MARKETNODE

Fundnode

From efficiency to new business models:
Funds market infrastructure 2.0

APAC's DLT powered FMI

Jun 2024

Table of Contents

MARKETNODE

Background and introduction

Singapore remains a leading international financial centre in Asia, with S$4.9 trillion of discretionary and advisory assets under management (AUM) in 2022[1]. To strengthen and maintain Singapore's position as a full-service international fund domiciliation and asset management hub, several national initiatives are underway to develop supporting financial market infrastructure and developing market-leading capabilities.

The Monetary Authority of Singapore's (MAS) refreshed Financial Services Industry Transformation Map (ITM) 2025[2] outlined five key strategies for Singapore. These include: i) enhancing asset class strengths, ii) fostering a skilled and adaptable workforce, iii) catalysing Asia's net-zero transition, iv) shaping the future of financial networks, and v) digitalising financial infrastructure.

Within funds, the need to improve funds settlement infrastructure and processing was validated as a key need by the Singapore Funds Industry Group (SFIG), an industry group co-chaired by MAS and an industry representative, bringing together stakeholders across the entire asset management value chain.

In August 2022, Marketnode was announced as the operator for Singapore's fund settlement infrastructure on blockchain, Fundnode, which has subsequently gone live in Q2 2024[3].

On the back of industry demand, Fundnode standardises and streamlines fund messaging and processing. Furthermore, tracking the lifecycle on a common ledger provides a single source of truth for transactions and record-keeping. Through Fundnode, participants experience shorter settlement times, reduced errors, and streamlined workflows.

Through this white paper, we hope to share our experiences and address three key questions:

1. What are some considerations when building a national level market infrastructure?
2. Besides efficiency, what other pain-points could a new infrastructure alleviate?
3. How can this new infrastructure enable new business models?

[1] https://www.mas.gov.sg/publications/singapore-asset-management-survey
[2] https://www.mas.gov.sg/development/financial-services-industry-transformation-map-2025
[3] For more information, please visit: https://www.marketnode.com/fundnode

Anchoring Singapore as APAC's wealth manufacturing hub

We define the terms digitisation and digitalisation as:

- *Digitisation:* The act of converting analog information into a digital format (e.g., mp3 music formats, etc.)
- *Digitalisation:* The act of using digitisation to enable creation of new business models (e.g., music streaming platforms, etc.)

The table below illustrates some examples of digitisation versus digitalisation, and we note that the journey typically starts with efficiency and time-to-market gains followed by new business model creation thereafter.

In general, new business models tend to leverage: i) the ability to hyper-personalise at scale via process efficiencies (e.g., customised recommendations based on individual preferences, etc.) and ii) capitalise on the changing dynamics enabled by lowered barriers to entry (e.g., cheaper distribution for content creators, etc.).

	Books	Entertainment	Funds
Digitisation	Easier storage	CD, DVD players	Fund settlement efficiency
Digitalisation	Kindle e-reader	Netflix, Spotify	On-demand manufacturing

Table 1: Examples of digitisation versus digitalisation

We believe that a new national level infrastructure for funds must both extract value from digitisation and lay the groundwork for new business models enablement via digitalisation.

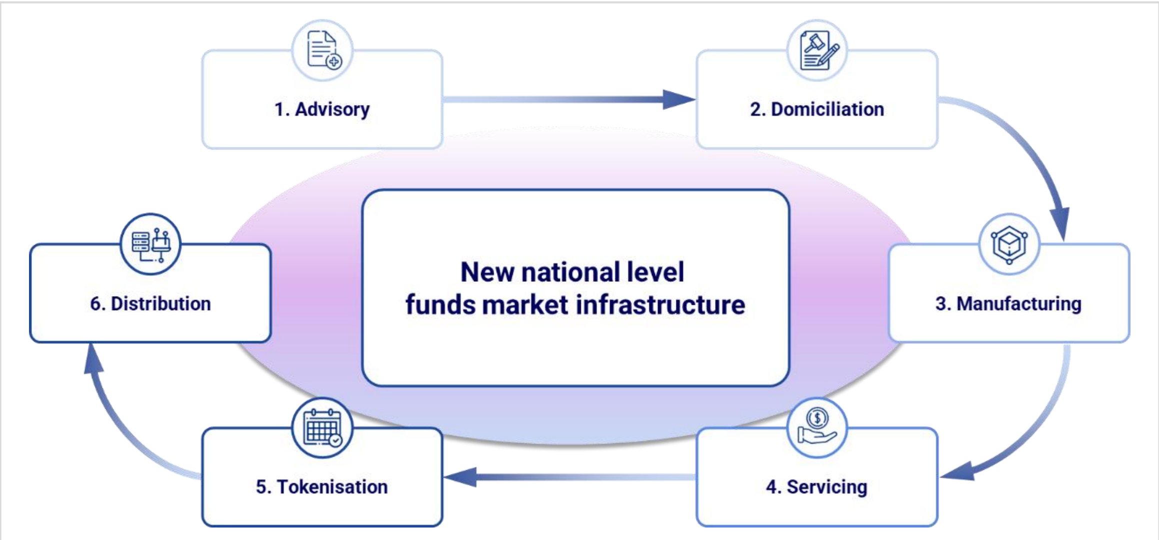

Figure 1: Core funds market infrastructure 2.0 components

Other key initiatives in Singapore

Alongside the push to develop and digitalise financial infrastructure, two key national initiatives represent interesting opportunities, namely the i) Singapore Variable Capital Company (VCC) structure[4,5], and ii) Project Guardian[6].

Singapore Variable Capital Company (VCC) structure

Legislated in 2020 and administered by the Accounting and Corporate Regulatory Authority (ACRA), the Singapore VCC is a new corporate structure for investment funds constituted under the Variable Capital Companies Act, complementing Singapore's suite of investment fund structures.

The variable capital structure provides flexibility in the issuance and redemption of shares and allows for dividend payments out of capital. VCCs can also be set up on a standalone or umbrella fund basis, each holding a portfolio of segregated assets and liabilities, and are feasible for both open-ended and closed-ended fund strategies. Foreign corporate fund structures can also be inward re-domiciled to Singapore as a VCC.

As of October 2023, a total of 969 VCCs have been incorporated or re-domiciled in Singapore for various use cases and fund strategies, representing 1,955 sub-funds managed by 544 regulated fund management companies.

Project Guardian

Launched in 2022 by MAS, Project Guardian is a collaborative initiative between policymakers and the financial industry to enhance efficiency and liquidity of financial markets through asset tokenisation .

Under the Asset and Wealth Management track, various pilots are underway to evaluate the feasibility and potential benefits of fund tokenisation. For example, Franklin Templeton and UBS Asset Management are exploring the issuance of tokenised money market funds, whilst Schroders and Calastone are looking to record an investment portfolio directly onto the blockchain.

[4] https://www.acra.gov.sg/business-entities/variable-capital-companies
[5] https://www.mas.gov.sg/publications/singapore-asset-management-survey
[6] https://www.mas.gov.sg/schemes-and-initiatives/project-guardian

Supported by next-generation funds market infrastructure, these initiatives have the potential to cement Singapore as the preferred one-stop hub for advisory, fund domiciliation, manufacturing and servicing and tokenisation in Asia-Pacific and beyond.

We suggest some potential value propositions and business models below:

For fund managers

- Ability to execute highly individual asset allocations and themes, at scale
- Manufacture funds or investment vehicles on demand, at scale
- Access to both 'digitally native' and traditional formats

For distributors

- Distribute bespoke hyper-personalised portfolios, at low costs
- Streamlined settlement cycles and workflows
- Seamless distribution into both 'digitally native' and traditional venues

Fundnode: What and why?

A key design principle at Marketnode is to actively solicit feedback and co-create in partnership with the ecosystem, which includes fund managers, distributors, service providers, and intermediaries.

Some key challenges outlined by the industry were:

	Long settlement times	*Settlement times remain long at T+8 to T+10, whilst cash products are moving to T+1*
	Manual workflows and reconciliations	*Highly manual workflows requiring co-ordination across multiple user interfaces and parties, leading to intensive reconciliation efforts*
	Reliance on faxes and emails	*Reliance on 'old school' technologies without much process improvement and digitisation*
	No structured data standards	*No established industry standards for communication between distributors and service providers*
	Operational staff bottlenecks	*Difficult to scale current operations without hiring additional operational staff*

On the flip side, several game changing trends have emerged[7,8,9,10,11,12]:

New fund formats: Rise of digital share classes to support and distribute tokenised real-world assets (RWAs), which saw Blackrock's $BUIDL and Franklin Templeton's $BENJI, collectively manage ~US$800 million AUM to date

Personalised portfolios: Increasing use of digital platforms to serve hyper personalised portfolios, such as JP Morgan's acquisition of 55ip to power a 16-fold increase in its separately managed accounts segment AUM

Fresh demand for alternative investments: Rethinking alternative investments allocations to instead become a core portfolio pillar, which saw Blackstone's strategic push to expand their private wealth business in Asia and JP Morgan Asset Management's partnership with iCapital

How can we solve today's challenges with a view towards tomorrow's solutions?

[7] https://securitize.io/learn/press/blackrock-launches-first-tokenized-fund-buidl-on-the-ethereum-network
[8] https://www.franklintempleton.com/about-us/our-teams/specialist-investment-managers/digital-assets/digital-assets-technology
[9] https://dune.com/21co/tokenization-government-securities; *Accessed 23 May 2024*
[10] https://reports.jpmorganchase.com/investor-relations/2023/ar-ceo-letter-mary-callahan-erdoes.htm
[11] https://www.asianinvestor.net/article/blackstone-plans-to-expand-private-wealth-business-in-asia/495611
[12] https://icapital.com/newsroom/press-releases/j-p-morgan-asset-management-partners-with-icapital-to-expand-private-market-offerings-to-private-wealth-investors-in-apac/

Case study on digitisation: Today's challenges

Today, nearly 80% of Singaporeans invest in some kind of financial product[13], with Collective Investment Schemes (CIS), or mutual funds, forming a large part of their portfolio mix. Singaporeans can use their cash savings, Central Provident Fund (CPF) monies, or Supplementary Retirement Scheme (SRS) monies[14] to invest into mutual funds. In Singapore, the size of CIS funds stands at around S$100 billion[15].

Challenges in the current system

Whilst some parts of the investment process have been modernised (e.g., online investment platforms, mobile apps, etc.), others still use legacy infrastructure. Further, the end-to-end process requires an extensive network of bilateral relationships and communications.

For example, in the case of a CPF subscription workflow, investors can subscribe to funds with a click of a button. These electronic orders are then converted into physical faxes, before being faxed back and forth for further processing by the fund houses and their agents.

This 'spaghetti problem' leads to many of the key challenges identified in the previous section, such as long settlement times, need for intensive reconciliations, amongst others.

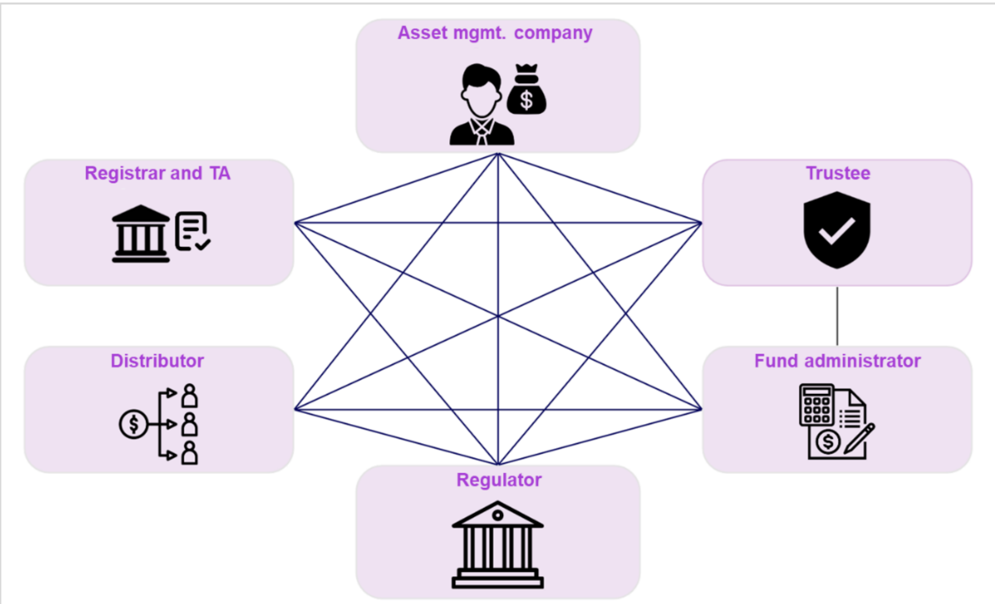

Figure 2: 'Spaghetti problem' with multiple networks and diverse communication protocols

13 https://www.businesstimes.com.sg/companies-markets/fewer-singaporeans-able-spend-beyond-basics-and-more-are-short-emergency-funds
14 The Central Provident Fund and Supplementary Retirement Scheme are savings and pension plans for working Singaporeans and permanent residents in Singapore
15 https://www.mas.gov.sg/publications/singapore-asset-management-survey

The solution: Centralised funds market infrastructure

To address these challenges, Fundnode has been developed as a centralised funds market infrastructure connecting all funds ecosystem participants. We note that this model has also been successful in other markets such as Indonesia's S-INVEST and South Korea's Fundnet, to highlight a few examples.

Today, Fundnode enables seamless digital workflows, standardises messaging and communications, and is compatible with all three funding avenues (i.e., cash, CPF monies, or SRS monies).

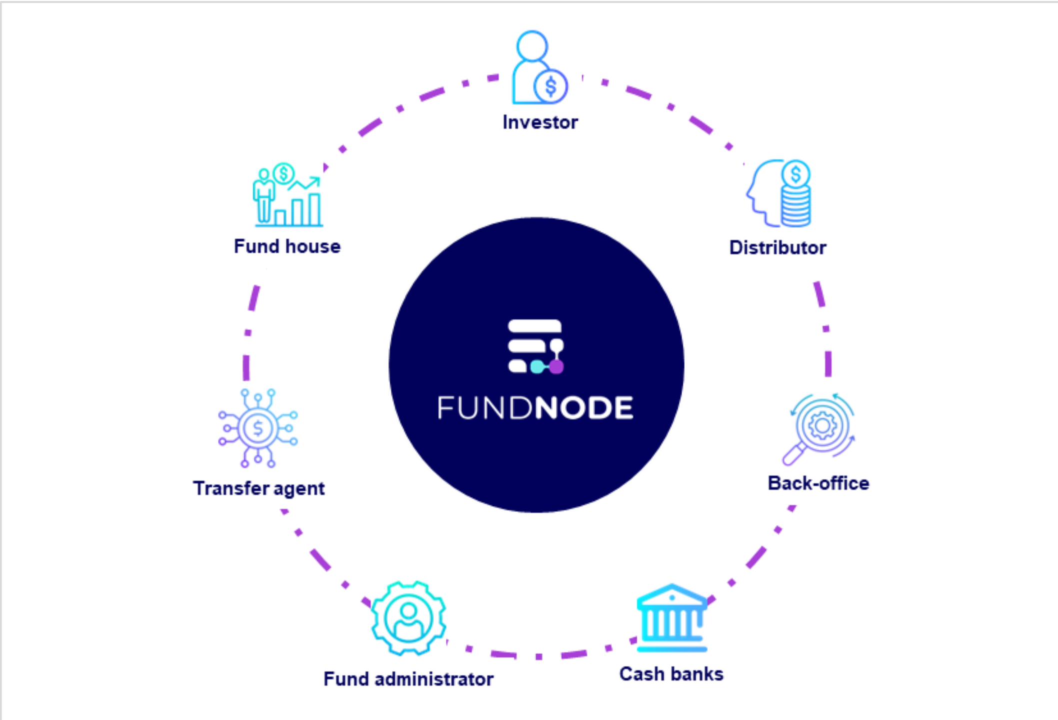

Figure 3: Centralised funds market infrastructure, Fundnode

In May 2024, Fundnode successfully went live with our first phase, with straight-through processing and settling of fund cash orders for our network of on-boarded participants. Over H2 2024, Fundnode will enable processing for fund orders paid with CPF and SRS monies.

Key benefits experienced via Fundnode

- *Reduced settlement times:* By streamlining and digitising the order placement process, Fundnode reduces the settlement times for fund orders from T+7 to T+2, enhancing liquidity and agility
- *Elimination of manual workflow and reduced reconciliations:* By replacing the manual fax-based system with a digital platform, Fundnode minimises the risk of errors and reduces administrative costs
- *Improved data consistency:* By leveraging a unified infrastructure architecture, Fundnode ensures that investor holdings information is consistently and securely maintained

Moving from digitisation to digitalisation: Tomorrow's solutions

Fundnode has also been designed to be future ready and future proof. We present below our phased approach to move from digitisation to digitalisation:

> *Phase 1:* Create comprehensive infrastructure to support a target operating model
>
> *Phase 2:* Enable multi-format (e.g., VCC, collective investment schemes, etc.) and multi-venue distribution models (i.e., traditional, digital, hybrid, etc.)
>
> *Phase 3:* Build out distribution networks through partnership with traditional incumbents and non-traditional distributors (e.g., Web 3 native venues, etc.)

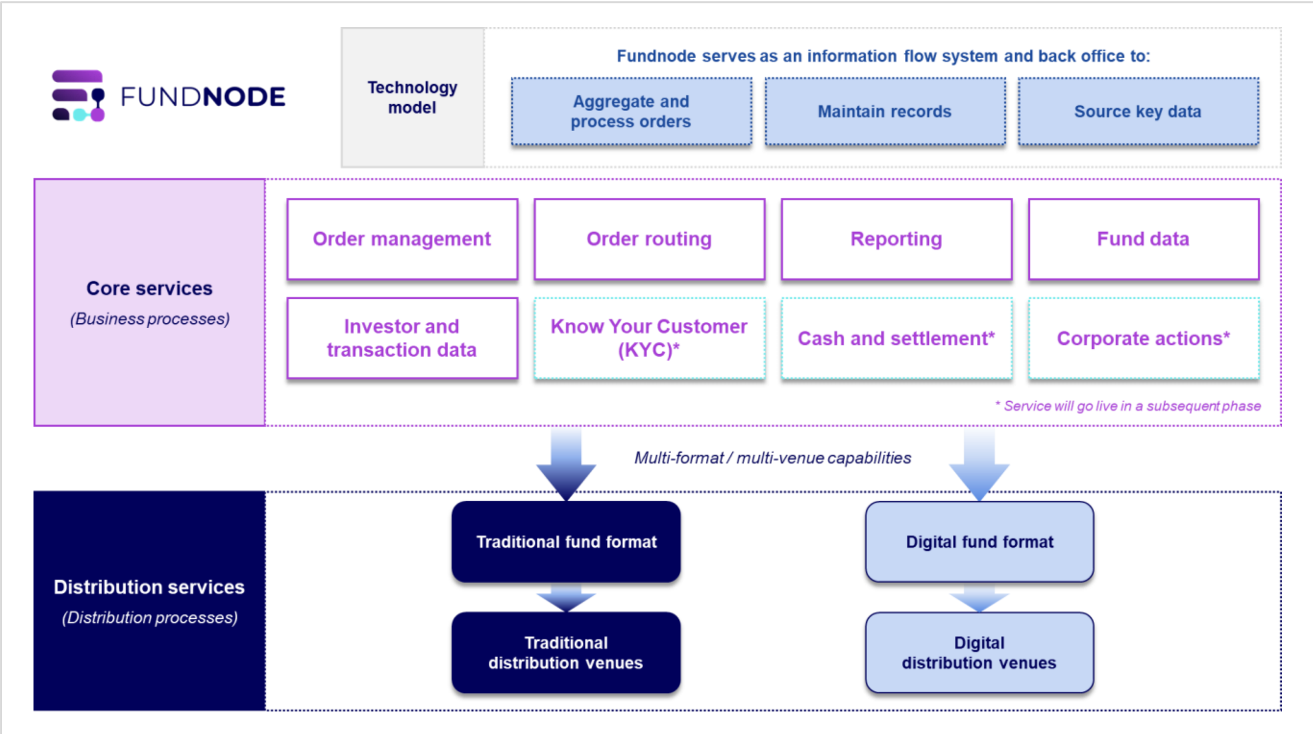

Figure 4: Fundnode's end-state: Multi-format, multi-venue

Closing thoughts from the industry

To close, the Marketnode team has invited selected industry participants to provide their thoughts on Fundnode and the future of funds market infrastructure:

"Fundnode is an advanced industry infrastructure that is also a strategic imperative for Singapore. We see it not just solving legacy ways of doing things, but to also create new value and benefits from its transformative potentials that would then cascade through the market to elevate cost effectiveness, efficiency and competitiveness."

Chan Boon-Hiong
Industry Applied Innovation Lead and Head APAC Market and Technology Advocacy, Deutsche Bank Securities Services

"CIS investors in Singapore are demanding more from the industry. Shorter settlement cycles, lower risk, lower costs and greater efficiency. Fundnode has the potential to address these demands through the use of DLT to standardize practices, remove unnecessary bottlenecks and streamline the processes to create an immutable book of record. State Street is excited to be a participant and we look forward to helping our clients navigate the changing landscape."

Kevin Hardy
Senior Managing Director, CEO of Singapore and Head of Southeast Asia, State Street

Closing thoughts from the industry, continued

"As a distributor, we engage multiple entities – each with its own processes and data formats – for fund collection and trade placements for our clients. Additionally, it takes up valuable time and resources. Fundnode is able to provide a unified approach to streamline these tasks, thereby reducing the time and resources required for trade placements and settlements. By using blockchain technology, Fundnode also offers transparency and facilitates the integration into our current business processes. PhillipCapital currently distributes funds for over 40 fund houses, and this increased efficiency will ultimately benefit our clients."

Luke Lim
Managing Director, Phillip Securities,
Brokerage and Wealth Management Arm of PhillipCapital

"As the Co-Chair of the Funds Subcommittee between 2019 and 2021 at the Singapore National Market Practice Group, we are happy to see the Fundnode vision turn into reality. Marketnode is well poised to digitise and create value for the funds ecosystem. I look forward to our continued collaboration as Fundnode delivers both improvements in customer experience and operational efficiencies for fund ecosystem participants. Wishing you the best as you make progress in the digitisation journey in Asia-Pacific."

Rajeev Tummala
Head of Digital and Data, Asia and MENA, HSBC Securities Services

Conclusion

As a global gateway and connector of financial markets, Singapore continues to forge ahead through offering excellent infrastructure, continuously deepening asset class strengths and leveraging technology to unlock new economic value.

To keep up with the evolving business of asset and wealth management, we believe both a next-generation funds market infrastructure and the right ecosystem will be needed to stay on top of the game. Indeed, much like the creation of new business models through digitalisation (i.e., Uber's ride-sharing, Spotify's content as a service, etc.), industry partnerships and collaboration remains key for execution. Whether the future is tokenised, or otherwise, we are ready to support you!

About Marketnode

Marketnode, founded by SGX Group and Temasek, is Asia-Pacific's trusted and neutral digital markets infrastructure operator. At Marketnode, we operate two flagship platforms, Gateway and Fundnode.

Gateway is a one-stop, end-to-end platform enabling market participants to accelerate workflows, lower time to market, and capitalise on the transformative potential of tokenisation. Fundnode is Singapore's investments fund infrastructure on blockchain, providing the funds ecosystem with a single platform for transaction management, funds processing, and record-keeping.

For more information, please visit www.marketnode.com.

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