

ISO 20022 Standardization

Adoption of ISO 20022 in ASEAN+3

ABMF SF2 members and experts shared their plans and policies to adopt ISO 20022 at a future time when existing CSD (book-entry) and RTGS systems are being reconstructed. ABMF SF2 members and experts also identified significant trends in the adoption of ISO 20022 in ASEAN+3 economies.

Based on the information obtained at ABMF meetings, the current status of adoption of ISO 20022 in ASEAN+3 is shown in Tables 7 and 8 for CSD and RTGS systems, respectively.

All economies in ASEAN+3 that have not already adopted international standards for messages and numbering, including technological aspects related to bond settlement, will have done so by 2020. The current status of adopting international standards for CSD and RTGS systems in each economy in Table 8 is presented as a preliminary assessment that will be confirmed and updated, if necessary, as not all central banks and CSDs have announced their plans.

All CSDs in the 10 economies where bond markets already exist have either adopted or decided to adopt international standards (ISO 20022 or ISO 15022) for messages. The China Central Depository and Clearing Company and Japan Securities Depository Center (JASDEC) are already operating their book-entry systems based on ISO 20022. The Hong Kong Monetary Authority, Monetary Authority of Singapore, and Thailand Securities Depository Co. are already operating their book-entry systems based on ISO 15022. All CSDs in ASEAN have agreed to adopt ISO 20022 as the standard for their CSDs by 2020. Regarding RTGS systems, the People's Bank of China (PBOC) and Autoriti Monetari Brunei Darussalam (AMBD) are already operating their systems based on ISO 20022. The Hong Kong Monetary Authority, Monetary Authority of Singapore, and Bank of Thailand are already operating RTGS systems based on international standards. All central banks in ASEAN have agreed to adopt ISO 20022 as the standard for RTGS systems by 2020.

Example of Migration to ISO 20022 (Japan)

Zengin Data Telecommunication System, which is a domestic funds transfer system of the Japanese Banks' Payment Clearing Network (Zengin-net), adopted ISO 20022 in 2011. JASDEC adopted ISO 20022 for its PSMS and book-entry transfer system in 2014. The Bank of Japan Financial Network System, which is the final settlement system for Japanese yen as well as the central bank's book-entry system for Japanese Government Bonds, is scheduled to adopt ISO 20022 in October 2015. In the case of Zengin Data Telecommunication System, conventional proprietary messages remain without a specific decommission period. In the case of JASDEC's book-entry transfer system, a 5-year coexisting period (ISO 20022 and ISO 15022) is scheduled to conclude with the decommissioning of ISO 15022 at the end of 2018. In the case of the Bank of Japan Financial Network System, conventional proprietary

Table 8: Adoption of ISO 20022 in ASEAN+3 CSDs

Economy	CSD	Name of Bond Settlement System	Inst.	Standardization of Message Items (SSS)							System Renewal		
				ISO 15022	ISO 20022	ISIN	BIC	Charac. code set	Comm protocol	Overall	Inauguration current system	Reconstruct. period	
BN	AMBD	NPSS	G		Y (2016)	Y (201X)	Y	Y	Y	Y	Y (2016)		2016
BN	(TBD)		C		Y (201X)	Y (201X)	Y	Y	Y	Y	Y (201X)		201X
CN	CCDC	CBGS	G/C	N	Y	Y	Y	Y	Y	Y	Y	2013	
CN	CSDC	MNS	G/C	N	Y (201X)	Y (201X)	Y	Y	Y	Y	Y (201X)	Nov. 2011	
CN	SHCH	SHCH-SSS	C	N	Y (201X)	Y (201X)	Y	Y	Y	Y	Y (201X)	Dec 2011	
HK	HKMA	CMU	G/C	Y	N	Y	Y	Y	Y	Y	Y	Mar. 1990	
ID	BI	BI-SSSS	G	Y	Y (201X)	Y	Y	Y	Y	Y	Y (201X)	Mar 2003	2018
ID	KSEI	C-BEST	C	Y	Y (2016)	Y	Y (2016)	Y	Y	Y	Y (2016)		2016
JP	BOJ	BOJ-NETJGB Service	G	N	Y (2015)	Y (2015)	Y (2015)	Y	Y	Y	Y (2015)	1990/Jan 2001	2015
JP	JASDEC	BETS	C	Y	Y	Y	Y	Y	Y	Y	Y	Jan. 2014	
KH	CSX	-	G/C	N									
KR	KSD	SSS/SAFE+	G/C	N	Y (201X)	Y	Y	Y (201X)	Y	Y	Y (201X)	Nov 2011	
LA	BOL	-	G/C	N									
MM	CBM	-	G/C	N	Y (201X)	Y (2015)	Y (2015)	Y (2015)	Y (2015)	Y (2015)	Y (201X)		2015
MY	BNM	RENTAS SSTS	G/C	Y (2016)	Y (2018)	Y	Y (2017)	Y	Y	Y	Y (2018)	Jul 1999	2018
PH	BTr	BTr-ROSS	G	Y (2015)	Y (2015)	Y (2015)	Y (2015)	Y	Y	Y	Y (2015)	Nov 1996	2015
PH	PDTC	PDTC Depository	G/C	Y (2015)	Y (2015)	Y (2015)	Y (2015)	Y	Y	Y	Y (2015)	Mar 1995	2015
SG	MAS	MEPS+ SGS	G	Y	N	Y	Y	Y	Y	Y	Y	Dec 2006	
SG	CDP	DCSS	C	Y (2015)	Y (2015)	Y	Y (2015)	Y	Y	Y	Y (2015)	-	2015
TH	TSD	PTI	G/C	Y	N	Y	Y	Y	Y	Y	Y	Oct 2007	2019
VN	VSD	VSD-BES	G/C	Y	Y (201X)	Y	Y (201X)	Y	Y	Y	Y (201X)	May. 2014	2016

■ Cross-border STP ready (ISO 20022)
■ Cross-border STP ready (ISO 15022)
■ Not ready but decided
■ Not clear and need to be confirmed
■ Not ready yet

AMBD = Autoriti Monetari Brunei Darussalam; ASEAN+3 = Association of Southeast Asian Nations plus the People's Republic of China, Japan, and the Republic of Korea; BES = book-entry system; BETS = Book-Entry Transfer System; BI = Bank Indonesia; BIC = Bank Identifier Code; BIDV = Bank for Investment and Development of Vietnam; BI-SSSS = Bank Indonesia-Scriptless Securities Settlement System; BN = Brunei Darussalam; BNM = Bank Negara Malaysia; BOJ = Bank of Japan; BOJ-NET = Bank of Japan Financial Network System; BOK = The Bank of Korea; BOK Wire+ = The Bank of Korea Financial Wire Network; BOL = Bank of Lao; BOT = Bank of Thailand; BSP = Bangko Sentral ng Pilipinas; BTr = Bureau of Treasury; C-BEST = Central Depository and Book-Entry Settlement; CBGS = Central Bond General System; CBM = Central Bank of Myanmar; CCDC = China Central Depository and Clearing; CDP = Central Depository (Pte.) Limited; CMU = Central Moneymarkets Unit; CN = People's Republic of China; CSDC = China Securities Depository and Clearing; CSX = Cambodia Securities Exchange; DCSS = Debt Securities Clearing and Settlement System; HK = Hong Kong, China; HKMA = Hong Kong Monetary Authority; ID = Indonesia; IFTS = Interbank Funds Transfer System; ISO = International Organization for Standardization; JASDEC = Japan Securities Depository Center; KSEI = PT Kustodian Sentral Efek Indonesia; KH = Cambodia; KR = Republic of Korea; LA = Lao People's Democratic Republic; MAS = Monetary Authority of Singapore; MEPS+ = MAS Electronic Payment System; MM = Myanmar; MNS = Multilateral Netting System; MY = Malaysia; N = no; NPSS = National Payment Settlement System; PBOC = People's Bank of China; PH = Philippines; PDTC = Philippine Depository and Trust Corporation; PTI = Post Trade Integration; RENTAS = Real-time Electronic Transfer of Funds and Securities System; RoSS = Registry of Scriptless Securities; SGS = Singapore Government Securities; SHCH = Shanghai Clearing House; SSS = Securities Settlement System; SAFE+ = Speedy, Accurate, Faithful, Efficient; RENTAS = Real-time Electronic Transfer of Funds and Securities; RTGS = real-time gross settlement; SG = Singapore; SSTS = Scriptless Securities Trading System; STP = straight-through-processing; TH = Thailand; TSD = Thailand Securities Depository; VN = Viet Nam; VSD = Vietnam Securities Depository; Y = yes.

Notes: In the Philippines, the interface between the Bureau of the Treasury and its participants is provided by PDS Group. Therefore, the above information is from the PDS Group. Information on the People's Republic of China; Hong Kong, China; the Republic of Korea; Singapore; and Thailand needs to be updated.

- ISO 15022: ISO 15022 is adopted for the messages related to bond settlement.
- ISO 20022: ISO 20022 is adopted for the messages related to bond settlement.
- ISIN (adoption): ISIN is adopted (full membership in NNA exists).
- BIC: BIC can be used, including conversion by using a table with proprietary codes.
- Character code set: Unicode (UTF-8) is adopted.
- Communication protocol: TCP/IP is adopted as communication protocol.
- Inauguration of the current system: Inauguration year of the current bond settlement system.
- Reconstruction period: Plausible year of completing of reconstruction based on the assumption of ADB Consultant for ABMF SF2.

Source: ABMF SF2.

Table 9: Adoption of ISO 20022 in ASEAN+3 Real-Time Gross Settlement Systems

Eco- nomy	Operator	Name of the System	Standardization of Message Items (RTGS)						System Renewal	
			ISO		BIC	Char. code set	Commun. protocol	Overall	Inauguration current system	Reconstruct. period
			ISO15022	ISO20022						
BN	AMBD	-	N	Y	Y	Y	Y	Y	2015	
CN	PBOC	HVPS	N	Y	Y	Y	Y	Y	2014	
HK	HKMA	CHATS	Y	N	Y	Y	Y	Y	Dec 1996	
ID	BI	BI-RTGS	Y	Y (201X)	Y (2014)	Y	Y (2014)	Y (201X)	Nov 2000	2015
JP	BOJ	BOJ-NET	N	Y (2015)	Y (2015)	Y	Y	Y (2015)	1987, Nov 2011	2015
KH	NBC	-	N	Y (201X)	Y (201X)	Y (201X)	Y (201X)	Y (201X)		201X
KR	BOK	BOK-Wire	N	Y (201X)	Y	Y	Y	Y (201X)	Apr 2009	
LA	BOL	-	Y		Y	Y	Y	Y		
MM	CMB	-	N	Y (2015)	Y (2015)	Y (2015)	Y (2015)	Y (201X)		2015
MY	BNM	RENTAS IFTS	Y (2016)	Y (2018)	Y (2017)	Y	Y	Y (2018)	Jul 1999/2004/2011	2018
PH	BSP	PhilPass	Y	Y (2015)	Y	Y	Y	Y (2015)	1995/Dec 2002	2015
SG	MAS	MEPS+	Y	N	Y	Y	Y	Y	Dec 2006	2015
TH	BOT	BAHTNET	Y	N	Y	Y	Y	Y	2013	2019
VN	SBV (BIDV)		N	Y (201X)	Y (201X)	Y (201X)	Y (201X)	Y (201X)	2010	201X

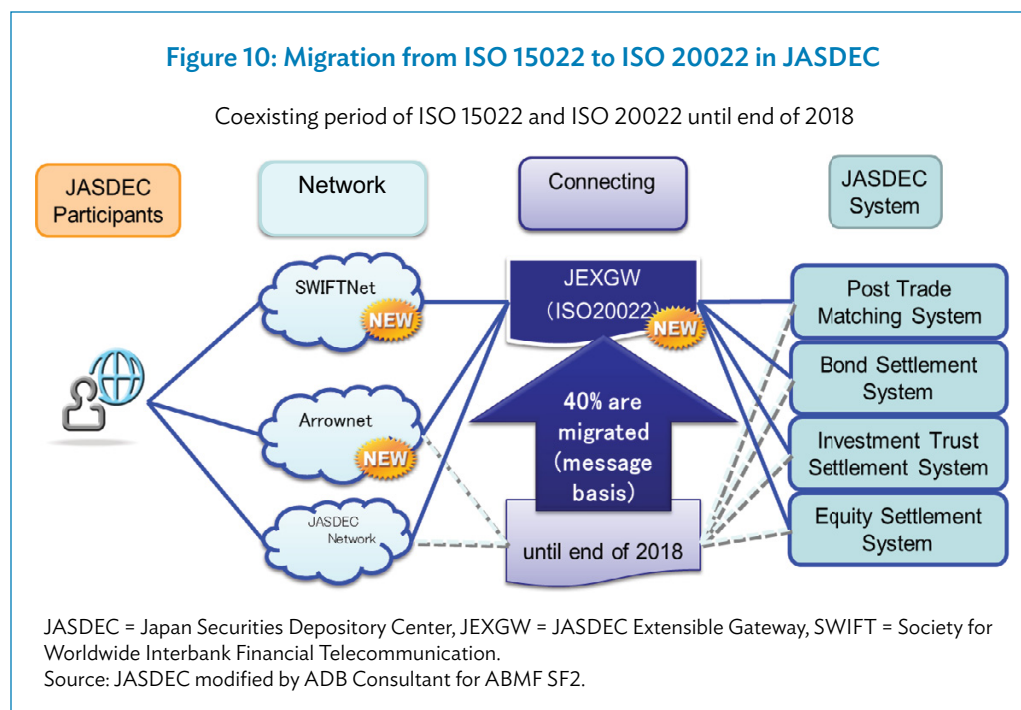
■ Cross-border STP ready (ISO 20022)
■ Cross-border STP ready (ISO 15022)
■ Not ready but decided
■ Not clear and need to be confirmed
■ Not ready yet

ASEAN+3 = Association of Southeast Asian Nations plus the People's Republic of China, Japan, and the Republic of Korea; BAHTNET = Bank of Thailand Automated High-value Transfer Network; BI = Bank Indonesia; BIC = Bank Identifier Code; BIDV = Bank for Investment and Development of Vietnam; BMS = Bursa Malaysia; BN = Brunei Darussalam; BNM = Bank Negara Malaysia; BOJ = Bank of Japan; BOJ-NET = Bank of Japan Financial Network System; BOK = The Bank of Korea; BOK Wire+ = The Bank of Korea Financial Wire Network; BOT = Bank of Thailand; BSP = Bangko Sentral ng Pilipinas; CHATS = Clearing House Automated Transfer System; CN = People's Republic of China; HK = Hong Kong, China; HKMA = Hong Kong Monetary Authority; HVPS = High-Value Payment System; ID = Indonesia; IFTS = Interbank Funds Transfer System; ISO = International Organization for Standardization; KH = Cambodia; KR = Republic of Korea; LA = Lao People's Democratic Republic; MAS = Monetary Authority of Singapore; MEPS+ = MAS Electronic Payment System; MM = Myanmar; MY = Malaysia; N = no; PBOC = People's Bank of China; PH = Philippines; PhilPass = Philippine Payments and Settlements System; RENTAS = Real-time Electronic Transfer of Funds and Securities System; RoSS = Registry of Scripless Securities; RTGS = real-time gross settlement; SG = Singapore; STP = straight-through-processing; TCP/IP = Transmission Control Protocol/Internet Protocol; TH = Thailand; VN = Viet Nam; Y = yes.

Notes: The State Bank of Viet Nam is planning to be a cash settlement operator by adopting ISO 20022. Information on the People's Republic of China; Hong Kong, China; the Republic of Korea; Singapore; and Thailand needs to be updated.

- i. ISO 15022: ISO 15022 is adopted for the messages related to bond settlement.
- ii. ISO 20022: ISO 20022 is adopted for the messages related to bond settlement.
- iii. BIC: BIC can be used, including conversion by using a table with proprietary codes.
- iv. Character code set: Unicode (UTF-8) is adopted.
- v. Communication protocol: TCP/IP is adopted as communication protocol.
- vi. Inauguration of the current system: Inauguration year of the current bond settlement system.
- vii. Reconstruction period: Plausible year of completing of reconstruction based on the assumption of ADB Consultant for ABMF SF2.

Source: ABMF SF2.



messages will be decommissioned at the starting day of new ISO 20022 messages (13 October 2015), reflecting demands from market participants. An illustration of JASDEC's migration from ISO 15022 to ISO 20022 is shown in Figure 10.

Establishing an Institutional Framework for ISO 20022

Since bond market infrastructures such as CSD and RTGS systems will adopt ISO 20022 as the message standard when it comes time to reconstruct such infrastructure, all ASEAN+3 economies will become harmonized and, through standardization, achieve cross-border STP.

Considering such a situation, each market infrastructure operator is expected to contribute to ISO 20022 activities, including joining the decision-making processes of ISO 20022-related messages and standards. All ASEAN+3 economies are expected to establish the relevant organization to support ISO activities when they are ready to become a full member of ISO. The current ISO membership of ASEAN+3 economies is shown in Table 10.

In order to contribute to ISO activities, it is important to establish an institutional framework, such as a regional Securities Standard Evaluation Group (SSEG) and Payment Standard Evaluation Group (PSEG) in ASEAN+3 and Technical Committee 68 (TC68) national mirror committee in each economy. Also, it is recommended to facilitate discussions on the standardization of messages based on ISO 20022 and related issues, including ISIN allocation. An overview of ISO is shown in Appendix 4.

Table 10: Membership in ISO 20022-Related Organizations of ASEAN+3 Economies

	ISO member	TC68 member	RMG	PSEG	SSEG
BN	Correspondent member (ABCI)				
KH	Correspondent member (ISC)				
CN	Full member (SAC)	Participant member	Member (PBOC)		
HK	Correspondent member (ITCHKSAR)	Observing member			
ID	Full member (BSN)				
JP	Full member (JISC)	Participant member	Member (BOJ)	Member (BOJ, Zenginkyo, NTT Data, JPMC, BTMUFJ)	Member (BOJ, JASDEC, Mizuho CB, BTMUFJ, NTT Data)
KR	Full member (KATS)	Participant member	Member (KFTC and KATS)	Member (KFTC)	
LA	Subscriber member (DISM)				
MY	Full member (DSM)	Observing member			
MM	Correspondent member (MSTRD)				
PH	Full member (BSP)	Observing member			
SG	Full member (SPRING SG)	Participant member	Member (Standard Chartered Bank, Deutsch Bank)	Member	Member (Standard Chartered Bank)
TH	Full member (TISI)	Observing member			
VN	Full member (STAMEQ)				

ABCI = Authority for Building Control and Construction Industry of Brunei; ASEAN+3 = Association of Southeast Asian Nations plus the People's Republic of China, Japan, and the Republic of Korea; BN = Brunei Darussalam; BOJ = Bank of Japan; BSN = Badan Standardisasi Nasional (National Standardization Agency of Indonesia); BSP = Bangko Sentral ng Pilipinas; BTMUFJ = Bank of Tokyo Mitsubishi UFJ; CN = People's Republic of China; DISM = Department of Intellectual Property, Standardization, and Metrology; DSM = Department of Standards Malaysia; HK = Hong Kong, China; ID = Indonesia; ISC = Institute of Standards of Cambodia; ISO = International Organization for Standardization; ITCHKSAR = Innovation and Technology Commission of the Government of the Hong Kong Special Administrative Region; JASDEC = Japan Securities Depository Center; JISC = Japanese Industrial Standards Committee; JP = Japan; JPMC = J.P. Morgan Chase Bank; KATS = Korean Agency for Technology and Standards; KH = Cambodia; KR = Republic of Korea; LA = Lao People's Democratic Republic; Mizuho CB = Mizuho Corporate Bank; MM = Myanmar; MSTRD = Myanmar Scientific and Technological Research Department; MY = Malaysia; PBOC = People's Bank of China; PH = Philippines; PSEG = Payments Standards Evaluation Group; RMG = Registration Management Group; SAC = Standardization Administration of China; SG = Singapore; SPRING SG = Standards, Productivity, and Innovation Board, Singapore; SSEG = Securities Standards Evaluation Group; STGAMEQ = Directorate for Standards, Metrology, and Quality of Viet Nam; TC68 = Technical Committee 68; TH = Thailand; TISI = Thai Industrial Standards Institute; VN = Viet Nam. Source: ABMF SF2