Your guide to implement and onboard Fundwave

This guide helps you and your implementation teams get the most of Fundwave with limited interruptions. The brief is an exclusive resource to get you up and running with your business critical data on Fundwave.

Questions? Reach us:

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1. Stakeholders

a) **The fund administration team.** Arguably, the internal fund administration team is the most important stakeholder as the project is intended to improve its capabilities. The ultimate ownership of the project resides with this team.

b) **Clients.** Clients are directly impacted by the reduction in errors and the increase in performance of the fund administration team. Many clients require reporting standards such as those set by ILPA and are available on Fundwave. Some clients may be willing to pay higher administration fees for an automated management of their funds.

c) **Internal IT.** The heroes behind the scene who will ensure that the system runs a smooth operation. The service delivery team ensures an optimal running environment for the system, and works together with Fundwave support to resolve any technology related issues.

d) **Fundwave.** The software vendor, who is also responsible for offering all support defined in the support agreement.

2. Benefits

Fundwave's solution extends to the business processes of your organization that have continued to be under only a limited purview of IT and risk controls.

You may already have a generic or a specialized accounting solution, but your team still has to rely on manual processes for allocations, fund operations and reporting. In the status quo, these problems remain unsolved:

1. Mistakes are easy to happen, but hard to trace.

2. A review process just can't be patched in to the workflow

3. Your most important business logic is trapped in excel formulas.

4. Every client with a variation in fund structure requires work from the ground up.

Fundwave solves this by offering a configurable platform where it is easy and inexpensive to configure according to the need to clients. Amongst a host of other features, Fundwave offers:

1. **Instant allocations.** By easily defining excused investors of an asset, there is no need to create a spreadsheet grid of each investor mapped to an asset with an allocation ratio.

2. **Process Workflows.** A four eyes check is integrated within Fundwave, so that after a user with the role of 'initiator' creates a deliverable, a user with the role of 'approver' can approve before any data is sent out to clients.

3. **Management Fees, Equalizations and Carry.** Management fees, equalizations and carry calculations have continued to evolve with fund structures. It is very likely that your team manually calculates these numbers on spreadsheets that differ for every client. With Fundwave, you'll get these calculations for each LP, and a lot more, at a tap of a few buttons.

For more information about the features of the product, go through other product materials that can be requested by sending an email to sales@getfundwave.com.

3. Risk

Implementing Fundwave helps your organization reduce its operational risk. According to a SEC report, over half of private equity firms allocate expenses and collect fees inappropriately (http://on.wsj.com/1lW6tY7). We believe that one of the causes could be a manual fund administration process. This quick example below highlights a very common use case associated with a manual process.

Example: A Notice to Nobody

Manual processes are so common in the PE fund administration that not even the largest of PE fund houses are immune to errors. A typical error almost everybody has faced is sending capital call notice to an outdated email address. This happens because the fund administration team didn't update their contact excel sheet from their CRM system before sending out a new notice. Unfortunately, there is little internal IT can do to reduce these manual process errors, even though the client impact and reputation loss is significant.

Fundwave helps reduce operational risk by:

1. **Reducing your dependency on individual employees.** Complicated spreadsheets that lack documentation make knowledge transfer harder for employees.

2. **In built 4 eyes check.** All deliverables pass through a 4 eyes check, ensuring greater transparency and accuracy of your processes.

As with any system implementation, you must remember to consider the associated technology risks. Here's a brief overview of risks related to system availability, data confidentiality and integrity:

System Availability

System availability could be compromised by an underlying cause in your network infrastructure. As long as your internal systems are firewalled and only allow internal access, your risk exposure is limited to those who can access your network internally.

Some of the measures that could improve the system availability are:

1. Limiting access to the Database Server to Application Server only.

2. Limiting access to Application Server to authorized clients only.

Within Fundwave, we manage the system availability risk by:

1. Limiting upload size of files.

2. Throwing timeout exceptions.

3. Comprehensive exception handling.

Confidentiality and Integrity

Data confidentiality and integrity could be compromised by an underlying cause in your network infrastructure or a malicious attack targeted towards Fundwave application. Here are some important attacks against which Fundwave has inbuilt security mechanisms.

1. SQL Injection Attack.

2. Cross Site Scripting Attack.

3. Man in the Middle Attack.

The impact of a risk in either category can be multiplied by other factors such as the timing of the incident. Fundwave's enterprise customers can request for a detailed evaluation of risk impacts in the context of their business processes by contacting their named support contact or Technical Account Manager (TAM).

For the sake of brevity, this document limits to the above mentioned risks. For a private implementation, you must also manage risks related to underlying platforms and all other risks not specific to the Fundwave application. However, as long as you're under our maintenance contract, you will continue to receive application specific security updates as a part of a continuous threat prevention process.

4. Team

The Fundwave implementation has little overhead when compared to traditional enterprise software implementations. You could get started and running without the need of extensive implementation time. We recommend the following roles be fulfilled for any Fundwave enterprise implementation:

1. **Project Owner.** The project owner is the internal champion of the project. This role is typically filled by the head of the business division whose revenues and costs are impacted by the system implementation. Typical designations for the project owner include COO, CFO, Head of Fund Administration, Managing Director, Director, Vice President etc.

2. **Project Manager.** The project manager is responsible for the timely execution of the project internally. The project manager co-ordinates with the project owner, service delivery manager, business analyst and end users. In many instances, the project owner may assume the role of a project manager.

3. **Business Analyst.** The business analyst is tasked with ensuring that the end users are on board with the project and that the technical specifications of the product are appropriately communicated to the Service Delivery Manager. The Business Analyst interacts regularly with Fundwave to schedule priority of new features and recommends implementation phases to the Project Manager.

4. **Service Delivery Manager.** The service delivery manager ensures that all the technology related requirements of the project are met and an environment is available for smooth operation. The service deliver manager will raise support tickets and work closely with the Fundwave support team or the assigned Technical Account Manager when an incident occurs.

5. **End User from Fund Administration Team.** No project is complete without end users who lead the onboarding of the software. At least one member of the fund administration team must join the core implementation team to offer inputs and feedback for upcoming features. This person is also responsible for further user training.

6. **Fundwave's Implementation Team.** Fundwave's enterprise clients can avail the services of Fundwave's implementation specialists. The Fundwave team will perform the installation of the software, provide initial support and offer training and materials to encourage the use of the product. The Fundwave team will be in regular contact with the above listed members to ensure a timely and pleasant implementation experience.

Depending upon your organization's structure and its defined processes, a single person may assume multiple roles or additional roles may be required.

5. Scale & Performance

One of the largest drawbacks of a manual fund administration process is the lack of scale. For every new client, the fund administration team has to go through the arduous task of re-evaluating their existing policies and formulas to ensure adherence to the new requirements. This limits the ability of the team to scale, and often, proportionate staff and resources must be deployed to handle additional business.

On the other hand, Fundwave is an extremely scalable system that grows with your business and allows you to take on new business without the need to deploy as many resources.

Just How Scalable is Fundwave?

We're living in an environment where Private Equity fund structures are evolving rapidly. Increasingly, new Private Equity and Venture Capital funds have variations from traditional structures, making it harder to scale the fund administration business.

Fundwave was built in consideration to these challenges. You can define different financial calendars, investor and investment account types and management fees & carry policies on a configuration screen. Quite simply, Fundwave enables growth without the growing pains.

On a technical note, you will still have to take account of the increasing number of funds and users on the system and upgrade your hardware accordingly. The minimum system requirements released by us will get you started with up to 2 parallel sessions.

As the number of users grow, either move the application server and database to a server hardware with higher specs, or upgrade your current server hardware. Fundwave enterprise clients are welcome to request an optimal hardware quote by submitting their target usage.

Measuring Performance

It is the decision of the Service Delivery Manager to assign appropriate hardware specs that balance performance against cost of hardware. To achieve an optimal efficiency, we

recommend studying the following metrics:

1. Network Latency to Database.
2. Response time from Database for a standard query.
3. Time to generate a standard report through user interface.

In a real life scenario, Fundwave runs with minimal resources and is lightning quick compared to traditional enterprise web software (reports are generated in seconds). You are unlikely to face any significant performance issues because of the application itself (you may still face server or network related issues).

Just How Quick is Fundwave?

Private Equity clients are increasingly facing the challenges of a stronger regulatory framework and increased power of Limited Partners. It is not an exception, but the norm to have different policies, exclusions from assets and reporting requirements for different limited partners. A manual process is extensively time consuming when performing the usual tasks of allocations, investor closes, and management fees & carry calculations.

Fundwave was built in consideration to these challenges. While a manual fund operation for sending capital call notices could take about 2 days for an average fund, Fundwave allocates, generates and emails reports in minutes!

6. Maintenance

Fundwave's enterprise customers can choose between its Standard Support and Premier Support offerings. A feature comparison of the support plan is as below:

Feature Comparison	Standard		Premier#
	Private Implementation	*FundCloud*	
Free Upgrades	✔	✔	✔
Self Help Resources	✔	✔	✔
Online ticket creation	✔	✔	✔
Availability	24 * 5	24 * 7^	24 * 7^
Response Times$ (L1 / L2 / L3 / L4)	8 / 16 / 24 / 48	8 / 16 / 24 / 48	4 / 8 / 24 / 48
Named Contacts			1
Senior support engineer first response			24 * 5
Warm handoffs			24 * 5
Phone Support			24 * 7^
Development Escalation Priority			✔
Onboarding and Environment Familiarity			✔
Post Incident Report Requests			✔

\# Standard maintenance must be current for all products.
^ On weekends, response is limited to only L1 issues.
$ Hours

7. Cloud Implementation: FundCloud

If you do not have the resources or do not wish to set up and maintain a Fundwave installation locally, consider *FundCloud*, our software as a service offering on cloud. We can run and maintain your installation of Fundwave, handle all the testing, monitoring and upgrading processes for you.

While *FundCloud* is the fastest way to get started with Fundwave, the following should be considered while deciding between *FundCloud* and a Private Implementation:

Single Sign On

Do you use a third party authentication provider such as Google Apps for Business, or do you use Active Directory or LDAP internally? If the answer is the latter, you must be able to offer Fundwave a secure access to your authentication server in order to use Fundwave's '*Single Sign On' feature* on *FundCloud*.

Integration

In the scenario you are using other systems internally, such as a CRM or accounting software that must be integrated with Fundwave, a *FundCloud* implementation will only work if a secure access to those systems is provided.

Threat Perception

Have you been a target of computer based attacks in the past? If you are using internal systems to monitor your network with an elevated level of security, it is recommended that you choose a Private Implementation.

It is possible to run FundCloud in a virtual private cloud environment and connect it through VPN with your multiple data centers globally. Please contact us for more details regarding the required configuration for your data center gateway.