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Fund of Funds Global Adoption and Investment Administration Best Practice

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Fund of Funds are growing in popularity as part of the worldwide default structure of many collective vehicles for long term savings.

This whitepaper explores the different characteristics of Fund of Funds (FoF) and the FoF markets in the United States, United Kingdom and Australia. It sets out the challenges in managing and rebalancing FoF and the role of automated investment administration software in reducing the operational risk and increasing efficiency in FoF.

This study is particularly relevant for senior product, marketing, and investment administration staff in the funds industry and at Life and pension firms, asset managers and wealth managers offering FoF's.

1 Background

1.1 Objective



The purpose of this whitepaper is to answer the following questions:

What is a fund of funds ("FoF")?



What is their purpose?



What institutions provide access to FoF?



What are the key issues arising in the management of FoF?



1.2 What is a FoF?



A FoF is generally an open-ended collective investment scheme (a "Fund") which invests in a portfolio composed of shares or units of other Funds, let's call them Building Block Funds ("BBFs"), rather than investing directly in stocks, bonds, or other securities.

The legal structure of the FoF and/or the underlying BBFs, e.g. US mutual funds, UCITS/OEIC's in Europe, Managed Investment Schemes in Australia, unit-linked life/pension funds in the UK, is not particularly relevant for this discussion.

The BBF's may be funds from the same investment manager or may be funds from multiple investment managers. In the latter case the FoF is called a "multi-manager" fund.

1.3 What is the Purpose of a FoF?



The reason for creating a FoF is that it gives the fund sponsor great flexibility in the following areas:



It's easy to change the asset allocation of the FoF, e.g. reduce equity exposure and increase bond exposure.



Replacing a poorly performing asset manager managing one of the BBFs is easy, e.g. sell the units in the equity BBF held by the FoF and buy BBF units in an equity fund managed by high performing manager.



Switching between passive and active managers is easily achieved.



Reduce transaction costs as few assets required versus direct investment.

1.4 Alternatives to FoF



In theory a 'Balanced fund' holding equities, bonds, properties etc. in the same proportions as the FoF could achieve the same result as the FoF. This balanced fund could have the different asset classes managed by different asset managers with segregated asset management agreements.

Setting up a FoF is much cheaper and easier to administer than a Balanced fund as the FoF is only likely to hold a small number of BBFs, i.e. units in an equity BBF, a bond BBF, a property BBF etc. whereas a Balanced fund may have hundreds or thousands of individual equities, bonds etc.

Given these cost differentials it is only possible to setup a Balanced fund for funds with large amounts to invest, say a minimum of USD\$100m. This is particularly true if the Balanced fund wants to use multiple external asset managers which reduces the amount allocated to each segregated manager (in which case the minimum fund size might need to be USD\$500m if there are five different asset classes to be managed).

All investors in the balanced fund must follow the asset allocation of the Balanced fund manager and hence there is no ability to flex the asset allocation to meet the needs of different investors. Setting up individual FoF's for each institutional investor's requirements is possible with FoF for much smaller fund sizes.

Moving from passive managers to active managers in times of market stress is possible with a FoF but more difficult with a Balanced fund.

The FoF structure simplifies asset management by separating asset allocation from individual stock selection.

Historically FoF's were deemed to be high cost methods of gaining exposure to a balanced portfolio of assets but this has changed with the availability of low cost ETF's and 'clean' share classes of institutional funds being used as the BBFs.

With the availability of both technology to manage FoF's and low cost BBFs the all-in-cost of managing FoF's is similar than that of managing a typical Balanced fund but FoF's provide much greater flexibility.

1.5 Which Institutions Offer FoF?



The institutions offering FoF are mainly those managing long term savings for retirement, i.e. asset managers, life assurance companies and superannuation funds in Australia.

The private equity and hedge fund industries also offer FoF but these are not the focus of this whitepaper.

In the US market the most widespread type of defined contribution plan is the 401(k) plan. Most 401(k) plans offer a package of FoF's which are called Target Date Funds ("TDFs"). At 31-12-2019 it's estimated the total AUM of 401(k) plans invested in TDFs was USD\$2.3 trillion.



Target-Date Assets Surge to New Highs...



A TDF is a fund that automatically rebalances its exposure to different asset classes over time. It generally starts with a large exposure to higher risk growth assets such as equities and property when the investor is younger and rebalances to a higher exposure to lower risk income yielding assets such as bonds as the investor approaches the target date of their retirement. TDF's offer investors the simplicity of both investing their retirement savings in a single TDF and not having to revisit asset allocation decisions every year.

A TDF with a target date of say calendar year 2060 might start the equity BBF at 80% of the TDF value and the bond BBF at 20% of the TDF value and rebalance the allocations over the period to 2060 so that the equity BBF is 10% of the TDF value and the bond BBF is 90% by 2060. This rebalancing occurs automatically in the TDF. In the US TDF's are normally in 5-year bands, e.g. 2021-2025, 2026-2030...

TDF's greatly simplify administration of occupational pension plans for the trustees and administrators. The alternative approach is to have every member of the plan invest in say five funds to create an age appropriate asset allocation. The holdings in these five funds must be rebalanced for every member every year and the new contributions have to be allocated in different proportions each year. The trustees must write to each member to explain the rebalancing and redirection of new contributions each year. All of this member administration is eliminated when TDFs are used which reduces cost and potential errors in member administration.

The other alternative of putting the majority of members of all ages into a default/balanced fund does not appear to be appropriate investment advice for pension plan members.



In the UK the National Employment Savings Trust ("NEST") (setup by the UK government to facilitate auto-enrolment of employees into a defined contribution occupational pension scheme) has a TDF for every future year of retirement – see: <https://www.nestpensions.org.uk/schemeweb/nest/aboutnest/investment-approach/nest-retirement-date-funds.html>

Nest Retirement Date Funds



NEST uses a range of collective funds from external asset managers for its BBFs. The annual management charge/total expense ratio for its funds is 0.3% p.a. – see: <https://www.nestpensions.org.uk/>

Fund Factsheets



In the UK, life assurance companies offer FoF (sometimes called Blended Funds) to meet the specific needs of occupational pension schemes. Some of these companies also offer TDF's similar to NEST.

The trustees of occupational pension schemes will generally use employee benefit consultants to advise them on a suitable blend of assets to meet the specific liabilities of their pension scheme (these may be defined benefit or defined contribution schemes).

The employee benefit consultant will then work with a life assurance company which will create a FoF specifically designed to meet the liabilities of that pension scheme. In some cases multiple FoF's will be created to meet the different needs of different members of the same scheme. The employee benefit consultant can not only specify the asset allocation for each FoF but also the asset manager for the BBFs.



In Australia all Superannuation schemes (these are defined contribution occupational pension schemes where the employer currently contributes 9.5% of salary for each member) offer their members a range of FoF, generally called Investment Options funds.

The Investments Options funds are a mix of balanced funds with varying degrees of risk from high risk to low risk. Some offer their members the ability to pick their own funds from the range offered but the majority (c90%) of superannuation members are invested in the medium risk balanced fund option. The Australia Superannuation schemes don't appear to offer the TDF concept.

The Investment Option funds are FoF which invest in sector level funds. The sector level funds are the broad asset classes, e.g. equity funds, property funds, bond funds etc. Each sector level fund is a FoF which will invest in specific asset class funds, e.g. the equity sector fund will invest in a multiple equity funds, e.g. a US equity fund, a European equity fund etc. Each equity fund, e.g. the US equity fund, may itself be a FoF as it may have multiple portfolios where each portfolio has a different asset manager or may invest in a range of external collective investment funds or some combination of both.

The AUM in Australian Superannuation schemes (excluding public sector schemes and schemes with less than five members) at 31-12-2019 was AUD\$1.5 trillion (USD\$1.1 trillion) is typically managed in this 4-layer FoF structure.

2 Challenges Managing FoF



In this section we will discuss the typical daily tasks in the investment administration operating model for a FoF and the potential complications which can arise.

Any FoF sponsor who wishes to manage this process efficiently and with minimal operation risk will need technology which specifically addresses these challenges.

The FoF structure described below is a simplified version of one typically used by UK life assurance companies offering FoF for the occupational pensions market (a similar model is used by some US life companies). This simplified version has two layers in the life company's internal FoF structure, i.e. the parent FoF and the child BBFs.

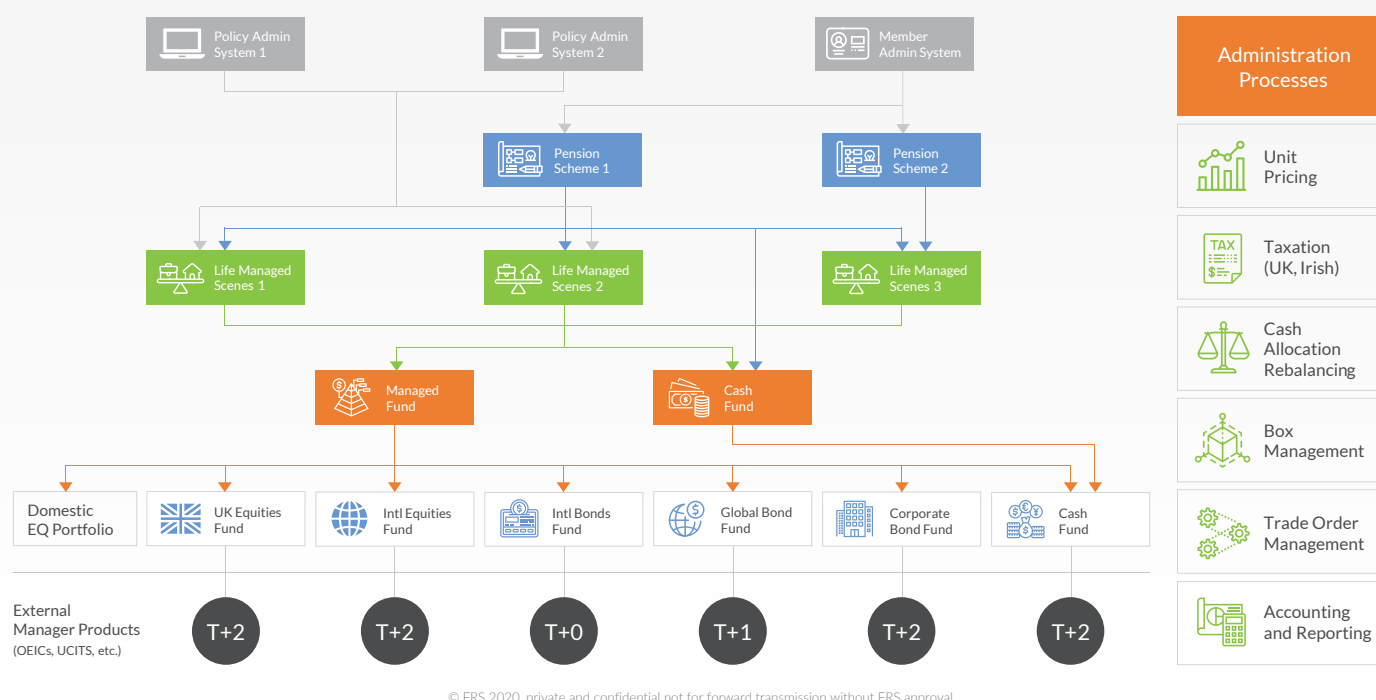
The child BBFs invest in external collective investment vehicles. Generally each child BBF invests in a single external collective investment vehicle. These BBFs are sometimes called 'mirror funds' or alternatively called 'external fund link' funds.

Most UK life companies which offer this service will have more than two layers in the FoF hierarchy with some having up to ten layers. At the top of the fund hierarchy the life company may also manage the portfolio holdings of the various pension schemes which invest into the FoF structure.



2.1 Daily Investment Admin Operating Model

Typical Fund of Funds Structure



The typical daily process in the investment admin operating model has the following tasks:

- 1 The FoF will normally receive an aggregate subscription /redemption order from transfer agency systems, pension member admin systems and/or life company policy admin systems ("CRM systems").
- 2 This order will then be converted into multiple orders, i.e. one for each child BBF, based on the target allocation for the new money and any deal decision rules in the parent FoF. Any fund rebalancing required will also be determined at this stage. These orders will be placed with the child BBFs prior to the valuation points for the child BBFs.
- 3 The child BBFs will determine how much to trade based on the deal decision rules in the BBF and will then place their orders in the marketplace prior to the valuation point for the child BBFs.
- 4 Each child BBF will then be valued using the value of the assets held by the BBF at the valuation point and the unit price of the BBF will be determined. This unit price will be used to calculate the unit price of the parent FoF and also to determine the number of units to be allocated to the parent FoF in respect of the new money order placed earlier in the day.
- 5 The unit price of the parent FoF will then be sent to the CRM systems. The CRM systems will allocate units to the individual investors using this unit price and send the parent FoF the number of units allocated/deallocated and the corresponding cash subscription/redemption amount.
- 6 The parent FoF will create units corresponding to the units created/cancelled on the CRM systems and receive the corresponding cash subscription/redemption amount. The parent FoF will then buy/sell units in each child BBF corresponding to the order placed and transfer the corresponding cash to the relevant child BBF.
- 7 Each child BBF will then confirm and settle the orders it placed in the market using the cash received from the parent FoF.

2.2 Challenges Arising in the Operating Model







Step 1 – Import New Money Orders

This step of importing aggregate orders into the investment admin system from the CRM systems needs to be an automated process. This process should validate the incoming data to ensure it is for the right date, is in the right format, has the correct number of records etc.

Step 2 – Determining orders for child building block funds (BBFs)

The investment admin system will hold target asset allocation rules for new money indicating how the new money will be split between the child BBFs. These target asset allocations may be fixed percentages, may be based on the current actual asset allocations or may be based on a schedule of target asset allocations in the case of a TDF.

Before deciding how to allocate the new money between the child BBFs the investment admin system may need to take account of the following parameters:

-  **Existing cash – any existing cash in the FoF will probably be added to the new money flow.**
-  **Pending/Confirmed orders - any cash in respect of pending orders from prior days that have not been confirmed and any cash in respect of confirmed orders that have not settled will also be taken into account.**
-  **Accruals – the FoF may have accrued charges which the FoF manager wishes to deduct.**
-  **The FoF manager may have Min/Max liquidity rules whereby the FoF holds a min/max percentage of the fund or currency amount in cash each day.**

In this step the investment admin system will also determine whether any rebalancing is scheduled to be carried out and if so will determine the buy/sell orders in each of the child BBFs to give effect to this rebalancing. The different rebalancing methods are discussed in more detail below.

Once the amounts to order in each child BBF has been determined, taking into account the new money flow from the CRM systems, the target asset allocations, the various order adjustments and any rebalancing flows, the investment admin system will place the required order in each child BBF.

Note that it is essential that the parent FoF places the orders with the child BBFs prior to the valuation point of each child BBF. This is to ensure that each child BBF can in turn place its order into the market prior to the valuation point for the external collective fund into which it invests. This process guarantees that the valuation point for the unit price of the FoF which is used to allocate units on the CRM systems is the same as the valuation point at which the underlying assets in the market were purchased by the BBF's. If this were not the case the existing unitholders in the FoF would be affected by the new unitholders entering on that day and would breach the 'equity in unit pricing' principle.

Step 3 – Determining orders for the market

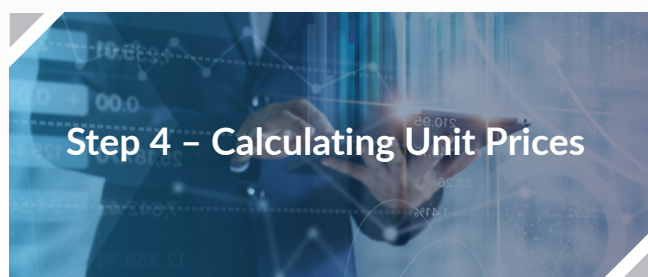
This step is similar to step 2 but applied at the BBF level. The BBF itself could be a FoF so the same approach will apply.

In this step the orders will be placed in the market using some automated order routing system(s) and electronic confirmations will be received from the same automated order routing system(s).

One challenge in this step is that different child BBF's held by the parent FoF may have different 'confirmation delays'. Consider the case where a UK domiciled parent FoF is invested into 2 child BBFs where the first BBF invests in a UK OEIC fund and the second BBF invests in an Australian collective fund. An order placed by a UK BBF to buy a UK domiciled OEIC will generally be executed and confirmed on the same day (provided the order is received before the valuation point of the UK OEIC). In this case there is no confirmation delay. The second BBF which places an order today in, say, an Australian fund will not get that order executed until the following day due to time zone differences (business hours in the UK is the middle of the night in Australia). In this case there is a 1-day confirmation delay.

The FoF will need to ensure that the order for the UK OEIC and the order for the Australian fund execute on the same day (this is required to meet the equity in unit pricing principle). Hence, the order for the Australian fund will need to be placed today and the order for the UK OEIC fund will need to be delayed for 1 day. This will mean that the unit prices for the 2 child BBFs of the parent FoF will not be available until the following day and hence the unit price for the FoF will be similarly delayed. The units allocated to investors on the CRM systems will also be delayed by a day.

These order confirmation delays can occur due to time zone differences, differences in operating models at different investment management companies and also due to different countries having bank holidays on different days. Managing these confirmation delays in complex FoF structures is not a trivial undertaking and requires robust technology solutions.



The unit price of the child BBF's and the parent FoF may be calculated externally by a fund administrator or calculated by the internal investment admin system.



The unit price of the parent FoF will be sent to the CRM systems. The CRM systems will allocate units to the individual investors using this unit price and send the parent FoF the number of units allocated/deallocated and the corresponding cash subscription / redemption amount.

There are various reasons why the actual cash subscriptions / redemptions may not exactly match the previous order amounts, e.g. the CRM systems may have estimated the value of units to be sold at the previous unit price and this value has changed based on the latest unit price. This results in a mismatch between the amounts ordered and the amounts now available to settle the order and hence this will leave the FoF with excess cash or an overdraft (the "Cash Mismatch").

If no box position is taken the process of managing the Cash Mismatch is a challenge for the fund sponsor as this will 'gear' the fund, i.e. it will reduce the FoF's performance relative to its benchmark in a rising market and vice-versa in a falling market. Fund sponsors will seek to minimise this gearing and will require appropriate technology solutions to achieve this.

If a box position is taken this will also present challenges as the fund sponsor will want to monitor and generally minimise its market risk related to those box positions. This again will require appropriate technology solutions to achieve this.

Another complication here relates to rebalancing. The rebalancing orders at the FoF level were based on estimates of the value of the BBF holdings using the latest unit price. This unit price has now changed so if the rebalancing flows were based on the latest unit price this would give a different set of orders to those already sent.



If the sponsor of the FoF is also the sponsor of the BBFs (as we are assuming in this example) then the sponsor has a choice as to whether to hold the Cash Mismatch at the FoF level or at the level of the child BBFs.

If the latter the parent FoF will buy/sell units in each child BBF corresponding to the order already placed plus a proportion of the Cash Mismatch and transfer the corresponding cash to the relevant child BBF. The BBF will then settle the order in the market for the amount it placed (as it cannot backdate a market order) and will hence have some cash or an overdraft. The cash/overdraft will gear the BBF unless some box positions are taken at the BBF level.



Each child BBF will then confirm and settle the orders it placed in the market (or in lower level funds in the FoF hierarchy) using the cash received from the parent FoF.

3 Rebalancing Considerations

3.1 Background



Each FoF will have a target asset allocation for its holdings in the BBFs. Over time as the unit prices of the BBFs change by different percentages each day the actual asset allocations will drift away from the target asset allocations. To resolve this issue the FoF will be 'rebalanced' back to its target asset allocations either at some specific frequency, e.g. monthly/quarterly, or when an actual asset allocation for one (or more) of the holdings exceed the target asset allocation by a specified tolerance, say 3%. Some companies may rebalance using a combination of frequency and tolerance settings.

For TDFs rebalancing will automatically occur based on a pre-defined schedule of target asset allocations.

3.2 Intelligent/Smart Rebalancing



A key consideration when deciding to rebalance is whether the transaction costs associated with rebalancing justify the benefit of rebalancing and whether it is possible to eliminate these transaction costs.

In the example above the BBFs may incur dealing costs in placing an order in the market, settlement costs to settle it and may incur dilution levies or bid/offer costs in dual priced funds. These costs are indirectly borne by the FoF as they impact the performance of the BBF.

One method of eliminating or minimising these rebalancing costs is to use what is referred to as 'Intelligent' or 'Smart' rebalancing. This Smart rebalancing uses the cash inflows/outflows to the FoF to adjust the actual asset allocations of the BBF to bring them closer to the target asset allocations. Using this approach may eliminate the need to rebalance frequently, i.e. at the end of the month, and will also minimise the need for a 'tolerance' driven rebalancing, thereby reducing transaction costs.

For example, say the FoF has a target asset allocation in three BBFs, A, B and C of 50%, 30% and 20% respectively and over time these target asset allocations have drifted to 46%, 33% and 21%. Using Smart rebalancing an inflow to the FoF could be directed solely to BBF A to bring its weight closer to 50% (and hence reduce the respective weights of BBFs B and C).

Similarly, a cash outflow would be used to sell some of the holdings in BBFs B and C. In this case different approaches could be taken, e.g. first use all the outflow to eliminate the overweight holding in BBF B and then if there is any unused outflow use this to minimise the overweight position in BBF A. An alternative is to proportionately reduce the holdings in BBFs B and C with the cash outflow.

3.3 Suspended/Soft Closed Funds



Some funds at the BBF level may become suspended for various reasons, e.g. in the UK and Irish markets many property funds have been suspended for at least 6 months. If such a fund is one of the BBFs held by the FoF then the FoF will need to manage this suspension.

For example say the FoF has a target asset allocation in three BBFs, A, B and C of 50%, 30% and 20% respectively and BBF C becomes suspended for a period of time. In this case the technology managing the FoF structure would need to recognise the suspended BBF C and change the target asset allocation in BBFs A and B to 50/80 and 30/80 respectively during the suspension.

Some funds at the BBF level may be 'soft-closed', i.e. closed for inflows but open for outflows. Again the technology needs to be able to automatically handle this situation once a BBF is marked as soft-closed.

3.4 Rebalancing Summary



Any institution managing rebalancing in complex FoF structures will need a technology solution which can implement frequent rebalancing, tolerance rebalancing, combinations of frequent and tolerance rebalancing, Smart rebalancing (including the different flavours of Smart rebalancing) and suspended/soft-closed funds.

3.5 Conclusion



Well managed FoF are an efficient way to industrialise pension offerings around the world. They can also simplify the message to pensioners by packaging products where the rebalancing takes place "under the bonnet" and members stay in the same fund until retirement.

As Governments globally continue to make pension savings mandatory, we are likely to see more FoF so it is important to learn from their widespread use. The clients of Financial Risk Solutions (FRS) have been managing their FoF on the Invest|Pro™ software system for 21 years and throughout that period FRS have created some very elegant solutions to meet complex problems as the landscape evolved. We are very happy to share our knowledge of this area with the industry in order to play our small part in encouraging best practice universally in the management of FoF's.

About Financial Risk Solutions Ltd (FRS)

With over 20 years delivering Investment Administration software, Financial Risk Solutions Ltd (FRS) is a trusted technology partner to life assurance, wealth and asset management firms worldwide. Led by an expert team of actuaries, compliance and IT specialists, clients license FRS software to help navigate the ever-changing challenges of growth, regulatory pressures and competition in the industry.

The award-winning* InvestPro™ platform is relied on by blue-chip financial services and BPO clients to reduce operational costs, increase efficiencies and mitigate risk in the manufacture and management of investment products. More than 150,000 funds are managed on the Invest|Pro™ platform today.

Delivered on-premise or cloud-hosted, Invest|Pro™ securely automates multiple complex fund administration processes including unit-pricing, cash allocation and rebalancing; oversight and validation of operational activity performed by outsourced partners; and in Europe monitoring and reporting for PRIIPs, KID requirements, and Pillar III asset reporting for Solvency II.

FRS is part of the Constellation Software Inc. group and headquartered in Dublin, Ireland, with offices in London, Hong Kong and Sydney.

For more information visit frsltd.com or follow FRS on LinkedIn at www.linkedin.com/company/frs-ltd



Peter Caslin is the CEO and a founder of FRS, Peter is a Fellow of the Society of Actuaries in Ireland.

*2020 - GRC Product of the Year - Asia Risk.Net Awards, 2019 - Best Solvency II Tech Solution - Insurance Asset Management Awards, Pensions Technology Provider of the Year - Irish Pensions Award, 2017 & 2018 - Tech Firm of the Year - Insurance Asset Management Awards, 2016 - Tech Provider of the Year, Governance Risk and Compliance - Risk.Net Awards.



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