



Regional Cross-border Fund Transaction and Standardization of Back-Office Infrastructure

Nov 8(Tue) 2016, APAC SMPG meeting in H.K

Asia Fund Standardization Forum (AFSF)

An Initiative of the ACG New Business Initiative Task Force

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Fund market integration in Asia and three key factors

1-1. What is happening in Asia's fund markets?

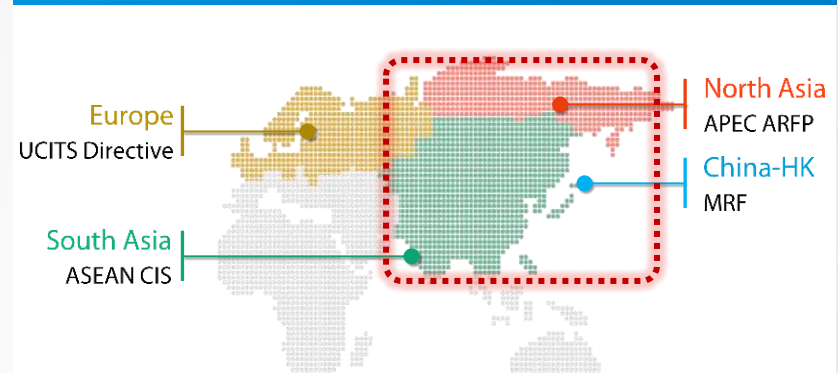
- While **cross-border fund flows are on the rise**, Asia's fund markets are being integrated on the back of **three fund passport schemes** (APEC ARFP, ASEAN CIS, China - Hong Kong MRF).

Number of cross-border fund trading worldwide



*source : PwC, ALFI Annual Report 2015

Initiatives for fund market integration



1-2. Three key factors to consider for cross-border fund transactions

- Thorough preparation and attention are required** for the following three factors in order to ensure smooth and efficient cross-border fund transactions.

1. Legal/Regulatory Framework

Compliance of relevant laws or common regulatory arrangements, alignment of regulations between markets, investor protection mechanism, etc.

2. Tax

Tax reform, resolution of tax discrimination between economies and double taxation, etc.

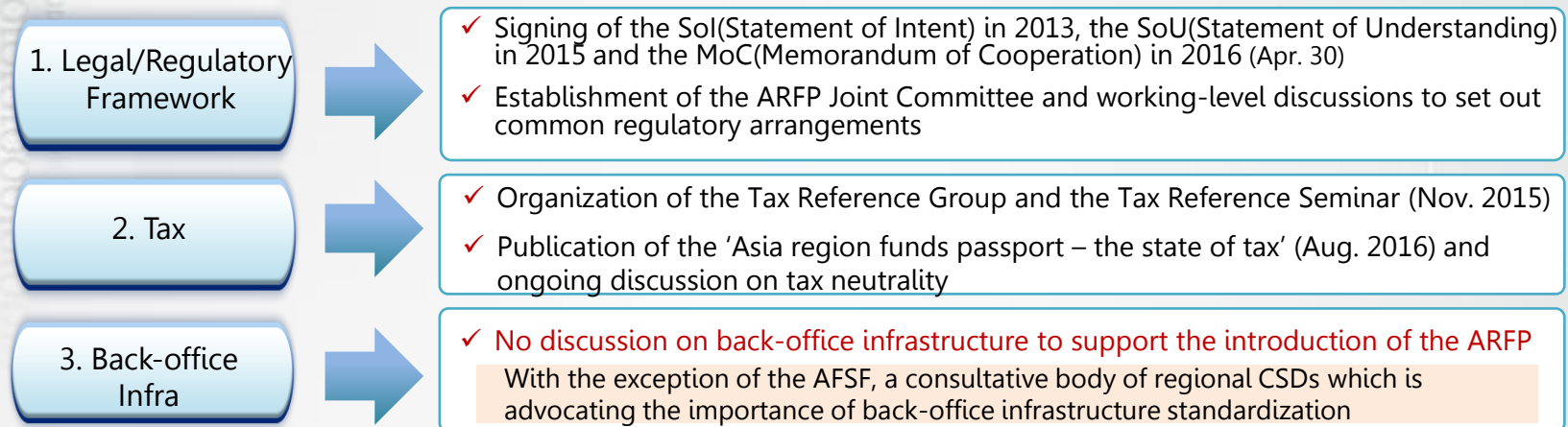
3. Back-office infrastructure (Custody, Clearing and Settlement)

Standardized and common set of fund data, uniformity of order execution and deposit for fund trading, low- cost and high-efficiency processing system

1 Fund market integration in Asia and three key factors

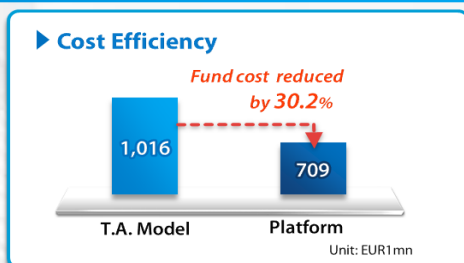
1-3. Progress of the ARFP on the three key factors for cross-border fund transactions

- Although there are efforts undertaken to address issues under legal/regulatory framework and tax in order to prepare for the launch of the ARFP, no discussion has been initiated for back-office infrastructure such as custody, clearing, and settlement.



1-4. The need to promote an integrated back-office infrastructure for the ARFP

Transaction cost before and after the infrastructure for UCITS was developed



The case of UCITS illustrates how the development of an integrated back-office infrastructure promotes the efficiency of intra-regional fund transactions.

Such back-office infrastructure can streamline the transaction process, cut costs, and eventually bring financial markets in the region closer together.

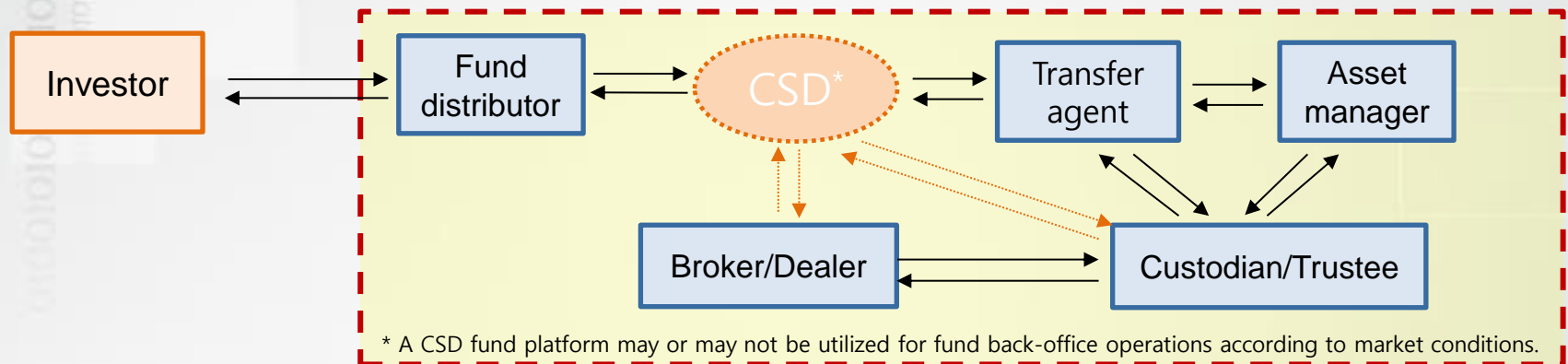
*source : CSSF, Clearstream analysis report, KPMG SCG analysis

2 The “back-office” operations of the fund market

2-1. Definition of back-office operation for fund transactions

- **Fund back-office operations** refer to all the administrative activities that follow an investor’s buy/sell order with a fund distributor, including order execution, recording of fund balance, settlement, management of fund assets, etc. between market players (fund distributors, TAs, AMs, Custodians/trustees, etc.).

<General scope of back-office operation for fund transactions>



- **Subscription & redemption service of funds** constitute a core part of fund back-office operations.

Fund subscription & redemption service

- ✓ (Service overview) Service that supports administrative work of fund market players for the subscription and redemption, when a fund is bought or sold based on the investor’s request.
- ✓ (Service breakdown) Order routing and confirmation for subscription/redemption, settlement, balance management, NAV calculation, implementation of corporate action, data storage, etc.

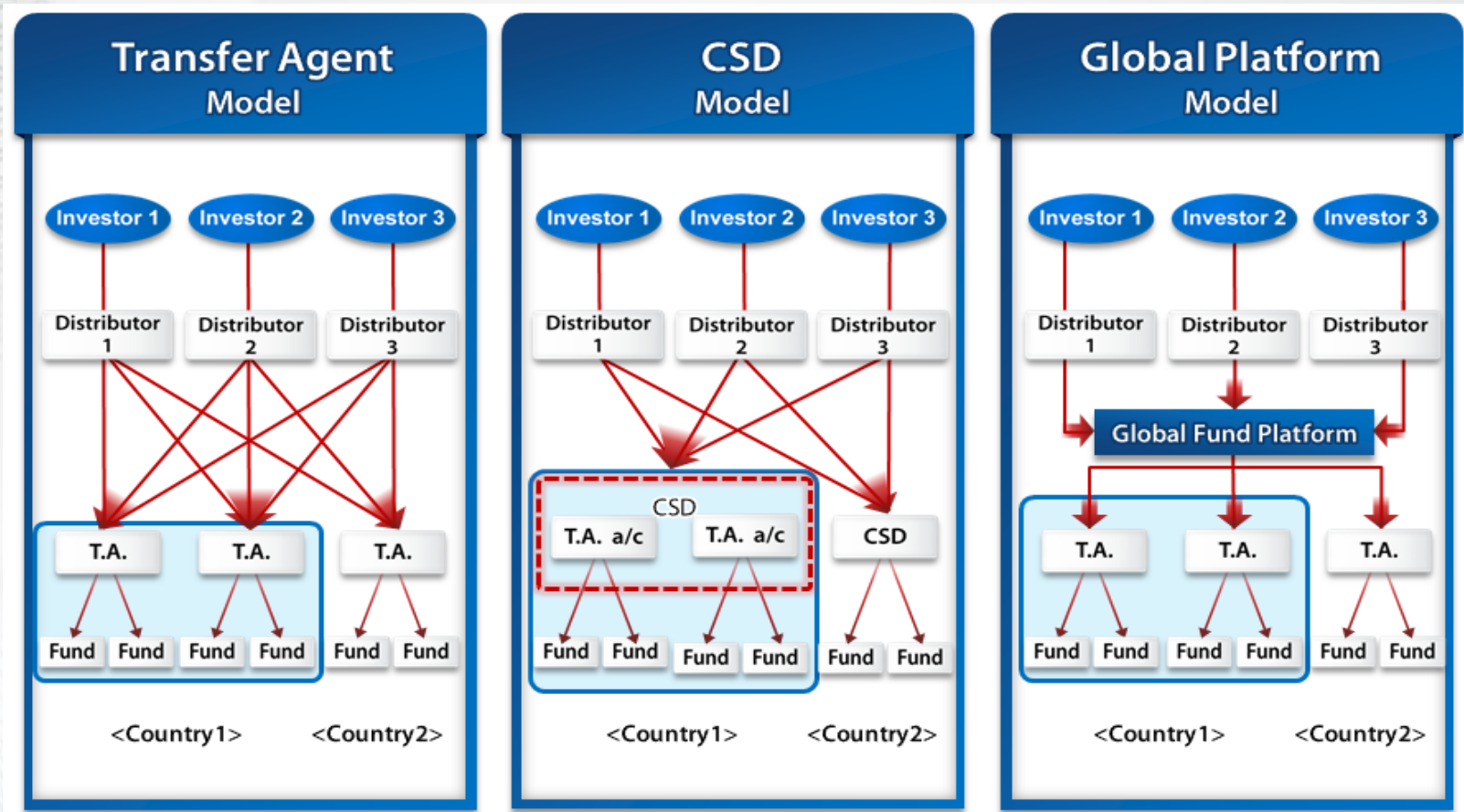
※ **Post-trade asset management service** is one of the frequently cited examples.

* Service that supports the asset management of the fund after subscription, between asset managers, custodians and broker/dealers (including trade matching/custody of fund assets(securities, etc.), management instructions, trade settlement, etc.)

2 The “back-office” operations of the fund market

2-2. Type of fund back-office processing model (based on fund subscription/redemption service)

- Markets adopt different fund back-office processing models, which can be categorized into three types according to who the main player is. (TA, CSD, or global platform)



2 The “back-office” operations of the fund market

2-2. Type of fund back-office processing model (based on fund subscription/redemption service)

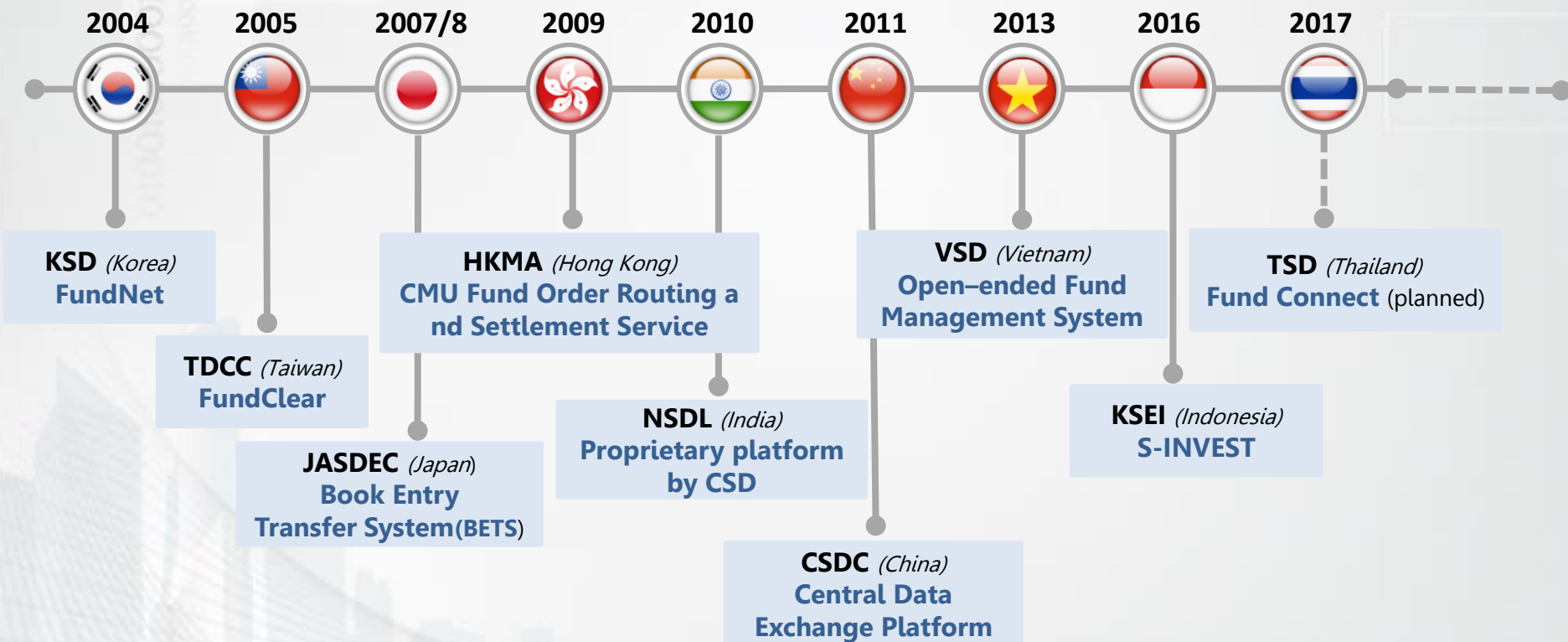
	TA Model	CSD Model	Global Platform Model
Definition	TAs are in charge of fund back-office operations	National CSDs offer a centralized hub for fund back-office operations	Global platforms link fund distributors and TAs from multiple economies via a single hub to provide fund back-office operations
Features	<ul style="list-style-type: none"> • The most basic and common model • No centralized infrastructure • The TA processes orders between asset management companies and distributors, which are connected via a bilateral contract 	<ul style="list-style-type: none"> • The CSD’s centralized infrastructure is utilized • Low-cost & high-efficiency processing 	<ul style="list-style-type: none"> • Interoperability and efficiency of service based on multinational services • High service cost
Service scope	For each fund product	For a certain economy	For multiple economies
Standardized messaging	Manual processing based on fax, email, or proprietary messaging system of companies	Proprietary messages adopted in some economies or international messages such as SWIFT	Proprietary messages of ICSDs or international messages such as SWIFT
Service provider	Blackrock Investment Management, Fidelity, Deutsche Bank, etc.	CSDC, HKMA, JASDEC, KSEI, KSD, TDCC, etc.	FundSettle of Euroclear Bank, Vestima of Clearstream, etc.

3 Asian CSD's fund "back-office" processing services

3-1. Introduction of CSD's fund back-office processing services

- Many CSDs in Asia have introduced infrastructure for fund subscription/redemption from the early 2000s, and fund services are now perceived to be one of the core functions of CSDs, unlike in the past.

<Establishment of Asian CSDs' fund infrastructure >



3 Asian CSD's fund "back-office" processing services

3-2. Comparison of back-office processing between Asian economies

- Asia is a very **fragmented market** compared to Europe, evidenced by large differences in business practices and market environment between economies.

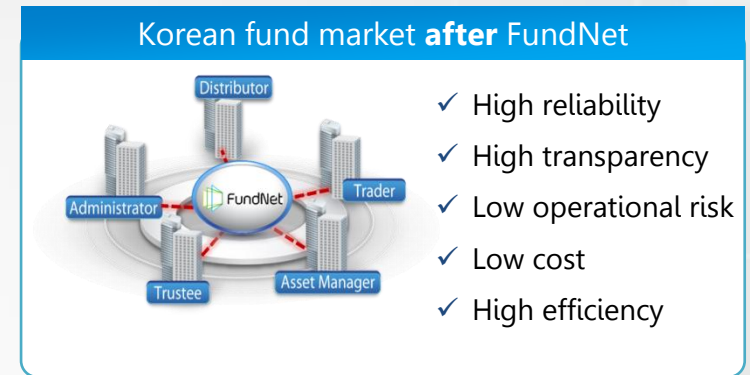
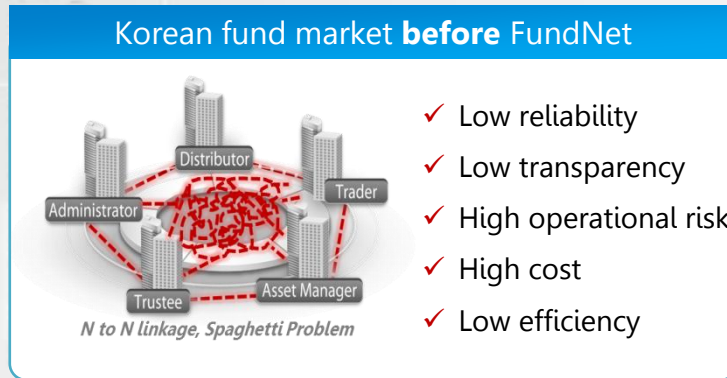
	Type of fund back-office processing (for fund subscription/redemption)	Fund code standardization	SWIFT message
Korea	CSD model*	○ (ISIN)	△ (partially used for off-shore fund transactions)
Japan	CSD model*	○ (ISIN)	○
China	CSD model*	△ (common identifier code)	×
Taiwan	CSD model*	○ (ISIN)	×
Indonesia	CSD model*	○ (ISIN)	×
Thailand	TA model	△ (common identifier code)	×
Hong Kong	TA+CSD Model	○ (ISIN)	○
Singapore	TA Model	○ (ISIN)	○
Malaysia	TA Model	×	×

* Beneficiary certificates of funds are deposited or registered 100% in the CSD in either physical or dematerialized form.

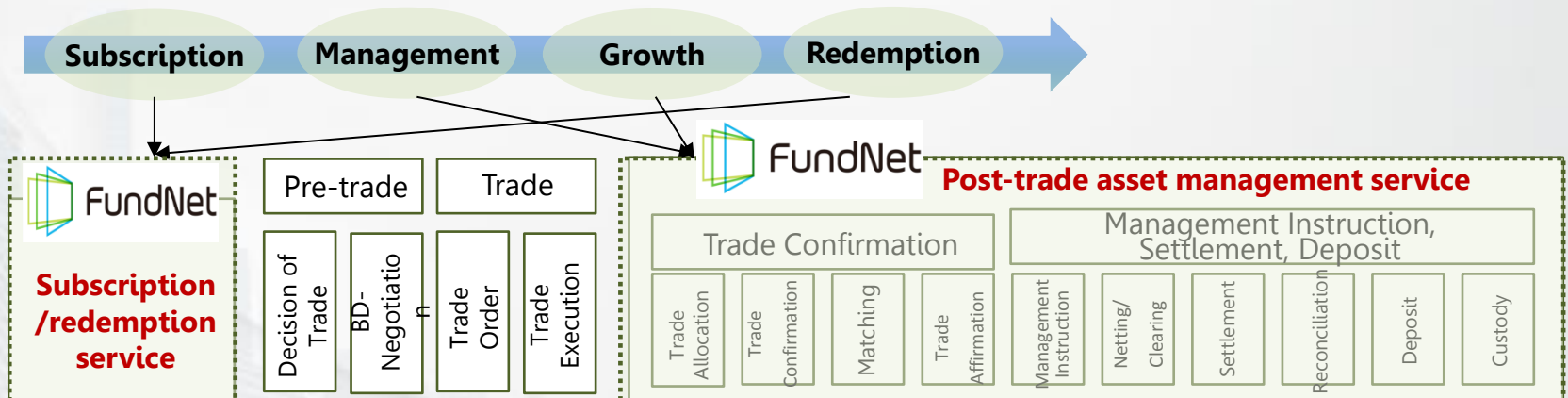
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Case example : KSD's FundNet

- The KSD's FundNet was built in 2004 as a **core infrastructure that supports the entire process of fund back-office operations** in the Korean asset management industry.



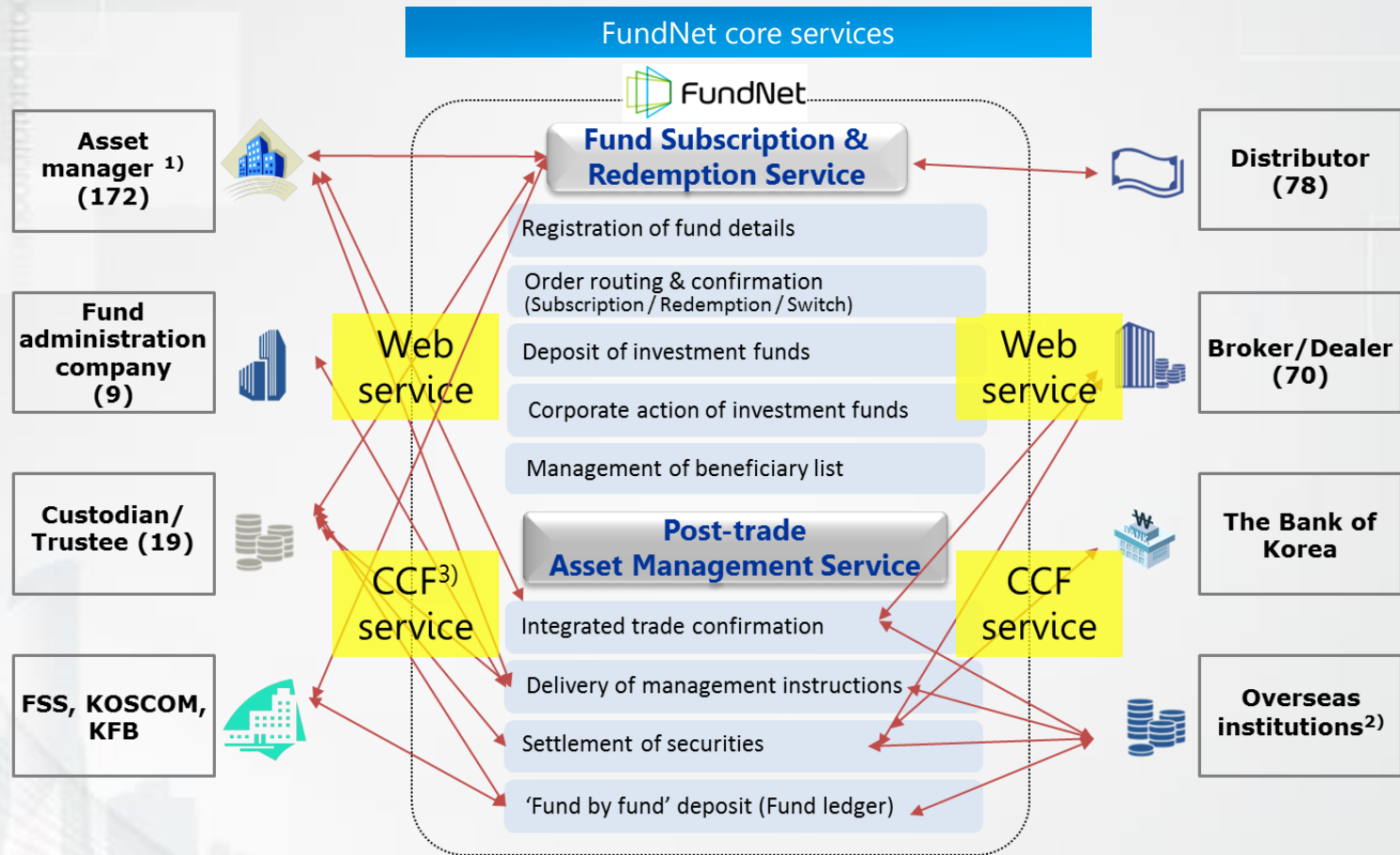
- FundNet is a fund platform that facilitates **automated STP across the entire process from subscription, growth, to redemption of fund products**, using a proprietary messaging system in Korea.



3

Case example : KSD's FundNet

- FundNet's core services support Fund subscription & redemption and post-trade asset management



1) Includes discretionary investment advisors 2) Omgeo, Euroclear, Clearstream,

3) Computer to Computer Facility : Data is transmitted through a dedicated line that connects the computer database of KSD and fund market participants.

3

Case example : KSD's FundNet

- FundNet offers a diverse range of value-added services that meet various market demand, support government policy and conform to the trend of internationalization in the fund market.

Service diversification of FundNet

Regulation/ Policy change

- ✓ Distribution company transfer (2010)
- ✓ Hedge fund service(2011)
- ✓ Centralized fund report management(2012)

Market Demand

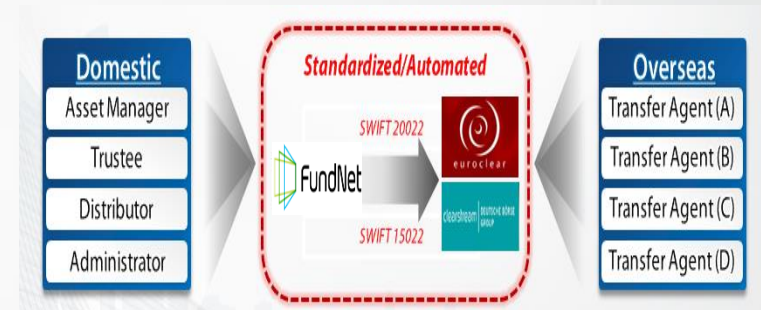
- ✓ Support for discretionary investment(2007)
- ✓ Fund portfolio matching(2011)
- ✓ Managed asset platform(2013)
- ✓ Voting support service(2014), etc.

Globalization

- ✓ Linkage to Omgeo(2009)
- ✓ Support for foreign fund commissioned investment(2009)
- ✓ Linkage to Euroclear Bank (2012)
- ✓ Linkage to Clearstream (2015), etc.

Internationalization of FundNet

- ✓ (Off-shore fund service platform) Supports the domestic sale of foreign funds by offering services via linkage with global platforms



- ✓ (Exporting KSD FundNet technology) Participated in KSEI's S-INVEST project as a system developer



PensionClear, Beyond FundNet

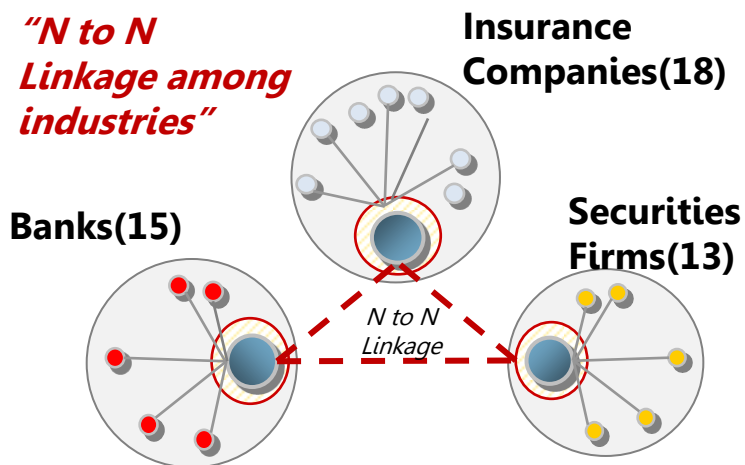


Expanding FundNet know-how and network effect into retirement pension market to develop “PensionClear”, a centralized pension market platform.(established in Dec 2015)

Before PensionClear

- ✓ **Three separate systems**
- ✓ **Primitive systems**

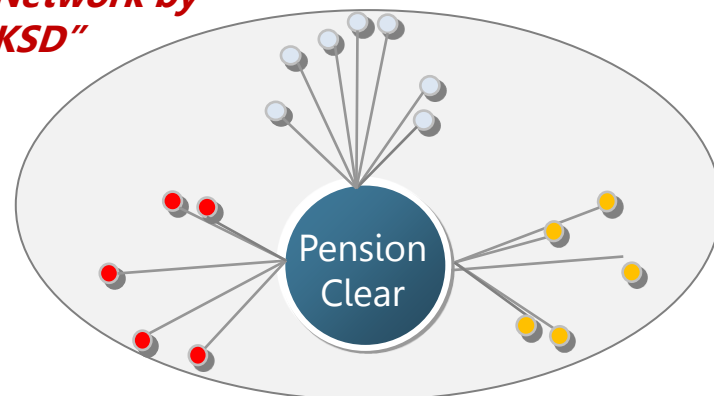
“N to N Linkage among industries”



After PensionClear

- ✓ **Industry-common platform**
- ✓ **Standardized/Automated Platform**

“Single Hub Network by KSD”



- Experience and know-how of FundNet are success factors of PensionClear
- Widespread network through financial institutions, Message standardization ability, Highest automation method via CCF

4

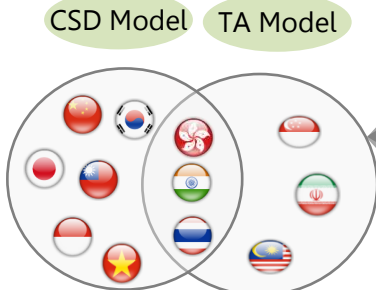
Close look into Asia's fund infrastructure

4-1. How is Asia different?

Fragmentation of back-office operations

- ✓ Asia does **not have a dominant model for back-office processing**, with **mixed practices** across the region

Asia : Mixed practice between CSDs and TAs



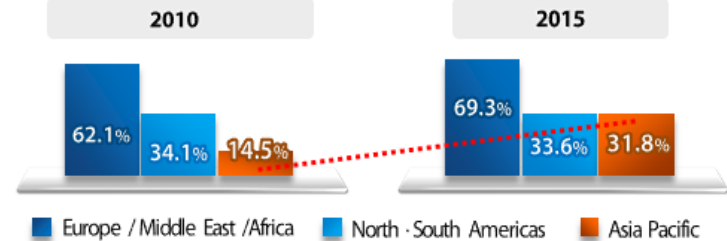
Europe : ICSDs are leading the market



Low levels of standardization and automation

- ✓ There has not been much effort to establish a common standard for cross-border fund transactions in Asia, resulting in **low levels of standardization and automation**.

ISO standardization rate



* Source : Joint EFAMA SWIFT Standardization Survey (2010, 2015)

4-2. Implications from Asia's case

- ✓ The low levels of standardization and automation of fund back-office operations will likely impede successful fund market integration in the longer term.
- ✓ CSDs in Asia are expanding roles and services in terms of back-office processing for fund transactions.
- ✓ Discussion on standardizing back-office operations among CSDs can contribute to advancing the initiatives for fund market integration.

* EFAMA(European Fund and Asset Management Association) established the FPSG(Fund Processing Standardization Group) in 2003 to provide guidelines for fund processing standards and recommendations on key operational information for fund transaction.

CSD's role in the standardization of fund back-office processing

Fund market integration in Asia

Three fund passport schemes

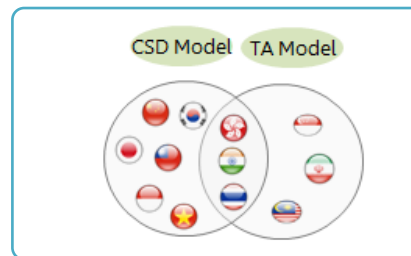


Key factors for integration

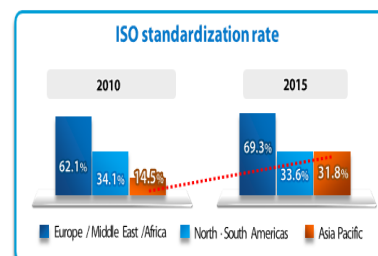
1. Laws/Regulations (ongoing)
2. Taxes (ongoing)
3. Back-office infrastructure **(no discussion)**

Back-office processing for fund transactions in Asia

Fragmented infrastructure



Low standardization/automation



Inauguration of the Asia Fund Standardization Forum (AFSF)

Initial proposal by the KSD (ACG18, Oct.2014)

Preparations to launch the AFSF (Dec.2014~Oct.2015)

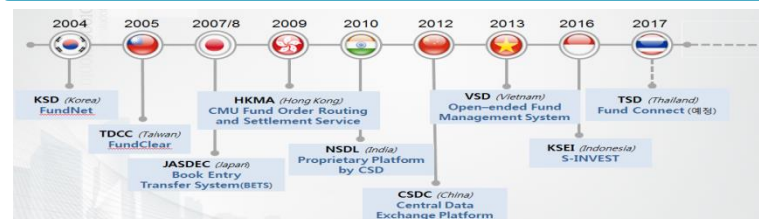
Inauguration of the AFSF (ACG19, Nov.2015)



* ACG : Asia Pacific CSD Group

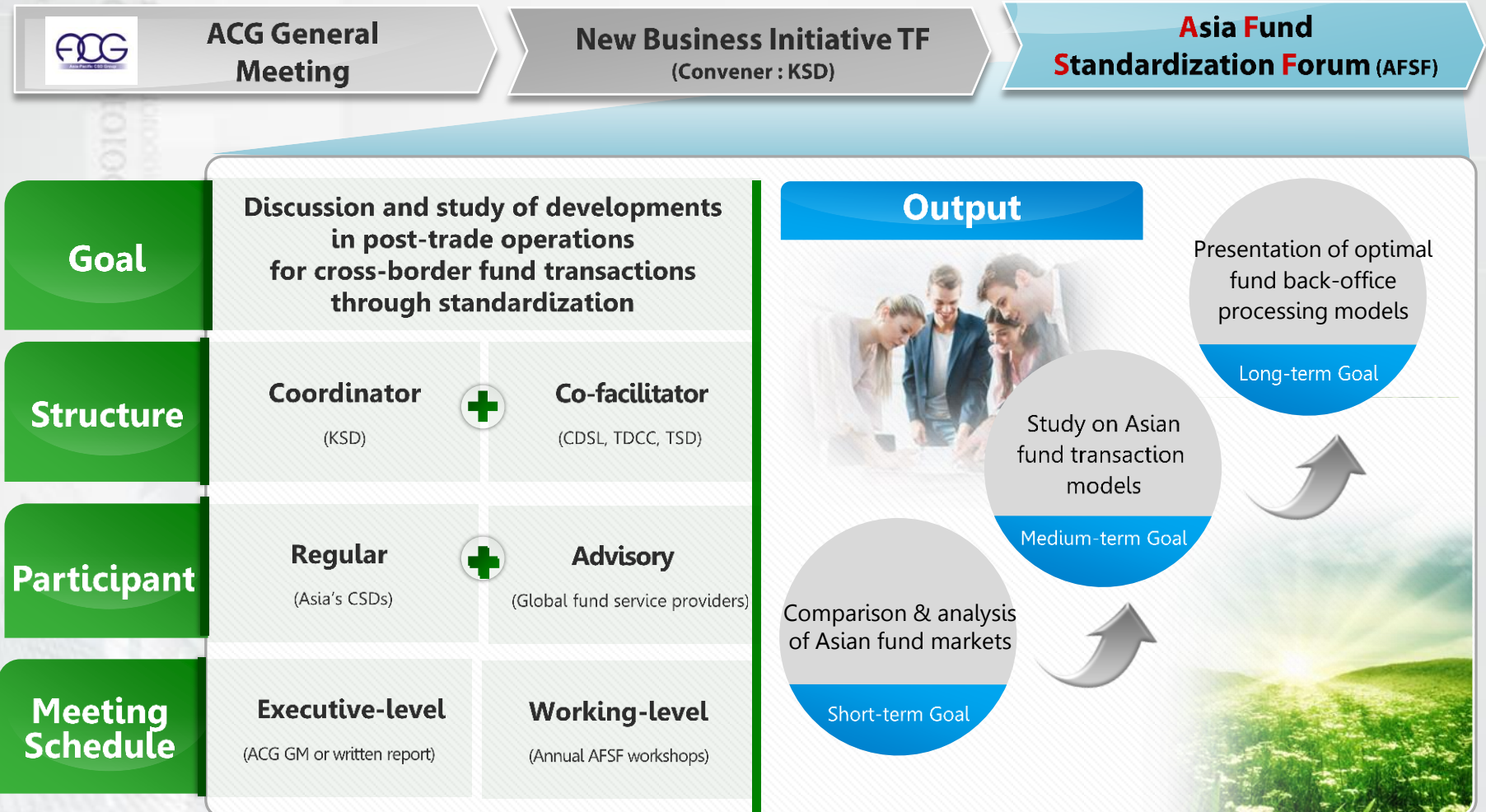
Expanding role of CSDs in the region

- ✓ Fund processing is being increasingly perceived as CSD's core service
- ✓ Shared awareness on the importance of standardizing back-office operations for fund transactions



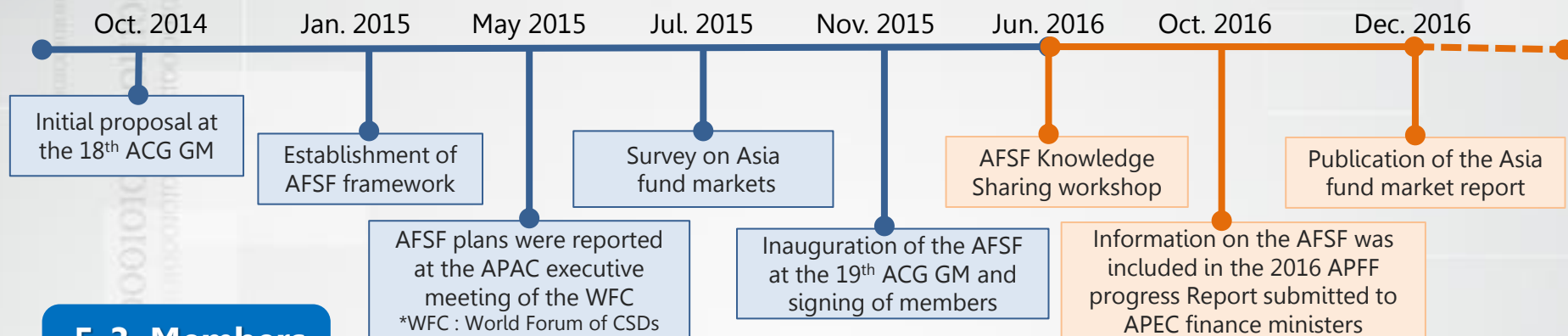
5-1. AFSF Framework

- AFSF is a consultative body of Asia's CSDs, aiming to advance fund back-office processing by standardizing operations for cross-border fund transactions. * The AFSF is incorporated within the New Business Initiative TF (convener: KSD) of the ACG



5 AFSF overview

5-2. AFSF achievements



5-3. Members

Regular participants : 13 CSDs from 12 economies

- Bursa Malaysia Depository Sdn. Bhd. - Malaysia
- Central Depository (Services) India Ltd. - India
- Central Securities Depository of Iran - Iran
- China Securities Depository & Clearing Corp. - China
- Hong Kong Monetary Authority - Hong Kong
- Japan Securities Depository Center, Inc. - Japan
- Korea Securities Depository - Korea
- PT.Kustodian Sentral Efek Indonesia – Indonesia
- Singapore Exchange - Singapore
- National Securities Depository Ltd. - India
- Taiwan Depository & Clearing Corp. - Taiwan
- Thailand Securities Depository - Thailand
- Vietnam Securities Depository - Vietnam



Advisory participants : 5 global fund service providers

- Deutsche Bank
- DTCC
- Euroclear Bank
- Morningstar
- SWIFT



5 AFSF overview

5-4. Major progress of 2016

- The AFSF has made concerted efforts to **study Asia's fund markets** and **bolster the regional network** of members, upon which recommendations for standardization can be developed.

Study on Asia's fund markets

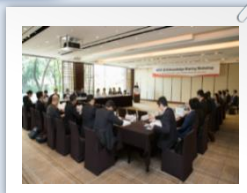
Survey on Asia's fund markets (Jul. 2015)

- ✓ Conducted a member survey on the fund markets of 12 economies and CSD services (27 questions under 3 sections)



AFSF Knowledge Sharing Workshop (Jun. 2016)

- ✓ Held the first official meeting after inauguration to share knowledge and exchange views on members' fund markets and CSD services



Asia fund market report (Dec. 2016)

- ✓ Publication of a report that compares and analyzes the fund markets and CSD services (planned for presentation at the 20th ACG GM)



Expansion of network and cooperation

Collaboration with the APFF (Oct. 2016)

- ✓ The importance of standardizing fund back-office operations and a short introduction of the AFSF were included in the 2016 APFF Progress Report submitted to APEC finance ministers, aiming to increase awareness and exposure about AFSF activities across the region.

APFF hopes to engage central securities depositories (CSDs) in the region that are either actively promoting greater automation of funds servicing and industry utilities or investigating these possibilities. Having formed a regional forum called the **Asia Fund Standardization Forum (AFSF)**, they are seeking to align their work more with regional funds passport initiatives like ARFP, as well as to form a more complete ecosystem to include regulators and asset managers that can drive a more holistic agenda.²⁸

²⁸ Led by the Korea Securities Depository (KSD), the AFSF has a core membership of about 13 CSDs from the region and five advisory participants.

<APFF 2016 Progress Report to APEC Finance Ministers (Oct. 2016)>

Cooperation with international organizations (ongoing)

- ✓ Met with other organizations that advocate fund standardization, such as the AFAC (Asia Fund Automation Consortium, Apr. 2016.), and RMPG (Regional Market Practice Group, Nov. 2016)

6-1. Operational structure

- The AFSF adopted a dual strategic focus, aiming to translate the **standardization of fund back-office operations into mutual growth and further advancement of Asia's fund markets.**

Objective

Cement the AFSF's position as an effective consultative body and pursue the mission of standardization

Dual Strategic Focus

Strengthen collaboration with regulatory authorities and fund-related groups, and expand global network

Implement activities for standardizing fund back-office operations and achieve tangible results

Detailed agenda

- ✓ Cooperation with governments from ARFP economies
- ✓ Cooperation with the APFF
- ✓ Expand network with international organizations related to funds
- ✓ Share expertise and knowledge among fund market players

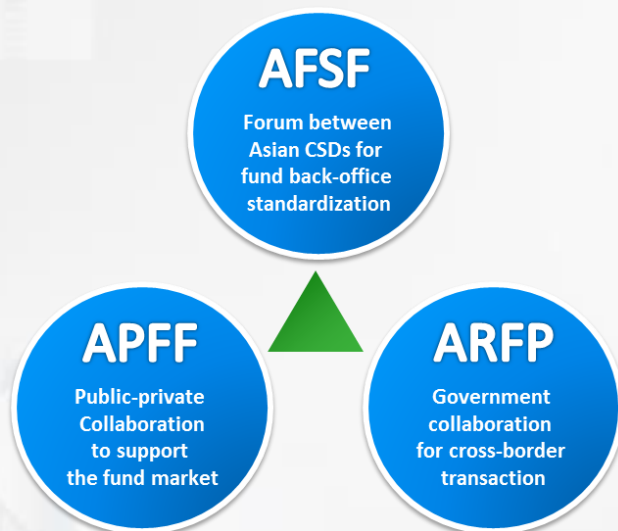
Conduct studies and share the outcome on the following topics:

- ✓ Standardization of fund data
- ✓ CSD's core fund services
- ✓ CSD's other fund services
- ✓ Developments or recent trends in the fund market

6-2. Cooperation with the ARFP and APFF

- The AFSF will support the successful introduction of the ARFP and create synergy based on the **mutual-cooperation among the ARFP, APFF and AFSF**.
- It will also increase awareness on the **importance of standardizing back-office operations for cross-border fund transactions**, which will in turn **contribute to market integration and advancement in the region**.

Synergetic Initiatives



Establish cooperative ties to gain momentum for the AFSF based on government support

Going forwards...

Support for the ARFP

- ✓ Report AFSF activities regularly to the ARFP Joint Committee
- ✓ Present AFSF activities to the ARFP economies and discuss ways to support issues on back-office infrastructure

Cooperation with the APFF

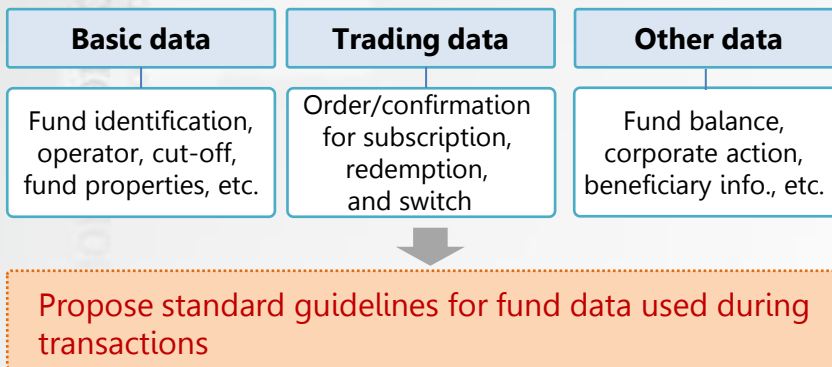
- ✓ Participate in the APFF FMI* sub-stream (planned for 2017)
- ✓ Report AFSF activities regularly in the APFF progress report

* FMI : Financial Market Infrastructure

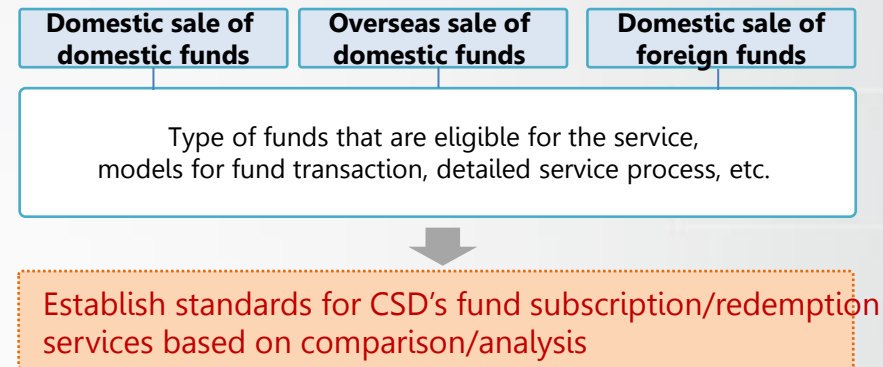
6-3. Study and discussion directed at achieving tangible outcomes

- The study and discussion of the AFSF will focus on the following four topics, as it promotes the standardization of fund back-office processing.

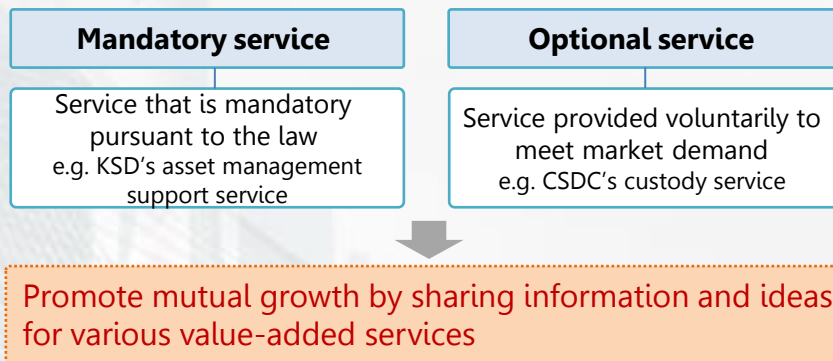
1. Standardization of fund data



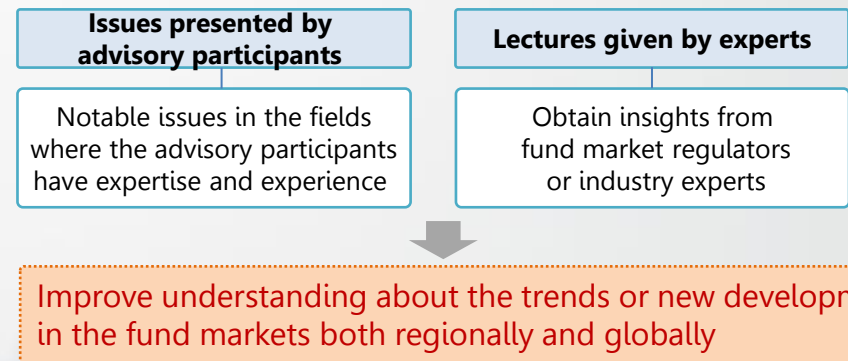
2. CSD's core fund service (subscription/redemption)



3. CSD's other fund service

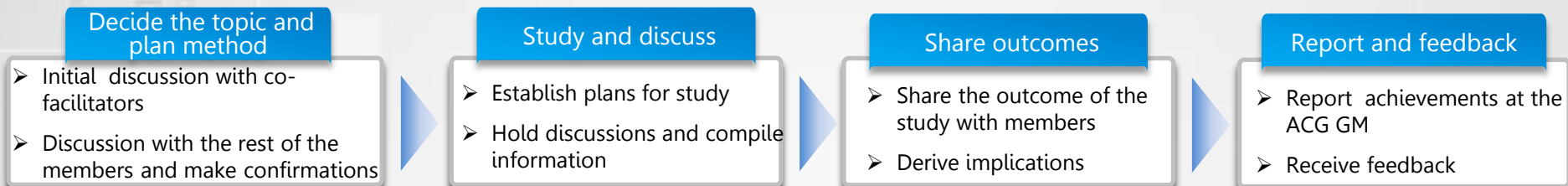


4. Developments or recent trends in the fund market



6-4. Roadmap for AFSF studies

- Conduct studies annually, according to the following process : “Decide on the detailed topic and study method → Study and hold discussions → Share the outcomes → Report and receive feedback”



Detailed topics to be discussed for AFSF studies

Scope of study	2017	2018	2019
1. Standardization of fund data	Fund basic data	Fund trading data / other data	Propose standards for fund transactions in Asia
2. CSD's core fund service (subscription / redemption)	Domestic sale of domestic funds	Domestic sale of foreign funds/ Overseas sale of domestic funds	Propose optimal model for fund back-office processing
3. CSD's other fund service	Mandatory/optional value-added services	Mandatory/optional value-added services	
4. Trends in the fund market	Learn about issues where the advisory participants boast expertise, or arrange for lectures to be delivered by industry experts		

6-5. Plans for 2017 – what do we discuss?

- Collect **market information on fund data** and focus efforts in understanding the **CSD service for fund subscription/redemption processing**

Scope of study	1. Standardization of fund data	2. CSD's core fund service (subscription/redemption)	3. CSD's other fund service (apart from subscription/redemption)	4. Trends in the fund market
Discussion topics for 2017	Collect and analyze basic fund data from each economy	Study the service processing for domestic funds sold in the domestic market	Introduce some of CSD's mandatory/optional value-added services	Share issues presented by advisory participants
Topics in detail	<ul style="list-style-type: none"> -Fund identification (code) -Contract details -Operator -Cut-off/Deadline -Fund properties, etc. 	<ul style="list-style-type: none"> -Type of eligible funds -Model for fund transactions -Fund subscription /redemption process 	<ul style="list-style-type: none"> -Background for introducing the service -Legal grounds -Service process -Major achievements -Future plans, etc. 	<ul style="list-style-type: none"> -Updates on the efforts for fund market integration in Asia -European case
Process	<p>(Decide/plan) Set up an Asia Benchmark for fund data based on relevant sources</p> <p>(Study) Collect information on fund data among members</p> <p>(Share) Compile answers and share outcome</p> <p>(Report) Report during workshop</p>	<p>(Decide/plan) Learn about the CSD fund services of each economy</p> <p>(Study) Collect information among members</p> <p>(Share) Compile answers and share outcome</p> <p>(Report) Report during workshop</p>	Share knowledge about some examples of CSD services mandatory by law during the workshop	Learn from advisory participants or invited lecturers during the workshop

* The planned topics or process are subject to changes according to external circumstances.

The background of the slide features a light gray gradient. On the left side, there is a vertical column of binary code (0s and 1s). In the bottom left corner, there is a faint, stylized illustration of a city skyline with several skyscrapers. Scattered across the upper right portion of the slide are several white, semi-transparent rectangular shapes of varying sizes, some of which appear to be overlapping or slightly offset from each other.

Thank You

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