

## BOOTHBAY'S OBJECTIVE

Boothbay Management is seeking to raise a combination of an "accelerator share class" and/or "founders share class" of \$100m in order to optimally run its planned hybrid fund product offering. The intended vehicle will be a combination of a multi manager, multi strategy managed account platform currently being built out, along with the First Loss platform that Boothbay currently runs. Boothbay has a combination of a differentiated investment philosophy, business plan and a visionary founder who is uniquely qualified to execute this plan. It also has a robust infrastructure, built out over two plus years, which includes proprietary systems and talented personnel. With access to sufficient capital, Boothbay can utilize its skills to capitalize on a market opportunity created by the maturation of the hedge fund industry. In addition to the explicit and implicit millions of dollars of pre-launch build that will be contributed by the management to the new vehicle, the founder intends to invest no less than \$20m of his own family's capital to the platform

### **BOOTHBAY'S INVESTMENT STRATEGY: AVOID CORRELATION, ISOLATE PORTFOLIO ALPHA, CREATE STRUCTURAL ALPHA**

Boothbay has two distinct but complimentary investment strategies. One is colloquially known as a "First Loss Model", the other known as "Milleniumesque". We will first discuss the "Milleniumesque part", and then follow with the First Loss Model.

Boothbay's primary implementation of the "Milleniumesque" part of its investment philosophy operates much as the house does in a casino. A casino relies on a small edge that — processed through the law of large numbers and avoiding correlation among bets and concentration risk— leads to consistent profits. Boothbay applies this philosophy to investments in portfolio managers. It allocates to a diverse group of portfolio managers with positive expectancy, low cross correlations and low concentration. This leads to a portfolio whose risk /reward characteristics are "whole greater than the sum of its parts".

This concept is usually very difficult for hedge fund allocators to implement, because most funds have residual Beta. Betas of various types tend to have high correlations to each other. Alphas, on the other hand, especially if designed to be derived from genuinely idiosyncratic sources should not have high correlations to each other. As a result, Boothbay invests in non-correlated strategies that tend to be market neutral. If one knows where to look in the hedge fund universe, there are many sources of truly idiosyncratic non-correlated alpha. In some cases, Boothbay artificially creates the non-correlation by creatively having portfolio managers run lower net exposure versions of their strategies for the sake of keeping correlations where we need them.

Every 10% strategy is a 30% strategy if levered 3 times. The problem with that approach, of course, is that the risk would also triple. By combining covariant strategies, we add positive expected incremental returns without dragging along the full effect of its normal proportionate piece of incremental risk. The right combination of positive expectancy portfolio managers allows materially less risk at the portfolio level for a given level of expected return. This low risk portfolio, when combined with greater capital efficiency and leverage can produce an excellent absolute return, that will also have the benefit of being generally uncorrelated to overall markets and most other funds.

In order to reach the required level of diversification to meet the "law of large numbers" requirement that helps make this strategy successful, Boothbay intends to invest with a minimum of 20 "Real" managers for the platform. ("Real" is meant to be differentiated from smaller allocations to more nascent strategies where Boothbay has not yet determined whether to make a meaningful allocation but with whom good cheap optionality can be purchased. We do this by making very small investments in promising but less proven managers who give us a combination of very preferential terms and meaningful capacity rights at those terms in

a managed account. We refer to them as the “farm team”). Over time, Boothbay will continue to add managers as long as they are capable of adding incremental improvement to the portfolio level risk adjusted return expectancy, but 20 is the approximate number we feel is the minimum required to achieve sufficient diversification.

Boothbay has built a number of tools that we utilize in our investment process that allow us to measure the portfolio level view of incremental return to risk profile. For example, one of the elements of our pre-investment process is taking sample portfolios from prospective managers and adding them to existing portfolio snapshots. We then compare changes in certain risk factors. The most obvious and simplistic example is to compare the value at risk (VAR) of the new portfolio with the amount of incremental VAR to the total portfolio, allowing for an understanding of risk minimization associated with covariant portfolios. Another example is the utilization of a proprietary tool built by Boothbay quants and programmers called COBRA. COBRA allows streams of daily returns over a period of time to be run through a portfolio optimizer, subject to whatever constraints are desired (e.g., maximum capacity or minimum contractual allocation size), and then it will recommend position sizing based on a chosen metric (e.g., Sharpe ratio or Sortino ratio).

This is part of the “objective, quantitative” part of the evaluation. It is then that the “subjective, qualitative” part comes in. The objective component, while very helpful, is by definition backward looking. Something that worked in the past will not necessarily perform the same way in the future. The founder of Boothbay, Ari Glass, has 18 years of industry experience including stints at a quant firm (Vector Partners (1998-2000)), a pre-eminent fundamental long/short equity firm (Soros-seeded Tiger Cub Intrepid Capital, 2000-2007), an award-winning multi-strategy fund (Platinum Partners, 2007-2009), and currently building a proprietary trading desk for the past couple of years (at Boothbay). This is in addition to running a First Loss Platform under the name Ignition Opportunity Partners since July 1, 2013. This experience allows Boothbay to assess factors that will cause future performance to improve or decline from prior performance. These include, inter alia, market factors (e.g., the volatility environment or crowdedness of a space) and manager factors (e.g., the size of the asset base being run or style drift). Shane Burn has recently joined Boothbay as well bringing over 20 years of Wall Street experience. He is heading up manager selection and risk management. He has a background in fund of funds management having been both a Chief Investment Officer and a Portfolio manager at two fund of fund firms. He has also has a background in quantitative equity trading and portfolio management and derivatives trading and structuring with stints at Double Alpha hedge fund and JP Morgan.

Against this background, we would like to address the salient questions about the market opportunity and business plan.

**If this is such a good investment strategy, why are there not more similarly managed funds?**

The concept of seeking out the benefits of covariant positive expectancy strategies is not novel. The reason it is not very often implemented has to do with certain business realities. Most allocators do not have the necessary infrastructure to invest outside of limited partnerships. When investing into a limited partnership, the lack of transparency into underlying positions, or even granular enough returns, inhibits the ability to truly understand the correlations amongst portfolios and portfolio managers. More so, even if they had access to the information, without infrastructure allowing you to invest in your own accounts, it is not possible to attain the capital efficiency or leverage required to turn good risk adjusted returns into good absolute returns. Traditional investors, (whether large direct allocators or fund of funds), have not wanted to build out the complex and expensive infrastructures to take advantage of this opportunity. The ability to build a proper platform to take

advantage of this investment approach has too many barriers to entry as a result of classic “chicken and egg” problem.

The chicken and egg problem has two main drivers. Firstly, as mentioned, significant pre-launch infrastructure is required. (A sampling of some of the infrastructure requirements built by Boothbay is in the addendum following). It takes significant expense in office, personnel, and data to complete. Secondly, the “casino concept” requires a highly diversified portfolio. We believe that approximately 20 non-correlated “full portfolio manager allocations” are required. It is not practicable to have a full complement of talented covariant portfolio managers brought on at the same time. Investing without the full complement is tantamount to a house in a casino trying to make money with only a few hands being played. They may still have positive expectancy but not at a high enough confidence interval to risk material money.

There have been a few large funds that have been successful running similar strategies (Citadel, Millennium, SAC, and Balyasny). Additionally, many of the bank prop desks were run this way prior to the Volker rule being invoked. Most of the funds were built a long time ago before they faced some of the competitive pressures that exist today. A few others that have tried in more recent times (Guggenheim, Talpion, Kensai), we believe were destined to almost certain failure. They violated the first rule of multi manager multi strategy investing – “you can’t out Izzy Izzy”.

What we mean by this rule is as follows. Millennium (run by Izzy Englander) is now \$20B and uses significant leverage as is appropriate for this model. As a result, in a situation where there is a proven portfolio manager who is available to be hired (for example talent getting Volkered off of a prop desk), Millennium is in position to offer them a portfolio size that is multiple of some of what the new comers could offer. Guggenheim, trying to compete with the same business model as Millennium has the problem that they can’t possibly put forth a competitive offer. For this reason they are almost guaranteed to have adverse selection bias in portfolio managers. The market for talent at that level is fairly efficient. As such, the known talent who decide they will not run their own funds would go to Millennium over a Guggenheim all the time. Guggenheim’s attempts at leveling the playing field by offering a better working environment or some ability to buy some immaterial percentage of management company level equity are simply insufficient. The situation they face in portfolio manager selection is comparable to an NFL General Manager who is told he can’t pick in the first 2 rounds of the NFL draft. He may find some Pro Bowl players in round 3 but he couldn’t possibly put together a very competitive team.

**How does Boothbay intend to solve these practical business realities? How can it not suffer adverse selection bias in its portfolio manager selection? How can it deal with the chicken and egg issues associated with a new multi strategy launch?**

Boothbay has taken what we refer to as the “Moneyball approach.” The book and movie “Moneyball” depict the creative and new approach taken by Oakland A’s General Manager, Billy Beane, who realized that his team’s budget would make it impossible for him to retain the star players Jason Giambi and Johnny Damon when they became free agents since he could not compete with the big budget Yankees and Red Sox. Because he lacked the financial resources to play the same game as the big-market teams, his team was forced to devise a system to evaluate players that values different metrics than previously used. As a result of that system, he was no longer competing for the same players. As mentioned, others have tried to mimic the Millennium approach, only to discover that they were destined to be stuck with second-tier talent that the Millenniums of the world had passed over. Their model doomed them to adverse selection bias.

The two primary places where we feel we can source and retain talented managers to run money for Boothbay without “competing” with the industry behemoths, and thus avoiding problems associated with adverse selection, are in niche or otherwise capacity constrained strategies and via non-exclusive investments in talented emerging managers. Niche and capacity constrained strategies won’t “move the needle” for large allocators and therefore represent an opportunity for smaller players like Boothbay. The opportunity to invest via managed accounts with emerging managers (at preferential terms) has evolved from certain market dynamics associated with the maturation of the hedge fund industry. Many of these managers are those who could work for a large multi strategy fund but prefer to run their own business. There is a third category of allocations to managers who give Boothbay / Ignition allocations due to pre-existing relationships even if not economically justified on an arm’s length basis.

**The investment strategy requires finding a diverse group of talented managers with non-correlated positive expectancy. In addition to niche oriented strategies, Boothbay believes there is an opportunity in non-exclusive relationships with emerging Hedge Fund managers. What dynamics exist in the portfolio manager talent market place that allows these managers to be “hired”?**

It is now particularly difficult for emerging managers to raise assets due to macro headwinds in the industry. In 2000, when Mr. Glass was at Intrepid, investors literally begged for capacity. Back then, new money flows into the industry were growing by high double digit percentages year over year. Today there is believed to be single digit percentage new flow growth rates. Additionally over the past 14 years, established incumbents have been created for most categories of portfolio managers. Institutional investors are unlikely to fire one manager to add another similar but smaller manager with a similar strategy. These dynamics have materially altered the supply demand equation for emerging manager capital raising.

In realization of this reality, many talented managers choose to go in-house at one of the large multi strategy funds such as Millennium. Others, for reasons that may or not make economic sense choose to launch their own funds. One of the reasons managers mention for launching their own funds is they do not want to rely on a single investor. A single investor changing his/her mind could destroy a business. Some are scared by recent events at SAC which bring about more single investor risk. Others just don’t like to feel they have a boss at this point in their career.

All these reasons create difficulties for emerging manager capital raising that Boothbay can capitalize on. Talented managers are generally willing to offer managed accounts (on a non-exclusive basis) as a means for creating asset growth. They are generally willing to do so at preferential terms (often in the vicinity of 0/15%) and with capacity rights (this is important, to avoid adverse selection of who allows you to keep these accounts once they have grown to a certain size). They generally prefer this arrangement to an alternative arrangement where they are forfeiting equity or revenue share to a seeder. Positively for our strategy, the same dynamics that effect the decision of portfolio managers to accept managed accounts, affect their willingness to manage money through a managed account, and often at adjusted structures allowing Boothbay to capture their alpha and not their beta. Others enter into First Loss deals as a way to grow AUM (or for other reasons). Essentially, one big advantage we have is the “open architecture” approach. Because we do not demand exclusivity from managers, we can hire managers whom we could not compete for on an exclusive basis. A subset of this is the First Loss platform which will be discussed later.

### **Why is Boothbay uniquely qualified to capitalize on this opportunity?**

Mr. Glass's unique well rounded background at a quant fund, a fundamental fund, and a multi-strategy fund are all essential to taking advantage of the opportunity. Additionally, since both business and operational alpha are crucial (to be explained later), the diverse experience of running financial operations and business operations is required in addition to manager selection capabilities. Additionally, Shane Burn has joined Boothbay to head up manager diligence and risk management. Shane is a long time industry veteran who has spent his career at both hedge fund firms and at Fund of Funds in an allocator role. He has been called on to speak at various conferences on manager selection, particular quantitative managers. His vast experience includes quantitative strategies, fundamental strategies and credit strategies. He is also skilled at looking at new and out of the box strategies. His experience materially enhances the Boothbay's manager allocation capabilities.

Boothbay believes there are four primary skill sets required to effectively run this model. They are sourcing of talent, performing due diligence and evaluating the talent, negotiating the terms on which the talent runs the money (discounted or first loss), and portfolio construction and risk management. Boothbay has experience, in some cases uniquely so, in each of these.

We have a tremendous industry network of unique and general sources, including prime brokers, executing brokers, lawyers, administrators, auditors, other traders, and other personal. Boothbay has built proprietary systems that aid in the risk management, portfolio construction and financial operations related to running this model. Boothbay has successfully negotiated contracts with dozens of traders and believe we have some unique IP in our contracts. Boothbay has an edge in recruiting First Loss traders to an otherwise commoditized product offering (we can discuss this edge offline). We have successfully gone through the onboarding of numerous traders across numerous prime brokerage relationships, of various kinds. We have built out our own FIX connections and API allowing systematic traders to trade through us more effectively, efficiently and economically. Given the very long lead time in developing the team and technology to be able to implement this model, Boothbay's nearly two and a half-year build-out represents a unique opportunity for seed investors to reap the benefits of millions of dollars of spending without the expense of it or time and uncertainty of waiting for it.

In addition to the portfolio manager selection alpha required to succeed, Boothbay adds significant alpha in what we call structural and business alpha.

### **What is structural alpha?**

Structural alpha is the value added to the positive expectancy by virtue of skills other than manager selection skills and portfolio construction. In addition to our abilities in portfolio manager selection, we believe that there are other alphas inherent in the structure that makes it vastly superior to other platforms such as fund of funds. For example, the structure of a multi-strategy fund (as opposed to a fund of funds) allows the use of an intelligent mix of capital-efficient and non-capital-efficient strategies. In other words, some managers have a capital efficiency advantage, others have higher risk adjusted returns but require more capital - when combined they provide strong risk adjusted returns with optimal capital usage. Many managers receiving allocations from traditional allocators into LPs have substantial portions of their portfolio sitting in cash. Another example is a situation where performing diligence on a manager and finding out that, while he does run with too much beta

for the model, he has continually generated non-correlated alpha in his book. We have been successful getting managers to run managed accounts for us that adjust the exposure level so we can keep the alpha capture while not taking the beta capture. This affords the benefits of non-correlation as discussed above.

### **What is business alpha?**

This refers to the way deals are constructed and the way managers are sourced. A certain percentage of managers are able to generate consistent alpha. From that cohort, many are unattainable because they are either running too much money to give us a managed account or they have gone in-house at one of the larger multi-strategy funds (such as Millennium or Citadel). It is important that we source talent in both traditional and non-traditional places. In addition to a wide network that has been built up over nearly 20 years in the industry, we have both traditional and non-traditional sources of referrals. We have relationships with various law firms, accounting firms, administrators, prime brokers, mini prime brokers, and brokerage execution firms, as well as a wide personal network enhanced by referrals from existing trading groups. We also collaborate with other groups that have similar business models and can share allocations when appropriate. In order to increase our sourcing relationships, we attend and speak at conferences and attend many industry networking events. This is the part of the alpha that is sweat equity as opposed to risk equity. Investors can get the advantage of value added from Boothbay's sweat (as opposed to returns generated solely from risk taken).

One of our greatest strengths is a true understanding of the micro structure of this segment of the talent marketplace. We understand where normal supply and demand for portfolio managers comes from and where to find mispriced or otherwise structurally overlooked investment talent. We have identified two primary places where the competitive forces are structurally not strong, but not for reasons related to performance expectations. They are in the niche or capacity-constrained strategies and in the category of non-exclusive earlier-stage manager opportunities. The traditional allocators don't like to allocate to small managers because, among other things, their small asset base leaves them susceptible to operational risk. Because Boothbay has a structure for investing in managed accounts, it can allocate to these managers without facing the normal operational risk associated with their infrastructure. This results in a structurally small amount of potential allocators in this space and more pricing leverage for us.

The opportunities are especially attractive in the emerging non-exclusive manager space. There are many talented portfolio managers who choose to have their own name on the door and not have one investor like Millennium or Citadel. It could be for ego or other reasons. Such managers need early dollars far more than they will need later dollars. We capitalize on that valuation differential. We have been successful finding managers who have turned down large allocations from the traditional large multi-strategy funds because they don't want to lose autonomy. As a result, we are getting talent that is offered higher payouts and more capital from the big firms, and we also have the benefit of having them run smaller asset bases, on which it is easier to generate better returns. Furthermore, a number of quantitative equity strategies are capacity constrained, and thus benefit from economies of scale being part of a larger account.

The emerging manager space is a structurally inefficient and untapped opportunity. Portfolio manager talents, who many expect to generate returns similar or better than their larger competitors, are often ignored for not wanting to take business or operational risk. As a result, they have little demand at this point and are willing to lock into giving up managed account capacity rights at materially discounted terms. If you are looking to capture return from portfolio manager talents and generally unconcerned with owning a piece of their business there is a reasonable amount of talent that can be sourced with the right combination of effort and relationships.

**What is the First Loss Platform? How much of this new vehicle is intended to be allocated to First Loss deals?**

In a first loss model, the portfolio manager typically puts up the first 10% of risk capital in exchange for getting a materially higher payout (50% on our capital) with greater frequency (monthly). While we give up upside on the trade (by virtue of a 50% payout versus an average of a 15% payout for emerging managers), if monitored correctly, generally losses should be avoided. In the platform, traders are stopped out when they hit a 9% loss. Risk is generally curtailed before stop outs are in danger of breach. It's called first loss but if done correctly should be "only loss." A principal of one of the competitive platforms has stated that he had allocated to over 180 traders on a first loss model over a five year period and never lost one trading dollar on any of them. We have invested heavily in technology and programming to monitor this risk and make sure we avoid losing money on the platform. Since Boothbay is running Freestone's platform and will not be competing, we are limiting the amount of exposure Boothbay will have in this platform to 49%. Realistically it should fluctuate between 20-40% in the early period, depending on opportunity. We have been pleasantly surprised by the direct and ancillary benefits of the model and more so by the quality of some of the managers that have come on the platform. Managers who might not be expected to join the platform do so because they need to show AUM growth or have such a high level of confidence in the risk profile of their portfolios. One of the major ancillary benefits of running the platform is being able to see even more manager flow.

In July of 2013, Boothbay took over investment management of first loss platform of Freestone Capital, a \$2.5 billion Seattle-based wealth management firm. The platform, now named Ignition Opportunity Fund, had previously been run by Topwater Partners, before they left to run the platform for Leucadia. After studying the model from the inside, we now have an even greater understanding of the micro structure of the talent marketplace and the different types of deals that can be made. The "mezzanine"-type structure is similar to buying nearly free calls with albeit higher strike prices. The upside/downside equation is quite positively skewed. We have recently been offering variations on this model as well. In some, managers take half the loss for a profit share somewhere between traditional and first loss economics; for others, we will pay out even higher if they pay a management fee for the use of our capital. They are all structurally additive.

This structure fits very well into a multi-manager, multi-strategy portfolio since they require similar financial operations and risk management systems to the ones previously built by Boothbay. These deals require a good understanding of capital-efficient models and non-capital-efficient models as opposed to how return on risk is viewed independent from return on capital usage.

On the Freestone platform, since we took over a portfolio with 14 managers, we are able to allocate to those managers on pari passu terms, instantly diversifying the portfolio and improving the expected risk/return characteristics of the entire portfolio. We believe in a flexible approach to terms with portfolio managers. Given the risk/reward characteristics of the model we would hope that 20-40% of the Boothbay fund would be invested in a diversified portfolio of first loss deals. There is no guarantee we will be able to continue to source managers for this.

We do currently have a dozen portfolios on the first loss platform and are at various stages of diligencing and onboarding another seven. We would hope to have approximately 20 by launch date in April.

A little explanation of how why we believe the first loss model is about as good of a risk adjusted opportunity there is. Many of the managers we bring on require little to no capital for us to run the portfolio correctly. We are currently onboarding 2 managers who require no capital at launch. This is for the following reasons: with a

large diversified liquid portfolio spread across numerous portfolio managers at each prime broker, we can get risk based financing allowing us significant margin. Given the unique structure of first risk loss transfer, it is a strategy that you do want to materially lever. An example is an equity trader that puts up \$1m to run a \$10m book. Some only run that book \$5m per side. In that case we can often get full financing from the prime broker and put down no capital making the ROI infinite. In an extreme where a trader runs 10/10, with us having a similar PB deal, we would only have to put up \$1m additional alongside the traders \$1m to get the full financing. If he is capable of a return of 4% on GMV or 8% (gross) on LMV ( a number we expect to be very conservative given that managers producing negative returns will generally count as a 0% return for purposes of calculating average return), he would make \$800k, of which we would keep \$360k. Given the \$1m investment we made it is a return on our capital of 36% (on a First loss account). That is an example where the trader uses a high level of Gross Market Value (GMV) per "box size". In situations where more typical ratios are done it is even a much higher expected return. The attached spread sheet illustrates this.

#### **First loss seems like such an excellent risk / reward profile. Why not do only first loss deals?**

It is an excellent structural alpha that allows a unique risk /reward profile to the investors. There are however practical limitations that require it be mixed with a non-first loss multi manager low correlation approach. Firstly, it is difficult to control the availability of first loss managers. They will come and go in an unpredictable way. It will be hard to match the capital to the opportunity in a predictable fashion. Secondly, one of the attributes offered to managers on the first loss platform is that portfolio managers can "Fire" the investor at any point in time. This too leads to unpredictable timing and ability to match to capital. In addition to the unpredictability of capital requirements that makes running a first loss only platform difficult to run efficiently from a capital perspective, on a first loss only platform, you would need to leave a significant margin cushion to cover margin calls associated with trading losses. While the trading losses would not accrue to the income of the investor, the fund would then be under margined for purposes of meeting its obligations to a prime broker. To account for this a significant cushion against trading losses needs to be left. For all of these reasons, first loss only platforms are very capital inefficient. In addition to this, in order to get the best overall margin arrangements with prime brokers, a more diversified and hedged portfolio is required. The types of non-correlated managers that exist on the "Milleniumesque" portion of the portfolio allow better margin for the First Loss part of the portfolio. More importantly, since the Millennium part of the portfolio is designed to run in a way that a 2.5% down month would be considered to be a very bad month, a significant amount of excess margin is always on hand to cover potential margin requirements on the other cross margined portfolios. The spreadsheet attached illustrates the benefit to expected returns achievable by having the right structure.

Another reason is that many managers doing these deals do run with some long bias. We do our best to have a good mix, but there is certainly tends to be more long beta in this portfolio. While this should allow us to capture a bit more upside, it also means that in down markets, while Boothbay should be protected from losses, we can have periods of dead money from some of these managers. The multi manager mutli strategy market neutral approach should allow greater opportunity for positive returns during these periods. Additionally, since we can generally add allocations on little notice to their managers, it allows us to stay fully invested in periods where first loss managers are not as plentiful. Another reason we feel both types of platforms are needed in one is that we want an open enough architecture that we can hire the best traders we can find without being limited by the types of deals we can offer. In some cases we will "graduate" some managers from the first loss platform to the other platform. They will all still be part of the same vehicle for our investors.



### **How much capital do we need and why?**

We are targeting \$75-100 million of assets under management. For all the benefits of running this model, it does require a significant infrastructure that conservatively costs approximately \$2 million per year to run. This number will increase over time, with a larger staff and larger assets, but this is the bare minimum. Since the fund bears the cost in order for the fixed costs to not exceed a reasonable amount, these semi-fixed costs need to be spread over a larger asset base. Also, and probably more importantly, assets need to increase in order to generally avoid any adverse selection bias in the managers on the platform. For example, we recently attended a capital introduction conference hosted by Wells Fargo. There were a couple of talented managers who would be great candidates for the platform, showing attractive records of 12-24 months with mid-teens percentage returns with low drawdowns, while running with a low net exposure and hence low correlations. These managers are running an average of \$35-40 million and are unlikely to take on a managed account for less than \$10 million, in some cases \$15m. As a result, assuming we will run with approximately 3x leverage per side (Excluding first loss portion of portfolio) and would want approximately 20-25 managers, real capital of \$75-100m is required in order to get most ticket sizes to meet these minimums. While the model works well with small individual positive expectancies, it works even better if the expectancies are a bit larger. We want to capitalize on the investment talent that could get larger allocations from other multi strategy platforms if they were willing to have one exclusive investor. While over time we have been able to find some quality managers early enough in their business cycle that they were willing take smaller managed account allocations, the universe of possible portfolio manager talent we can bring on to the platform only gets adequately expanded when we are allocating minimum \$10m - \$15m size accounts. To accomplish this we need a "Denominator" in the \$75-100m range. Of this total, the principal of Boothbay expects to invest \$20m. Additionally, pieces of the rest of the call are tentatively spoken for.

### **Why is this an excellent opportunity for an early stage accelerator investor? What terms are being offered?**

Despite the obvious benefits of the investment structure, very few such funds exist or have been attempted to be created. Over the past 5.5 years, there have been two substantial attempts at launching multi-strategy funds. They were Guggenheim Partners and Hutchin Hill. In the case of Guggenheim, the managing members have boasted that they spent \$25 million on infrastructure build-out. I have no doubt that a substantial portion of that was for the build-out of their grandiose offices in Purchase, which I visited during construction, and two high salaries of the two main managing members pre-launch and the significant payroll for many others during the two-year pre-launch period. They were also backed with \$500 million of initial investment capital and a promise of \$2 billion in total capital. The other new fund, Hutchin Hill, is run by Neil Chriss, a quant who worked at SAC and was backed by Renaissance founder Jim Simmons's family office. Reportedly, it was given \$350 million of startup AUM, but somewhere between \$15 million and \$20 million was put into the pre-launch and early-launch operating company.

In some respects, Boothbay has been working on its launch for 2.5 years. Over this time, employees were hired, sourcing relationships for new managers have been built, and we have built out operational infrastructure and risk management infrastructure. If explicit costs (e.g.- rent, salaries, data, etc.), are added to implicit costs (e.g. – principal compensation, as existed explicitly with the other platforms), then well in excess of \$10m has been spent in the build out. Unlike in those other seed deals, seed investors are not being asked to pay for this. The deal we are proposing would not pass these historical costs to the fund investors. Nor are the seeders who will have a share in the net revenues of the management company being asked to pay for this. Additionally, they are

also not then implicitly paying for the time value of money spent up front for the build out until such vehicle is ready to generate revenues. Seeders at Guggenheim and Hutchin Hill paid for these upfront expenses in addition to having to wait for the long time it took to get off the ground and start generating revenues. This is a unique opportunity to have equity in one of the few platforms of this kind, without having to pay for the usual expensive build out.

In addition to the unique benefit of the pre-launch costs that will not be passed through, there is a large benefit of the Freestone Ignition (First loss) relationship in that it is available for the new fund vehicle to invest in, and be immediately diversified in these strategies on day one. There are believed to be only two other large first loss platforms in the industry at this time; Topwater Partners and Prelude. It is not possible to invest in either of those platforms. One billionaire family realized the extremely asymmetrical risk / reward of the opportunity and took 100% of the current and future capacity of Prelude, thereby closing them to new investors forever. Topwater is backed by Leucadia and also to our understanding not open for outside investment. Others will certainly attempt to launch similar platforms but we believe the barriers are high to properly and efficiently run it. This is because it requires, reasonably expensive systems to properly monitor risk, and because it requires multiple portfolios at each of multiple prime brokers for the proper financing relationships required for best return profile.

#### **What are the terms of the acceleration class? What are the terms for the Founder's share class option?**

Despite the millions spent on pre-launch, and the years of pre-launch work being put into this, seed economics are being offered for the first \$100 million in investments. In addition to what we hope to be attractive, risk adjusted returns on the portfolio, investors in this tranche are to receive collectively 20% of the net income of the company coming from the non – seed investors. This is typical of Blackstone type seed economics. The standard terms we are offering for this seed investment are a 3-year lock at a 1% management fee and 15% performance fee. A lower performance fee and/or lock up can be chosen in exchange for different percentages. For example, investors could choose to lock up for 2 years at a 10% fee with no equity participation or 1 year at a 12.5% performance fee with no equity participation. We do want to make sure that a meaningful amount will be locked for a meaningful time, to ensure stability of assets. We are also hoping to establish a diversified investor base as each of the seed class investors will individually be incentivized to refer other potential investors to the fund. For those taking equity (or more precisely participation right in net income), there will be a negotiated sun set or buyout provision after an extended period of time.

We are confident in the model and our ability to execute on it. As such, if the initial investors draw down 7.5% from their invested amount, regardless of the lock up period, they can put in for quarter-end redemption with no penalty. We also understand that if we did start out with that type of a drawdown, barring very unusual circumstances, the odds of raising real capital go down materially.

#### **What is the expected timing for raising the capital and implementing a new fund launch?**

Given existing allocations and a strong pipeline, we believe we can have a full portfolio ready to go within 3-4 months of the date that all the money is committed. We have been sourcing and diligencing managers as well as cultivating sourcing relationships for over two years, and feel we have a strong pipeline. We have built out a systematic process-driven approach to sourcing, diligencing, structuring terms through intelligent investment management agreements as well as systems to help with portfolio allocation sizing and risk analysis. We currently have allocations to 17 managers. Of the 17 managers, some we consider "real" positions and some we consider "farm team" positions. Additionally we have 12 allocations on the first loss platform and are currently

at various stages of onboarding 6-8 more. A couple of them may need to be replaced. On the Milleniumesque side, we have a number of guys that we would consider adding if we had the \$100m in capital but they require a managed account significantly in excess of the size we could do today.

We would ideally like to officially launch a vehicle that is a hybrid of the “Milleniumesque” multi manager multi strategy and a “first loss” platform by April 1 or May 1. We are looking to have fully committed capital by February, allowing us to finalize the structuring of the portfolio and onboarding of portfolio managers and other structuring and logistical issues over the next 2-3 months. It is important to us that we do not go “live” with a track record until we have an optimal portfolio. We are confident that given how many allocations we currently have and the pipeline, that we can have it ready to go in this time frame. We would expect at that date to have exposure to a mix of approximately 15-20 managers in first loss deals and another 15-20 in traditional deals of which some would be full allocations and others would be smaller allocations. We would expect there to be a mix of systematic and low net fundamental strategies along with some out of the box, niche opportunities.

While most portfolio managers are on payouts that range from 13-16% based on Sharpe and Calmar ratios, and others at a straight 15%, we are prepared to have payouts that go even in excess of 20% in cases where VERY high Sharpe Ratios can be achieved. This is usually for a fund in capacity constrained strategies.

Additionally, the first loss traders typically get 50% payouts, though we are playing with variations off of those traditional structures as well.

The proposed standard fees at the fund level for non-seed / founders share class are as follows: A one year soft lock up with 1% management fee and a 15% performance fee and a pass through of trader related expenses as well as expenses to run the management of the fund, including audit, legal, technology, data, etc. We are aiming to keep the operating expenses to 2% of capital and towards that goal, we are willing to have the management company responsible for 50% of anything in excess of the 2% up to 1% of Aum in excess (this lowers management fees to a potential 50bps per annum).

#### **What is the longer term business plan?**

Over time, we expect to continue to add either niche or early-stage managers. Additionally, we will allocate via managed accounts to emerging managers who fit or are willing to fit our platform. The larger we get, the less impact niche strategies could have on our platform. However, the larger we get, the more managers we could start to have exclusively work for Boothbay. Additionally, the larger we get, the larger our average size allocation and the more potential talented managers will be willing to manage accounts for us. Additionally, larger allocations tend to bring more buying power to the table, which give greater pricing power for negotiations of terms. Realistically this model could grow significantly while still maintaining somewhat similar characteristics. Given the continued flow of new talent into the space, total fund capacity could grow reasonably big over time, but the larger it gets the less it could realistically have allocated to either niche or first loss strategies. Beyond that, it could still grow but its percentage in those strategies could decline. As the platform grows, Boothbay expects to have to increase headcount for the management company as well. Mr. Glass has run large multi-billion dollar hedge fund firms in the past and is very capable of selecting high quality non-investment personnel.

#### **What is the state of the current portfolio?**

On the First Loss side of the book, there are currently 13 portfolios totaling approximately \$350m of box size. Another approximately \$180-200m is expected to be added by April 1. This new entity will be entitled to 50% of the capacity. On the Milleniumesque portion, in addition to two first loss portfolios (whose contact initiation preceded the formal Freestone relationship), approximately 20 managers have been on boarded. Of these approximately 11 are quantitative strategies, 7 are fundamental long / short with low net exposure and 2 fall into a category best defined as niche. Of these we would consider 6-8 to be farm team investments, investments where we have taken a non-meaningful position in a manager that we have reason to believe could be very successful but would like to see more evidence before committing a larger allocation size. Some of them have looked promising and we have hopes of increasing in the near future. Additionally there are 4-6 strategies that we are hoping to onboard in the coming months that fall into the following categories. Lastly, there are 3 or 4 more strategies that we hope to onboard as soon as we are large enough to commit managed accounts sizable enough for certain managers to take us on, while keeping below a number that would cause us undue concentration risk. The current portfolio has been intentionally run in a non-optimal way from a couple of perspectives. One is that the primary allocation size has been determined by the minimum size that a manager would allow us to “warehouse” them for future use (allow us to invest with capacity rights). The second is that the number of “real”, non-farm team managers is below the minimum we feel is required to meet the necessary law of large numbers. We expect both of these to be corrected upon launch.

#### **Who is currently on the Boothbay Team?**

##### Ari Glass - Managing Member

Ari Glass is the founding partner and managing member of Boothbay Fund Management (Boothbay). Boothbay was founded in 2012 to manage capital both for a wealthy family and Mr. Glass’ proprietary capital. It allocates capital to non- correlated portfolio managers, via managed account. In July 2013, Mr. Glass and Boothbay Management took over investment management of Ignition Opportunity Fund, LP, a joint venture between Boothbay and Freestone Capital Management. This fund is a “First Loss” managed account platform. Mr. Glass is primarily responsible for manager sourcing, diligence and selection as well as manager/prime brokerage relationships. Both platforms allocate significantly to the emerging manager space and are often seen as an alternative to seeding opportunities for emerging managers.

Previously, Mr. Glass served as President of Paine Heights Management LLC, initially a part of Platinum Management (NY) LLC (“Platinum”). While at Paine Heights, Mr. Glass oversaw many of the company’s interests, including the management of a special opportunity hedge fund that invested in the SPAC marketplace and, through a subsidiary, advised on a transaction in the New Jersey Solar Energy sector. From 2007 through 2009, Mr. Glass was the President of (“Platinum”), where in addition to overseeing all non-investing activities; he shared responsibilities for asset allocation and risk management, including the selection of portfolio managers for Platinum’s Multi-Manager private investment funds. While President of Platinum the fund won two industry wards for Multi Strategy Fund of the Year. Prior to joining Platinum, from 2000-2007 Mr. Glass served as the Chief Operating Officer of Intrepid Capital Management (“Intrepid”), a \$2.5 billion hedge fund

organization, seeded by Soros Fund Management and spun out of Tiger Management. At Intrepid, Mr. Glass oversaw all non-portfolio related activities. In 2004, Mr. Glass launched Intrepid Associates, an affiliated entity that added fund managers to Intrepid's platform, including sector funds in the healthcare and global utilities spaces.

From April 1998 until August 2000, Mr. Glass worked as Chief Financial Officer at Vector Capital Management ("Vector"), a statistical arbitrage hedge fund in Norwalk, CT. Mr. Glass graduated from Queens College, with honors, with a B.A. in Accounting and Information Systems

#### Shane Burn – Head of Manager Research and Diligence, member of Investment Committee

Mr. Burn has over 20 years of experience on Wall Street. He was most recently a Managing Director at Lake Hill Capital. Prior to that he served as Chief Financial Officer at Titan Capital and Chief Investment Officer of Insana Capital Partners fund of hedge funds. Prior to Insana, he was a Senior Analyst at ACAM Advisors fund of hedge funds. Prior experience includes: Double Alpha Group where he was a senior trader and assistant portfolio manager in Statistical Arbitrage; [REDACTED] Morgan Securities where he was a Vice President in the Equity Derivatives Group; and Niederhoffer Investments, where he traded currencies, futures and options for the funds as a proprietary trader. Mr. Burn began his career in 1988 at Sanford Bernstein as a Portfolio Management Administrator for high net worth equity and bond portfolios. Mr. Burn has an [REDACTED] in Finance from the Stern School of Business at New York University, where he was a Leonard N. Stern Scholar, and an undergraduate degree in Economics from Johns Hopkins University.

#### Daniel Bloom - CFO

Daniel Bloom is the Chief Financial Officer and a Partner in Boothbay Fund Management. Daniel manages all non-investment related activities of Boothbay. From 2007-2011, Daniel was with Deloitte and Touche LLP in their advisory practice with a specific focus on the alternative investment management industry. He advised companies with their strategies as it relates to operations, technology and compliance. From 2004-2007, Mr. Bloom managed the operations at Altrinsic Global Advisors a \$7bn investment management firm that manages both long and long-short global equity portfolios. Previously, Mr. Bloom held various positions at Globeop, UBS and Alliance Bernstein. Daniel is a CPA in New York and graduated with honors from Yeshiva University.

#### Edgar Hajjar – Head of Programming & Development

Edgar Hajjar has twenty five years of experience in progressively responsible positions in both business and technology management. He has worked as a banker, trader, analyst as well as a software developer. He is highly skilled in department operations, and technology implementations. His background includes extensive understanding in managing corporate business and financial operations, establishing and directing technology programs, and leading IT and business functions. His background in finance and his technical knowledge allow him to develop and deliver multi-tiered applications that support both our operations as well as our traders. He has created several databases as well as applications that support daily operations, reconciliations, analytics,

historical market data management, automated stock borrow services as well as our proprietary trading platform.

#### Michael Lwin – Senior Quantitative and Risk Analyst

Michael Lwin earned his Masters in Financial Engineering from Baruch College having transitioned from an academic career in Applied Mathematics and Physics. At Boothbay, Michael works as an analyst developing statistical and database tools for risk assessment and portfolio allocation, as well as independent research in market phenomenon. Prior to joining the team at Boothbay, he interned at The CME Group (NY location) as a Settlement Analyst where he optimized preexisting code, automated data acquisition procedures across multiple platforms, and presented exotic derivative products upcoming on the exchange to the settlement team.

#### Freddie Richardson – Business Development & Investor Relations

Freddie Richardson joined Boothbay Fund Management in July 2013. He received his BSc in Biochemistry from The University of Leeds, England in 2011. Freddie is responsible for assisting in the firm's marketing, investor relations and business development initiatives as well as developing institutional prime broker relationships.

#### ██████ Rafailova – Junior Quantitative and Risk Analyst

██████ holds a Bachelor's Degree in Mathematics with a concentration in finance from Baruch College. She also studied Quantitative Methods, Banking & Finance, and German at the Zurich University of Applied Sciences in Switzerland. She also held an internship with the Wealth Management team at UBS, coordinating research and tracking merger and acquisition deals to offer financial services to new clients. ██████ joined as a junior analyst working closely with the quantitative team on various projects such a market research and operations.

### **What infrastructure has been created for this business? What has Boothbay built?**

#### Boothbay Systems

##### **1. Barracuda**

Barracuda is a broker neutral EMS (Execution Management System) designed to provide seamless access to trading destinations for the purpose of transacting orders via FIX (Financial Information Exchange). It is a windows-based stand-alone application.

The system supports 4 different ways of sending orders:

- A. Ticket Entry: Place an order through a ticket entry for all execution algorithms and DMA
- B. Csv file upload: Using a pre-defined template, create a csv file that will be manually uploaded to Barracuda. All orders are pre-validated to meet the necessary requirements.
- C. Database: Using stored procedures, orders can be staged in the database and later on sent to Barracuda for execution.
- D. API: Send orders and receive events for all types of executions.

##### **Benefits:**

Barracuda allows Boothbay traders to send large waves of orders throughout the day in high frequency to several destinations using different broker provided algorithms as well as DMA (Direct Market

Access). This allows Boothbay to accommodate high volume traders efficiently and in an expedited manner.

Barracuda's user's graphical interface allows traders to view their connections to brokers, live orders, cancellations, executions, and messages from exchanges.

## 2. **Cobra**

Cobra is a returns-based portfolio allocation and optimization tool.

- A. Mutable objective function allows portfolio managers to optimize allocations based upon any user-defined metric, e.g. minimal VaR, highest Sharpe.
- B. Constrained optimization functionality enables current contractual obligations to be reflected when optimizing allocations, thereby yielding a more realistic optimized portfolio.
- C. Models any gaps in trader's daily returns thereby addressing the issue of non-overlapping returns data.
- D. Can import via multiple formats (csv or MySQL database).
- E. Leverages R function libraries, all open-source and professionally peer-reviewed.

### **Benefits:**

This allows Boothbay to quantitatively analyze how different strategies interact thereby taking advantage of the correlation structure of the respective returns.

## 3. **Octopus:**

Octopus is a Middle to Back-Office trade management application used to manage the following:

- A. **Risk Compliance:** Allows for various parameters such as average daily volume, exposures, portfolio specific restrictions by asset class and can be configured to send real time e-mail alerts to the respective portfolio managers.
- B. **Allocations:** Supports allocations of trades to different funds by means of a specific ratio, taking into consideration start of day positions of each trader as well as managing the flagging of short-sales for compliance purposes. This allows our traders to seamlessly trade on behalf of multiple funds.
- C. **Report Suite:** Provides real time and historic performance analysis (Sharpe ratio, volatilities, etc.) based on buying power per strategy and fund. Also tracks historical exposure and buying power per strategy and fund.
- D. **Margin Requirements:** A set of tools allows Boothbay to track margin requirements by fund, by strategy, as well as keep track of all margin allocations and rebates.
- E. **Exports:** Send trades via a utility interface from its database to service provider's ftp location using different formats.

### **Benefits:**

This allows Boothbay to monitor strategies across asset classes and analyze the strategy's risk, performance in a real time fashion. This also provides data to perform allocation simulations for optimal performance structure.

## 4. **Reconciler**

A reconciliation tool that can reconcile Boothbay's internal records to various service providers as necessary. The tool provides custom templates that can be created from any 2 data sources, using an

interactive mapping tool that allows for aggregated data to be reconciled. Reconciliation can be done from single records to many records as well as many to many records.

Reconciler supports the following data formats:

- A. Database:
  - i. SQL Server
  - ii. MySql
  - iii. PostgreSQL
  - iv. Oracle
  - v. MS Access
- B. Delimited Text file
- C. Csv File
- D. Excel
- E. FIX

Exception reports can also be created and exported to show breaks for both cash and positions per strategy and per currency.

**Benefits:**

This tool limits the need to perform manual reconciliations and allows operations personnel to focus on just the exceptions.

**5. Global Stock Loan Manager (GSLM)**

GSLM provides traders the capability to request locates when shorting stocks both daily and intraday. The system manages transmitting requests for the whole firm and allocates available locates to traders depending on availabilities.

Locates can be requested in several ways:

1. Recurring: Daily recurring request
2. Database: Using stored procedures, requests can be built and sent automatically.
3. Excel: Using an excel add-on

Responses to requests are setup to notify traders by email and/or database.

**Benefits:**

This benefits high volume and high turnover traders with numerous short positions that require daily locates.

**6. Fix Communicator**

Fix Communicator is an application that listens to multiple FIX sources (brokers, prime, trading systems) and captures all fix messages (executions, fills, cancels, etc...) All data is stored to a database for reporting and analysis.

**Benefits:**

This allows Boothbay too see a real time view of its positions and its respective risk and performance

**7. Exchange Simulator:**



The Exchange Simulator is used for the purposes of vetting quantitative strategies; the simulator allows us to replay market data as well as run in real-time.

**Benefits:**

It allows Boothbay to independently verify the strategies under specific user defined fill assumptions.

**8. Automated Task Manager – ATM**

ATM is a tool that allows users to create several types of automated tasks to run on a set of frequencies (minute(s), hour(s), daily, weekly, monthly)

ATM supports creating tasks to do the following:

- A. Download/upload files from an ftp location
- B. Copy files from one source to another
- C. Run Transact SQL commands against a database
- D. Run batch jobs
- E. Start/Stop Applications

A user interface displays the statuses of all scheduled jobs, and allows the user to re-run specific tasks.

**Benefits:**

It allows Boothbay to efficiently manage operations by allowing for automated daily tasks to be performed. This eliminates operations costs and inefficiencies.

External Systems

**1. Nirvana:**

Nirvana is a tool that provides portfolio aggregation and risk compliance monitoring. The tool allows us to automatically aggregate all positions across all brokers while maintaining live profit and loss as well as risk compliance checking.

**Benefits:**

Nirvana allows Boothbay to have an automated consolidated view of all portfolios.