

Case study: SGX's journey in ISO 20022 implementation

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Agenda

1. Background
2. Rationale for SGX's ISO implementation
3. SGX's ISO 20022 journey
4. SGX ISO 20022 messages
5. Discussions

Background

SGX

Stock exchange (SGX-ST)

- full-service stock exchange across multiple Asset Classes

CCP (CDP)

- clearing house for securities trades

CSD (CDP)

- settlement services
- safekeeping of assets (as bare trustee)
- asset servicing /corporate actions

Software and bureau services

- Client Accounting System (CAS)
- printing and sending of contract notes on behalf of trading members

1980s-2010s (closed environment architecture)

- Existing Post Trade System (PTS) and the Client Accounting System (CAS) were purpose-built to support domestic securities brokers for electronic trading and clearing since 1980s
- PTS (depository) and CAS was further enhanced after CSD was set up in 1990 to provide integrated broker back-office and exchange trades processing (trades>trade allocations>settlement instructions>broker contracts)
- SGX provides broker back-office software and ancillary services - maintenance of client details, client accounts, fees / commissions and post trade processing etc managed through CAS, full back office processing platform with wide range of reporting capabilities including broker contract notes

SGX post trade modernisation

1. Modernise clearing & depository systems

- ✓ improved clearing house and CSD automation
- ✓ time to market for new securities products and services

2. Support different business and operating models

- ✓ trading-only, clearing-only, operations outsourcing models
- ✓ reduce proprietary systems dependency (e.g. client accounting system, AS\400)
- ✓ lower cost of entry to Singapore securities market

3. Clear and logical delineation of clearing house and CSD services

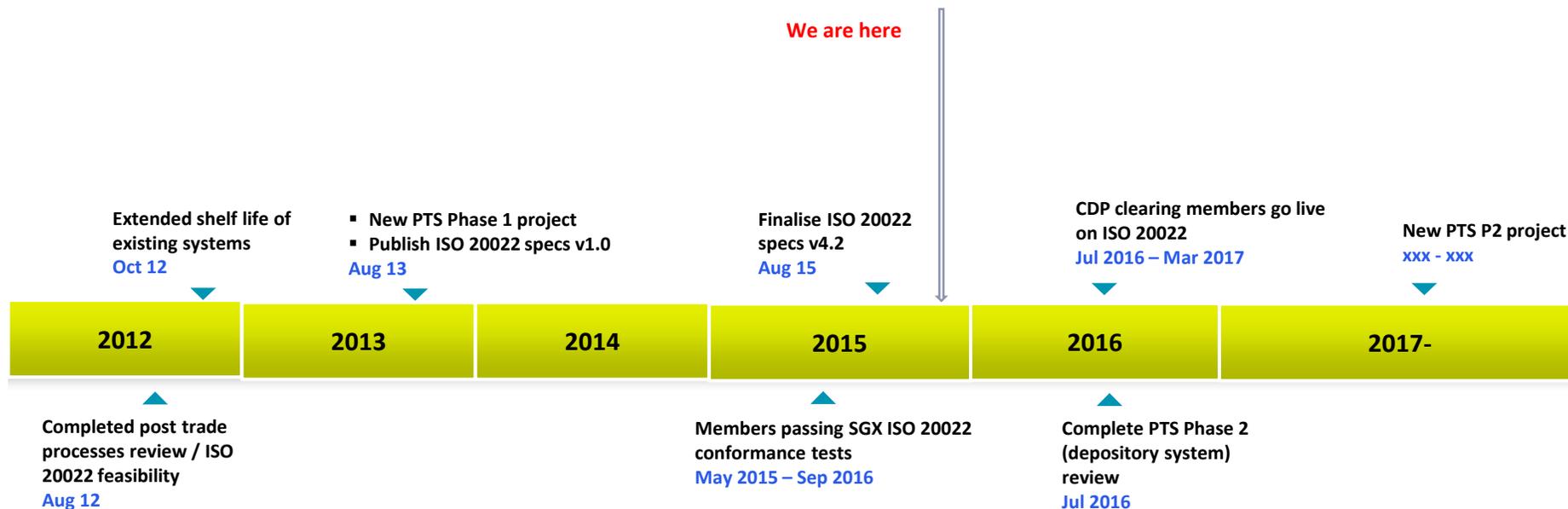
4. Modernise communications protocol

- ✓ real-time message-based communications
- ✓ connecting back-office systems through standardised APIs
- ✓ API-based connectivity to allow flexibility for members to adopt “best of breed” solutions for their clients

5. Adoption of international standards

- ✓ data standards
- ✓ industry standard interfaces (SWIFTNet)

SGX's ISO 2022 journey



Milestones completed

- “mainframe migration project” between Feb 2011 and Oct 2012
- Aug 2012 – completed a review of post trade processes and messages/interfaces
- 13 Aug 2013 – officially started the new PTS (Phase 1) project
- 30 Aug 2013 – published SGX ISO 2022 technical specifications v1.0
- 21 Aug 2015 – SGX ISO 2022 technical specifications v4.2

Milestones in progress

- Members complete their ISO 2022 conformance testing
- SGX new PTS system (clearing system) will go live on ISO 2022
- all CDP clearing members will go live on ISO 2022
- CDP depository agents may opt for ISO 2022-based API instead of online or file-based service

Milestones for next period

- SGX and members to complete PTS Phase 2 (depository system) review
- Determine ISO 2022 implementation plan for corporate actions
- Determine the SGX ISO 2022 version update processes

SGX's ISO 2002 messages

14 securities settlement messages

	ISO 2002 (sese.xxx)	Business Area	Sender	MT Equivalent
1	sese.020.001.03 SecuritiesTransactionCancellationRequestV03	Cancel settlement instruction	CM/DA	MT540, MT541, MT542, MT543
2	sese.021.001.03 SecuritiesStatementQueryV03	Settlement instruction query request	CM/DA	-
3	sese.022.001.01 SecuritiesStatusOrStatementQueryStatusAdviceV03 (To communicate the response to reject sese.021)	Statement query response	CDP-CSD	MT548
4	sese.023.001.04 SecuritiesSettlementTransactionInstructionV04	Submit settlement instruction	CM/DA	MT540, MT541, MT542, MT543
5	sese.024.001.04 SecuritiesSettlementTransactionStatusAdviceV04	<ul style="list-style-type: none"> ▪ Settlement instruction response ▪ Notify adjustment due to corporate action 	CDP-CSD	MT548
6	sese.025.001.04 SecuritiesSettlementTransactionConfirmationV04	Settlement instruction confirmation	CDP-CSD	MT544, MT545, MT546, MT547
7	sese.027.001.03 SecuritiesTransactionCancellationRequestStatusAdviceV03	Cancellation response	CDP-CSD	MT548
8	sese.028.001.03 SecuritiesSettlementTransactionAllegementNotificationV03	Settlement instruction allegement notification	CDP-CSD	MT578
9	sese.029.001.03 SecuritiesSettlementAllegementRemovalAdviceV03	Notify settlement instruction allegement removal	CDP-CSD	MT578

SGX's ISO 2002 messages securities settlement

	ISO 2002 (sese.xxx)	Business Area	Sender	MT Equivalent
10	sese.030.001.04 SecuritiesSettlementConditionsModificationRequestV04	Settlement instruction release	CM	MT530
11	sese.031.001.04 SecuritiesSettlementConditionsModificationStatusAdviceV04	Settlement Instruction release confirmation	CDP-CSD	MT548
12	sese.038.001.02 SecuritiesSettlementTransactionModificationRequestV02	Settlement instruction amendment request	CM/DA	
13	sese.039.001.01 SecuritiesSettlementTransactionModificationRequestStatusAdviceV01	Settlement instruction amendment response	CDP-CSD	
14	sese.040.001.01 SecuritiesSettlementTransactionCounterpartyResponseV01	Allegement rejection instruction	CM/DA	

SGX ISO 20022 messages

6 securities management messages

	ISO 20022 (semt.xxx)	Business Area	Sender	MT Equivalent
1	semt.013.001.03 IntraPositionMovementInstructionV03	Earmarking instruction	CM	MT524
2	semt.014.001.03 IntraPositionMovementStatusAdviceV03	Earmarking request status	CDP-CSD	
3	semt.015.001.04 IntraPositionMovementConfirmationV04	Earmarking instruction confirmation	CDP-CSD	MT508
4	semt.017.001.04 SecuritiesTransactionPostingReportV04 (for settled settlement instructions)	Settlement instruction query response	CDP-CSD	MT536
5	semt.018.001.04 SecuritiesTransactionPendingReportV04 (for pending and cancelled settlement instructions)	Settlement instruction query response	CDP-CSD	MT537
6	semt.019.001.03 SecuritiesSettlementTransactionAllegementReportV03 (for open allegement)	Settlement instruction query response	CDP-CSD	MT586

SGX ISO 20022 messages

4 payments initiation and 1 cash management messages

	ISO 20022 (pain.xxx)	Business Area	Sender	MT Equivalent
1	pain.001.001.05 CustomerCreditTransferInitiationV05	EPS/GIRO payment credit instruction	TM	MT101
2	pain.002.001.05 CustomerPaymentStatusReportV05	EPS/GIRO payment credit/debit/cancellation status/confirmation	CDP-CSD	
3	pain.007.001.04 CustomerPaymentReversalV04	EPS/GIRO instruction cancellation request	TM	
4	pain.008.001.04 CustomerDirectDebitInitiationV04	EPS/GIRO payment debit instruction	CDP-CSD	

	ISO 20022 (camt.xxx)	Business Area	Sender	MT Equivalent
1	camt.054.001.04 BankToCustomerDebitCreditNotificationV04	EPS lump sum payment confirmation	CDP-CSD	MT900 MT910

“Modernisation”

Open platforms

Standard interfaces

**Real-time
communications**

msg-based

Data standards

business representations

ops representations

- message level – XML-based
- data element level

Discussions

1. Why ISO 20022?
2. Key considerations
3. What’s next

Why ISO 2002?

1. XML message-based vs text file-based
2. future-proof - ISO 15022 is in maintenance-only mode; ISO 20022 is extendable to other business domains and business areas, not just securities settlement
3. operations level representation – ISO 20022 applies “per message per function” model

An example:

ISO 20022	ISO 15022	
Securities settlement instruction – deliver or receive sese.023 (RECE, DELI, APMT, FREE)	MT540 – Receive Free per message is used for different functions – NEWM/CANC	NEWM
Securities settlement instructions cancellation sese.020.001		CANC
	MT541 – Receive against payment MT542 – Deliver Free MT543 – Deliver against payment	

Key considerations for SGX ISO 20022 implementation

1. Feasibility study and internal review conducted in 2012
2. Maturity of the ISO 20022 standards vs our needs
3. Availability of the ISO 20022 experts
4. An ISO 20022 implementation project – a standalone project or part of a major infrastructure refresh?
5. What if we have gone say, ISO 15022 for new PTS project?
 - ISO 15022 gaps in meeting post trade modernisation
 - ISO 20022 adoption rate
6. Leaderships and stakeholders collective agreement

What's next

1. NMPG SG is standardising market practices (e.g. settlements & reconciliation, corporate actions etc)
2. Implement ISO 20022 messages (e.g. settlement for new PTS Phase 1)
3. Roll out incremental service improvements
 - deploy ISO 20022 for “data” collection and dissemination, e.g. issuers’ corporate announcements of corporate actions
 - extend usage of “ISO 20022” to “transactions processing”
 - further extend ISO 20022 usage to streamline data communications and transaction processing in different business areas, e.g. corporate actions, cash settlement

Thank you

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