the operational and investment side that have been standardized. There are risk metrics received from various sources, there is information coming from hedge fund databases, and many other different things that people receive as standardized information. The question is, what do you do with this information and how is that different? How you address that question is how funds like Pernal make a name for themselves and get paid.

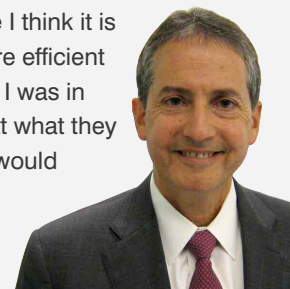
Diving into the heart of the matter, if you are completing the **AIMA DDQ**, it is very comprehensive but basic information, but the information is not always accurately completed by the manager and cannot tell us everything about a firm.

I will give you a very real example; I am not going to name specific people or funds here, but recently we ran into an issue with the marketing materials of a manager. We performed due diligence on a manager within the past few months, where in the marketing materials they claimed that an individual graduated from a particular university. You normally wouldn't question that and would find it should you check-out via a background check, but when we met the manager onsite, we decided to ask the question again. The person admitted to us face to face that he did not graduate from that specified university. He said that he put that in the marketing materials because he thought it was the best answer he could give.



That is why, even if managers are filling out standardized questionnaires, ***we have to repeat the questions and ask them again***, because answers can change which can open up a host of issues.

Gregg Buckbinder: I am not saying that investors and diligence firms should not do their job, because I think it is necessary on your end. I am just trying to figure out if there is a way to make the process a little bit more efficient and less burdensome on the manager. I agree with Vincent, that you have to do background checks. If I was in your position and was looking into a manager, I would do background checks as well to make sure that what they said was in fact accurate. I am just raising the question of whether there are methods or products that would standardize the process and make it a little bit easier for the managers.



Vincent Molino

I have a specific response to your question. Our pre-meeting questionnaire that I mentioned before is actually a very simplified questionnaire that is comprised of yes and no questions. What it does is help us trigger other questions. If you answer yes to a certain question, it may pique our interest and lead us to drill down to other specifics regarding your firm.

There are a lot of firms like ours that put processes such as questionnaires in place. My point is, who is to say what the correct list is of standardized questions? That is the differentiator for investors like Permal and their investment philosophies.

Stephen Miller: Pivoting a little bit on that topic, Bloomberg just came out with a white paper regarding Anti-Money Laundering (AML) and Know Your Customer (KYC) documents for managers when they have to open brokerage accounts, so that managers do not have to go through the same process every single time.



From a fund of funds standpoint, the AML and KYC requirements for investors into funds is becoming quite onerous. It would be very helpful to have a depository where a firm like New Providence can access information and also enter information, because then the hedge funds that we invest with could simply have immediate access to pull all relevant information that they need.

Vincent Molino: When I was working at a fund administrator, I thought it would be helpful to assign International Securities Identification Numbers (ISIN's) or Committee on Uniform Securities Identification Procedures (CUSIP's) to funds, which would make it easier to download and analyze documentation via some master depository. I understand we are talking about private placements, but if you could subscribe to a service that would, it would save a lot of time and energy. There still might be some merit to that idea to make things easier in the industry.

However, I do feel that if there is too much alignment among investors, even with something such as receiving and reviewing documents, it would diminish the uniqueness and approach of each firm, again, because not everyone has the same approach to due diligence. I think what is appealing to our end investors and what makes us special is the uniqueness of our due diligence approach.



Corey McLaughlin: One other development that has had a lot of publicity over the last couple of years is the character of **taxable income**. That has come under heavy scrutiny in the hedge fund industry. Most of the people in this room are aware of that, but some start-up managers may not fully understand it.

There has been a lot of discussion over the last few years about removing incentive allocations, as managers are receiving the tax classification generated by the fund for the incentive allocation they collect. As such, a manager may receive capital gains, qualified dividend, or other treatment that is at more favorable tax rates than the ordinary income tax rates the manager would experience if they received an incentive fee as opposed to an incentive allocation. The IRS has recently started to look at things such as basket contracts, where managers are classifying them as capital gains and maybe a portion of it is driven through interest or dividends that really should be ordinary.

In addition, the IRS is currently looking at arrangements in private equity funds, where instead of taking a management fee, because maybe all the cash is invested and not liquid, the manager will take an interest in the fund in exchange for a management fee. Through that interest, the manager will receive capital gains treatment as opposed to ordinary income, which you would normally recognize when receiving management fees.

This could be an issue in the next presidential election, and Donald Trump and Jeb Bush are talking about this.



This is a big deal for managers, and it really affects the economics of their business. Most managers are flow-through entities, and they have to understand that if those rules and laws change, that affects their personal tax circumstances. They also have to make sure that they have their estimates right. This is definitely something they have to keep their eye on. It's also an issue for investors as it could impact the amount of fees they can deduct for tax purposes.

Alan MacKenzie: Some of the trends that we are evaluating involve different **reporting standards**. Corey knows this because we have worked with Arthur Bell on this topic before. After evaluating the decision for a few years, Gargoyle finally decided to take the Global Investment Performance Standards (GIPS) compliant route. It was not clear whether or not the hedge fund industry would adopt GIPS, and it is still not completely clear, but Gargoyle did decide to become GIPS-compliant as a firm. The decision was primarily driven by our institutional managed account business, where GIPS has become a common requirement with institutions, particularly public pension investors. We implemented GIPS in early 2015 with the assistance of both Arthur Bell and a recommended compliance consultant who specializes in GIPS reporting.

Right now, another reporting standard that we are considering is Open Protocol Reporting, which is a standard that the consulting firm Albourne has developed. My understanding is that about 500 to 600 hedge funds so far have embraced what is known as Open Protocol Enabling Risk Aggregation Standards (OPERA) Reporting. We are currently considering putting that reporting in place through our third party administrator. It is, however, relatively expensive, and we are trying to evaluate the benefits of spending the money to put that capability in place.



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