

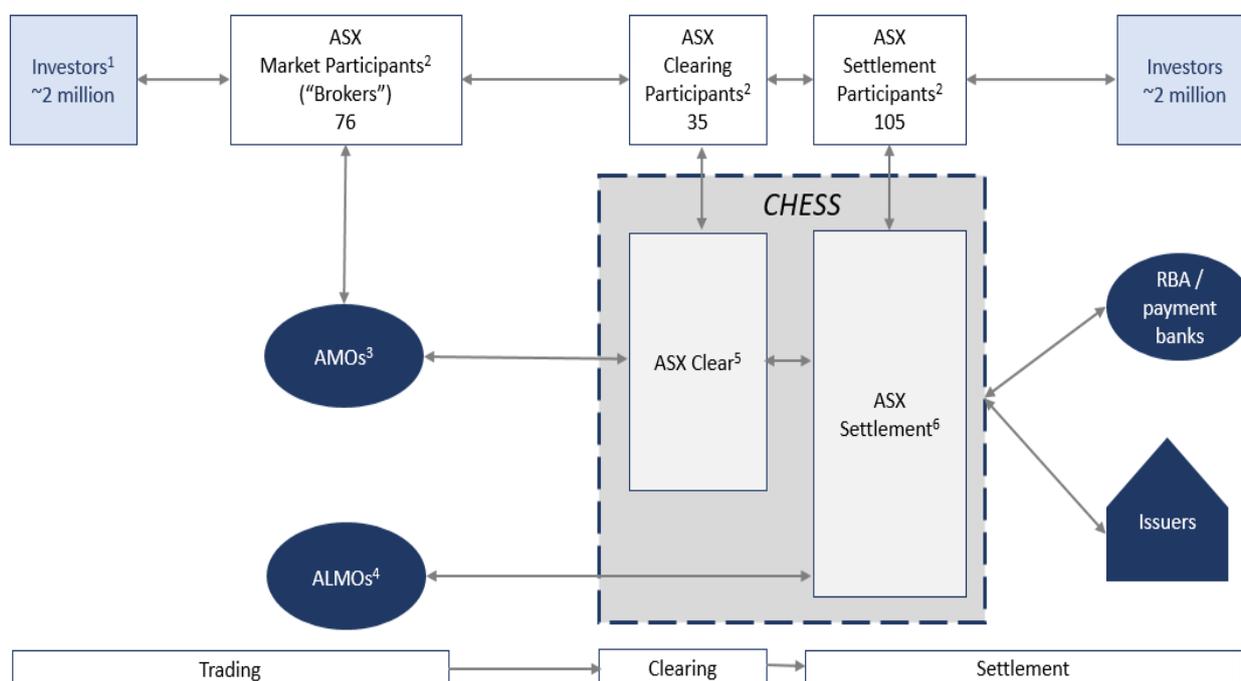
BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 1A

Topic Cash market clearing and settlement services - Operational performance

Date 28 September 2018

Purpose of this paper To report on key performance metrics for ASX's clearing and settlement services.

OVERVIEW



1. Investors – # of individual accounts in CHESS. Largely retail. Institutional holdings (e.g. super funds) typically co-mingled in nominee accounts per settlement participant
2. # of participants @ June 2018
3. AMOs – Approved Market Operators, including ASX, Chi-X
4. ALMOs – Approved Listing Market Operators, including NSX, SSX
5. ASX Clear – upon novation ASX Clear is the central counterparty for every trade, i.e. the buyer and seller for each trade, liable for completing the cleared transaction
6. ASX Settlement – Settlement system and a fully electronic securities depository for cash equity securities

The clearing and settlement of equities performs a critical role in the operation of Australia's financial markets, helping to reduce counterparty and systemic risk, and provide transaction efficiency and certainty for end investors.

Core processes that provide these benefits include novation, netting and settlement.

Novation

Through a contractual process known as novation, ASX Clear becomes the seller to every buyer and the buyer to every seller, making it liable for completing all cleared transactions on the relevant market.

Novation performs two important functions:

- it replaces the clearing participants' credit exposures to other clearing participants by substituting the clearing house as the central counterparty; and

-
- it maximises capital efficiency for clearing participants by permitting a single net exposure to be calculated and collateralised between the clearing house and each clearing participant.

Through novation, ASX Clear provides protection to non-defaulting clearing participants (and, indirectly, their clients) from the inability of a defaulting clearing participant to meet its obligations.

A key metric for monitoring novation is the percentage of on and off market trading that is novated.

Trades submitted for clearing and settlement by any market operator are verified prior to registration by ASX Clear. If the verification conditions are not satisfied then trades are rejected. Once a trade is registered it is novated. Novation is deemed to be effective from the matching of bid/offer (on market trades) or recording of the trade (reported trades) for all trade execution venues.

Netting

ASX Clear is approved as a 'netting market', and ASX Settlement is an 'approved netting arrangement', for the purposes of the Payment Systems and Netting Act. This gives legal certainty to the netting of settlement obligations. Settlement on a multilateral net basis maximises market efficiency by reducing participant transaction and funding costs.

A key metric for monitoring netting is the percentage by which novated value is netted down for settlement. This metric is termed "netting efficiency".

Settlement

ASX's model for settlement maximises efficiency, while minimising the risk of settlement failure. It does this by simultaneously transferring the legal ownership of shares and facilitating the transfer of money for those shares. This is done through a Model 3 multilateral net batch settlement mechanism with irrevocable settlement finality at the end of the processing cycle. The transfer of money occurs across the Exchange Settlement Accounts of payment providers in the RBA's Information and Transfer System (RITS).

A key metric for monitoring settlement is the percentage of scheduled settlement that successfully settles (i.e. the opposite of the "fail rate"). This metric is termed "settlement efficiency".

Service availability

ASX's critical processes of novation, netting and settlement and are supported in ASX's core system CHES. It is critical for market operations, that CHES remains stable and available for processing. A key metric for monitoring systems availability is the percentage of systems uptime as measured against target availability times. The service availability target for CHES is 99.80%.

For the September 2018 quarter¹, the average monthly system availability was 100.00% for CHES. The average monthly availability of CHES has been 99.99% between November 2011 and August 2018.

Trade Acceptance Service

ASX Clear and ASX Settlement's Trade Acceptance Service (TAS) provides a mechanism for Chi-X to submit trades into CHES. The CHES system performs the clearing and settlement functions.

The Trade Acceptance Service availability target for TAS is 99.80% (the same as CHES).

For the September 2018 quarter², the average monthly system availability was 100.00% for the TAS. The average monthly availability of the TAS has been 99.99% between November 2011 and August 2018 (which is the same as CHES).

¹ Up to 31 August 2018

² Up to 31 August 2018

Reporting on clearing and settlement service performance

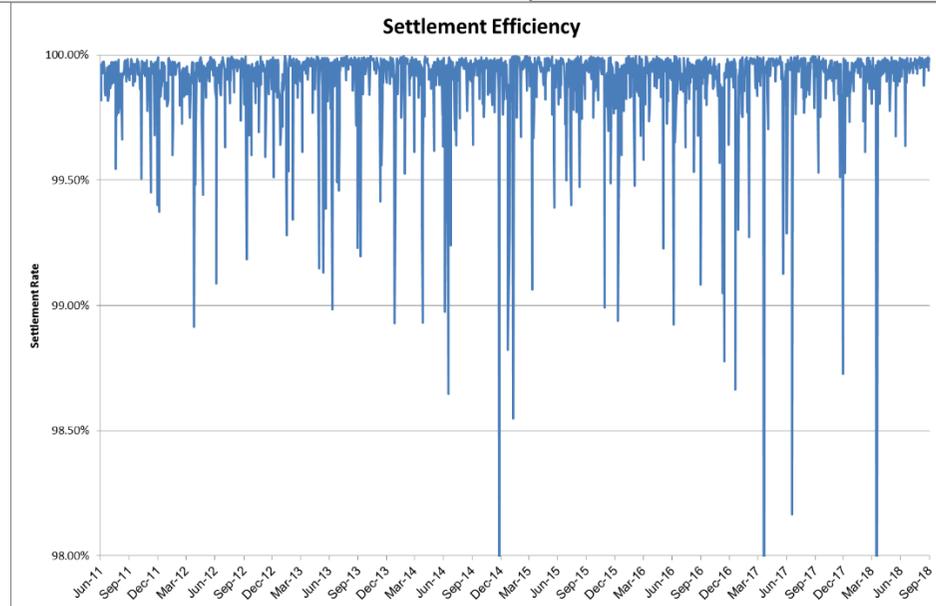
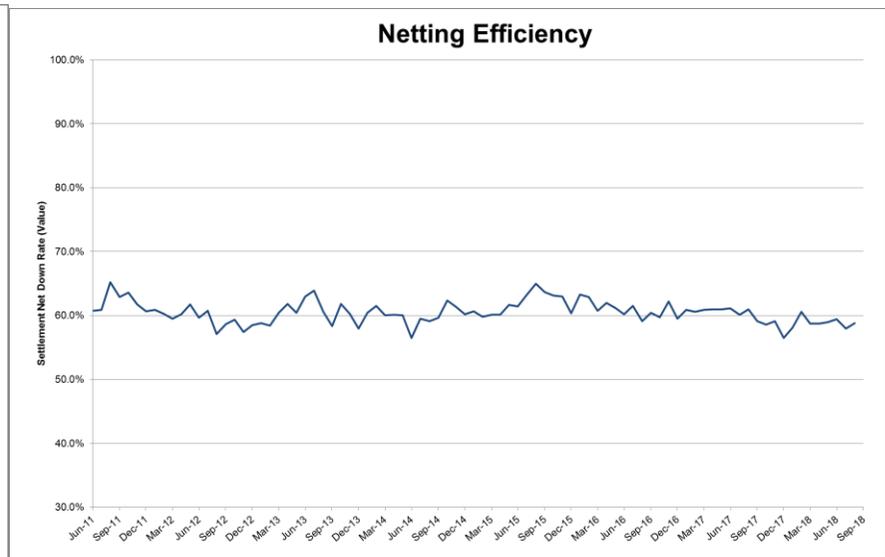
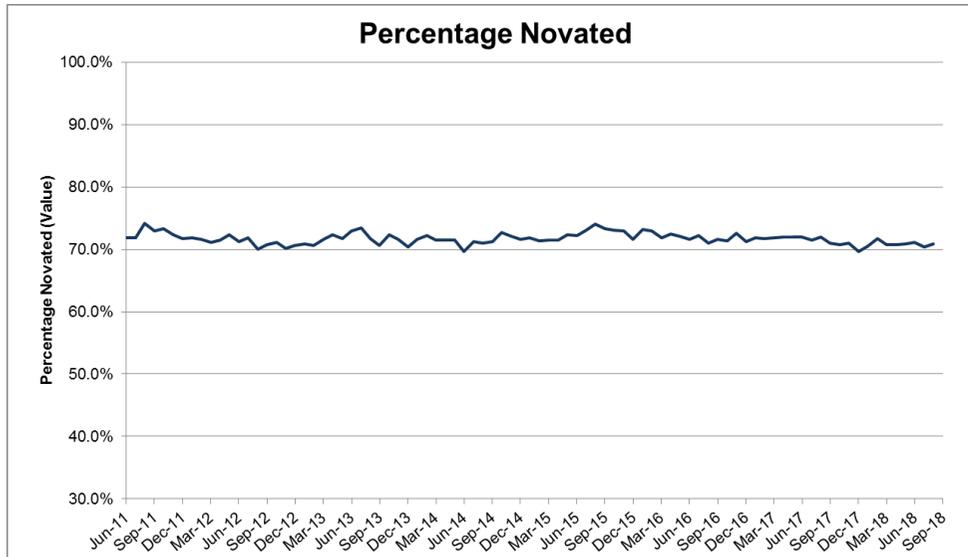
The key metrics noted above on novation, netting efficiency and settlement efficiency for the September 2018 quarter are reported in Attachment A. They are also supported by charts demonstrating a longer reporting period in Attachment B.

ATTACHMENT A – SUMMARY METRICS RELATING TO THE PERFORMANCE OF ASX’S CLEARING AND SETTLEMENT SERVICES

| | September 2018 Quarter³ | June 2018 Quarter | March 2018 Quarter |
|--|---|--------------------------|---------------------------|
| System Availability (CHES) | 100% | 100% | 99.95% |
| System Availability (TAS) | 100% | 100% | 100% |
| Total Trades Accepted (ASX) | 56,231,699 | 73,641,975 | 75,725,702 |
| Total Trades Rejected (ASX) | 4 | 16 | 4 |
| Total Trades Accepted (Chi-X) | 18,937,796 | 26,468,494 | 29,460,806 |
| Total Trades Rejected (Chi-X) | 0 | 2 | 0 |
| Total Settlements (SSX) | 0 | 0 | 0 |
| Total Value of Settlements (SSX) | \$0 | \$0 | \$0 |
| Total Settlements (NSX) | 254 | 548 | 299 |
| Total Value of Settlements (NSX) | \$1,095,078 | \$2,471,014 | \$1,184,260 |
| Daily Average Traded Value (On and Off Market) | \$6.60 billion | \$6.64 billion | \$6.49 billion |
| Daily Average Cleared Value | \$4.66 billion | \$4.71 billion | \$4.61 billion |
| Percentage Novated | 70.6% | 70.9% | 71.0% |
| Daily Average Cleared Value Post-Netting | \$1.94 billion | \$1.93 billion | \$1.88 billion |
| Netting Efficiency | 58.4% | 59.0% | 59.2% |
| Daily Average Settled Value (Including Non-Novated) | \$9.98 billion | \$10.2 billion | \$9.8 billion |
| Settlement Efficiency | 99.96% | 99.94% | 99.88% |

³ Up to 31 August 2018

ATTACHMENT B – PERFORMANCE OF ASX'S CLEARING AND SETTLEMENT SERVICES FROM JUNE 2011 TO AUGUST 2018



| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2A | |
|---|---|
| Topic | Annual Cash Equities Clearing and Settlement Reports |
| Date | 28 September 2018 |
| Purpose of this paper | To provide the Business Committee with ASX’s annual compliance reports pursuant to the Regulatory Expectations. |

Compliance Reports

The Regulatory Expectations for Conduct in Operating Cash Equity Clearing and Settlement Services in Australia (Regulatory Expectations) and ASX’s Code of Practice, require ASX to publish annually:

- a cash equities clearing and settlement service developments report; and
- a report prepared by an external auditor on ASX’s compliance with the Regulatory Expectations.

Annual Cash Equities Clearing and Settlement Service Development Report

In the Code of Practice, ASX committed to report annually on the cash equities clearing and settlement service developments and investment projects progressed during the year, and how the views of users were taken into consideration.

This is the second report published since the Council of Financial Regulators released the Regulatory Expectations. While the report is largely focused on ASX’s consultation with industry as part of the CHES Replacement Project the report also sets out other service enhancements enacted in FY18.

The annual cash equities clearing and settlement service developments report is provided in Attachment A.

Annual External Regulatory Expectations Audit

In the Regulatory Expectations, there is a requirement for ASX to commission an annual external audit by an independent assurance firm of its governance, pricing and access arrangements benchmarked against the Regulatory Expectations. This is the second audit of ASX’s compliance with the Regulatory Expectations.

The Regulatory Expectations indicate that the audit generally would not be required to form a judgement on more subjective matters, such as the promptness and efficiency of investments or the efficiency of prices. However, the auditors should: identify the relevant actions taken by ASX; provide assurance that policies and procedures in place are aligned with the Regulatory Expectations; and that ASX has conducted its operations in accordance with these policies and procedures.

Audit Report

ASX provided the Business Committee with the terms of reference for the audit at the July 2018 meeting, prior to engaging PwC. The terms of reference were unchanged from the initial audit.

PwC undertook a reasonable assurance engagement in relation to ASX’s compliance with the Regulatory Expectations in accordance with the *Australian Standard on Assurance Engagement 3100 – Compliance Engagements* issued by AAASB. PwC assessed ASX’s compliance with the Regulatory Expectations by reference to the compliance framework developed by ASX, which comprises the ASX Code of Practice and related policies and procedures.

The assurance report concluded that:

In our opinion, ASX has complied, in all material respects, with the Regulatory Expectations as represented in the Compliance Framework for the year ended 30 June 2018.

PwC sought feedback from Business Committee members on the operation and effectiveness of the Committee in providing a mechanism for user input into ASX's governance arrangements. Feedback relevant to ASX's compliance with the Regulatory Expectations was tested by PwC and included in the scope of the audit.

The auditor presented the results of the annual audit to ASX's Clearing and Settlement Boards.

The Assurance Report is provided in Attachment B.

ATTACHMENTS

Attachment A – Cash Equity Clearing and Settlement Services Developments

Attachment B – PwC Reasonable Assurance Report on ASX's Compliance with the Regulatory Expectations



Cash Equity Clearing & Settlement Services Developments

Annual Report

September 2018



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Cash Equity Clearing & Settlement Service Developments Annual Report

September 2018

Executive Summary

This annual report has been prepared to explain the service developments and investment projects ASX has undertaken during the 12 month period to 30 June 2018 for cash equity clearing and settlement services.

The most significant investment project – and the focus of ASX over the past 12 months – has been the project to replace the CHES system and associated comprehensive consultation activities with stakeholders.

This work has culminated in the plan to implement the replacement system based on Digital Asset's (DA) distributed ledger technology (DLT).

A number of business requirements and technical specification forums convened over the period, providing detailed and specific guidance on functionality requirements for the CHES Replacement system. ASX conducted an assessment of each of the requested business requirements to determine whether they will be included in the new system. In April 2018, ASX formally consulted with stakeholders on the Day 1 functionality for the new system, system architecture, connectivity options, the draft plan for implementation of the new features, and the testing and transition arrangements.

In parallel, a number of smaller but important service enhancements to core cash equity clearing and settlement services have been delivered during the period. These enhancements are outlined in Chapter 2, along with planned future enhancements summarised in Chapter 3.

1. CHES Replacement project

The successful delivery of the CHES Replacement project requires ASX to complete several large streams of work. Key streams of work which commenced, concluded or were ongoing in the reporting period include:

A. Stakeholder engagement:

- i. Comprehensive consultation with users on their business requirements for the system to replace CHES.
- ii. Comprehensive consultation with users on the Day 1 functionality, system architecture, connectivity options, the draft plan for implementation of the new features, and the testing and transition arrangements.

B. Specification of the business processes, content and format of the global standard ISO 20022 messages to replace proprietary CHES messages.

C. A rigorous investigation on the suitability of DLT as a replacement to CHES, and commencement of the documentation of detailed functional and non-functional requirements for, and the development of, the replacement system.

The key activities of each stream of work conducted during the reporting period are outlined in the following sections.



1.1 Stakeholder Engagement

ASX continued with the comprehensive program for engagement with key stakeholders on the CHES Replacement project established during the previous reporting period. The cash equity clearing and settlement service impacts many stakeholders either directly or indirectly, including issuers and their agents (share registries), investors (holders), market operators, participants, payment banks, system vendors, regulators, industry associations and representative groups.

ASX has sought input from stakeholders in three key areas – business requirements for the replacement of CHES, the scope and implementation plan for ‘Day 1’ go live, and on the adoption of the ISO 20022 standard to replace CHES proprietary messaging.

Business Requirements Working Groups

The CHES Replacement Working Groups were convened on a fortnightly basis over a 6 month period from 3 May 2017 to 1 November 2017 to specifically focus on business requirements. A broad cross-section of industry experts representing issuers, investors, participants, custodians, share registries and market operators actively participated in these workshops, from a core group of 27 organisations.

In total, there were 13 working group meetings (five over the previous reporting period, and eight in the current reporting period), 10 pre-reading papers issued, 40 ‘functional’ business requirements identified and a further 5 ‘non-functional’ business requirements.

Working group topics were derived from input and specific feedback related to the:

- Consultation Paper 2016 – ASX’s Replacement of CHES for Equity Post-Trade Services: Business Requirements; and
- Supplementary Business Requirements Questionnaire - ASX Replacement of CHES.

Organisations were requested to nominate one representative for each Working Group that had relevant subject matter expertise and authority to represent their organisation’s business requirements.

ASX appointed Working Group members, set the agenda for, and chaired meetings for each Working Group. Working groups met for 2 hours on a fortnightly basis, with agendas and associated papers circulated to members at least one week prior to the relevant meeting. At the conclusion of each working group ASX provided a summary of the Working Group’s business requirement outputs and their relative priority. These summaries were provided to Working Group participants, regulators and the next scheduled Business Committee meeting.

The table below shows, for each of the 6 working groups, the number of times the group convened, and the number of high-level business requirements produced.

| Name of working group | Number of times met | Number of high-level business requirements produced |
|--|---|---|
| Account Structures and Participant Models | 2 (Both in previous reporting period) | 2 |
| Corporate Actions | 5 (3 in previous reporting period, 2 in current reporting period) | 15 |
| Transfers, Conversions and Data Migrations | 1 (in current reporting period) | 4 |
| Settlement Enhancements | 3 (all in current reporting period) | 15 |



| | | |
|--------------------------------------|---------------------------------|---|
| Data storage, Delivery and Reporting | 1 (in current reporting period) | 4 |
| Non-Functional Requirements | 1 (in current reporting period) | 5 |

ASX invited 29 organisations to prioritise the relative importance of the 40 functional business requirements through the completion of an online survey. ASX received responses from 26 organisations, and subsequently assessed each business requirement as having received a high, mid or low level of industry support, as below:

- High level support – 10 business requirements
- Mid level support – 15 business requirements
- Low level support – 15 business requirements

ASX then conducted an assessment of each business requirement, to determine whether and how it would be included in the CHESSE Replacement system or otherwise. Not all of the 40 functional business requirements are confirmed as deliverables by CHESSE Replacement. A number of the requirements are being progressed by ASX outside of the CHESSE Replacement project via Business-As-Usual activities (see section 3.1 below), and via a parallel project Corporate Actions Straight Through Processing Phase 2. ASX provided the results of its assessment in its April 2018 Consultation Paper.

Business Committee

The Business Committee is the key forum for ASX to engage with its cash equities clearing and settlement customers. The committee is comprised of senior representatives from clearing and settlement participants, approved market operators and relevant industry organisations who are stakeholders in ASX's cash equities clearing and settlement services.

Meetings of the Business Committee are held quarterly, with more regular meetings convened during 2017 to focus on CHESSE Replacement. The Business Committee met 4 times during the reporting period, on the following dates:

- 3 August 2017
- 11 October 2017
- 30 November 2017
- 28 March 2018

ASX has provided updates to the Business Committee on the project progress, summaries of stakeholder engagement and key milestones, and the discussions and output from the working groups. The Business Committee also receives reports and minutes from the ISO 20022 Technical Committee.

All stakeholders are supportive of continued engagement with ASX. Business Committee papers and minutes are published on the ASX website.

ISO 20022 Technical Committee

The ISO 20022 Technical Committee was formed in late 2016 as a sub-committee of the Business Committee, providing a forum to engage with key stakeholders regarding the adoption of ISO 20022.

Over the reporting period the ISO 20022 Technical Committee met 8 times.

ASX has provided a dedicated section of the CHESSE Replacement web page to the ISO 20022 work stream, which contains a number of resources including:



- a. Technical Committee meeting and presentation information;
- b. A free eBook for users on ISO 20022; and
- c. A number of links to external SWIFT and ISO material.

Approved Market Operators Working Group

ASX formed an Approved Market Operators (AMO) working group in May 2017 to provide AMOs with a regular meeting to discuss their requirements for clearing, settlement and other services provided by ASX. Over the reporting period the working group met three times and remains available to meet at the request of AMOs.

Quarterly Webinars

ASX continued to provide quarterly updates on the CHES Replacement project by webinar. This approach was successful during the transition to T+2 Settlement as a way to reach a broad audience and provide the opportunity for the audience to ask questions of the presenters. During the reporting period ASX presented 4 quarterly webinar updates with average of over 160 attendees per webinar with international representation across Asia, Europe, United States of America and more. Recordings of the webinars are available from the CHES Replacement web page.

DLT demonstrations

The 'acceler8' demonstration suite is a custom built space at the ASX offices in Sydney, used by ASX to showcase the DLT prototype and explain the conceptual technology architecture. Over the reporting period ASX provided 38 demonstrations to over 200 attendees from more than 50 organisations (including participants, user groups and government organisations).

Public Consultation

On 27 April 2018, ASX released a public consultation paper "CHES Replacement: New Scope and Implementation Plan" outlining the planned new features and timetable for the replacement of CHES. The consultation sought feedback on the timing, testing and transition arrangements for the new system, and on the new business requirements captured in the plan. The consultation paper set out approximately 50 new business requirements which were identified through consultation with stakeholders – including via the working group process and other stakeholder input, as well as a set of non-functional business requirements. ASX provided an eight week consultation period, and received a total of 41 submissions (21 non-confidential submissions, and 20 confidential submissions). ASX responded to the market in a document released on 4 September 2018.

Issuer Roundtables and information sessions

ASX conducted two series of roundtables with issuers in November 2017 and February 2018. The roundtables were held via face to face meetings in Perth, Sydney and Melbourne, with a total of 72 companies representing over \$800 billion¹ (or over one third) of total Australian listed market capitalisation in attendance. The purpose of the roundtables was to engage issuers on their business requirements for CHES Replacement. The meetings validated business requirements captured from the industry working groups specific to or which would impact issuers, and also confirmed ASX had not missed any business requirements.

¹market capitalisation data as at 19 April 2018



ASX has also provided information to issuers via a number of other forums, including the ASX hosted Issuer Roadshow held on 5 April 2018 with over 150 registered attendees and the Governance Institute of Australia's Listed Companies Discussion Group forum held on 28 May 2018.

[Focused working groups](#)

Focused working groups have also been held with key stakeholders including custodians and institutional/retail brokers, with the purpose of seeking further information to validate business requirements.

[CHES Replacement web page](#)

ASX has provided comprehensive information regarding the CHES Replacement project on a dedicated web page on the asx.com.au website. This information is updated regularly, including Frequently Asked Questions and contact information. ASX also has a dedicated email address for enquiries regarding the project.

1.2 Adoption of ISO 20022

ASX commenced detailed work regarding the adoption of ISO 20022 in 2016. ASX engaged SWIFT, as the registration authority for ISO 20022, to assist with the adoption of the message standard and obtain input on the learnings from other similar projects including: T2S in Europe; the NPP in Australia; and other market infrastructure projects undertaken in the Asian region. ASX engaged SWIFT standards consultants from September 2016 through to March 2018 to undertake a high level gap analysis between CHES External Interface Specification (EIS) and ISO 20022, followed by detailed mapping of current CHES EIS ('as-is') to ISO 20022. This work formed a good basis for ASX's work since March 2018 to finalise the proposed ISO 20022 messages for CHES Replacement, aligned with the Day 1 functional scope of the new system. This work will continue through for at least the next 12 months. In consultation with the ISO 20022 Technical Committee, ASX's approach to the transition to ISO 20022 messaging has incorporated, to the extent possible, a number of best practice principles. As a Market Infrastructure and representative of the Australian post trade market ASX has also sought participation in global ISO 20022 evaluation groups that regularly review proposed changes to the ISO 20022 suite of messages.

1.3 Technology Assessment and Build

On 7 December 2017, ASX announced its intention to replace CHES using DLT developed by ASX's technology partner DA. This decision followed the successful build of enterprise-grade DLT software for core equity clearing and settlement functions, and the completion of extensive suitability testing by ASX and DA during 2016 and 2017. The testing confirmed ASX's confidence in the functional, capacity, security and resilience capability of DA's application of DLT to meet the needs of Australia's financial marketplace and to maintain the highest regulatory and operational standards. The testing included two independent third-party security reviews of DA's technology.

ASX also assessed the Digital Asset Modelling Language (DAML) – an advanced smart contract programming language, and the software development kit (SDK) that will enable customers and their software vendors to independently develop applications on top of the platform provided by ASX.

As is provided today, and reinforced in consultation responses, ASX recognises that users of the CHES replacement system will require flexibility as to how they connect. In ASX's April 2018 Consultation Paper, ASX outlined the various connectivity options for the new system, including direct integration via a DLT 'node' or message based interaction using the global ISO 20022 standard. ASX will convene a Connectivity



and Integration Working Group in September 2018, to assist users in understanding their connectivity options.

2. Other service enhancements

During the reporting period ASX has progressed a number of incremental enhancements to CHES or associated processes and reports. The key enhancements related to core clearing and settlement services² are summarised below.

2.1 Enhancement 1 - ISIN Standardisation

ASX completed a system upgrade to CHES in February 2018 to allow for the standardisation of International Securities Identification Number (ISIN) information. This is part of a broader project progressed by ASX to ensure adherence to the Association of National Numbering Agencies (ANNA) coding standards for ISIN, Legal Entity Identifier (LEI), Classification of Financial Instrument (CFI), and Financial Instrument Short Name (FISN).

Technical and business go-live occurred on 5 February 2018, and the impact on CHES and its users is confined to the ISIN. ASX (as the National Numbering Agency for Australia) introduced a new ISIN format (i.e. the content of an ISIN field) applicable to new financial instruments and cash market deferred settlement trading codes associated with certain corporate actions issued on or after 5 February 2018. The change did not apply to existing ISINs other than for those entities that underwent an issuer code change, or change in domicile to Australia. The new format no longer includes the ASX code (security code), and continues to comply with International Organisation for Standardisation (ISO) ISIN standard 6166. The ISIN for each financial instrument is included in various ASX data products and CHES messages as an informational data item. CHES users were not impacted by the system upgrade, and were not required to perform any testing or technical changes. ASX customers were required to check their own systems and processes for the usage of ISIN to ensure the new format can be accommodated.

ASX consulted with the market on the abovementioned changes, including a consultation paper released on 16 September 2013, entitled *International Securities Identification Numbers: Removing the ASX Code* which proposed changes to the methodology for allocating ISINs issued by ASX over listed equity and other products, through its role as National Numbering Agency for Australia.

ASX received a total of three written submissions to the consultation, including two confidential submissions.

All respondents were of the view that the new methodology proposed should not have a material impact to their internal operations, systems and development effort required to meet the change. Consultation feedback also suggested that an appropriate period, such as six months prior notification, should be provided before the change was affected. Accordingly, ASX agreed that a six month notification period is appropriate and reasonable.

On 13 September 2017 ASX advised the market of a Q1 2018 target implementation period and provided an overview of the scope of the change and the impact on ASX market information products.

2.2 Enhancement 2 – MiFID II changes

One of the key drivers for the implementation of the ISIN change (Enhancement 1, above) was to prevent duplication of ISINs in the market. Another key driver was to assist financial firms in meeting their MiFID II regulatory obligations. ASX, in its capacity as Australia's National Numbering Agency, is responsible for

² Excluding the ASX mFund service.



generating global ISO identifiers for the Australian products. Although MiFID II is a regulatory framework of the European Union (EU) legislation, Australian entities can be impacted directly by virtue of having a licensed branch in the EU, and indirectly through dealing with European Economic Area parties, products and venues.

Effective 5 February 2018, in conjunction with the implementation of the new ISIN format, ASX in its capacity as National Numbering Agency for Australia began allocating a CFI and FISN code identifier to all financial products for which it allocates as ISIN. ASX now reports those ISIN, CFI and FISN identifiers to ANNA. This will assist global firms (including a number of ASX's clearing and settlement participants) with compliance relating to MiFID II and dealings with transaction reporting requirements and surveillance.

2.3 Enhancement 3 – Trade Acceptance Service Settlement Date Change Request

The Trade Acceptance Service (TAS) provides an AMO with non-discriminatory access to clearing and settlement arrangements provided by ASX Clear and ASX Settlement. The service supports transactions in any CHES-eligible financial product executed on the market of an AMO being cleared and settled on an equivalent basis to transactions effected through ASX's cash market.

The participants of an AMO using the TAS requested that the AMO offer the ability to specify the settlement date on off-exchange trade reports as this is a facility they currently utilise in their trading activities on the ASX market.

This was considered high priority by the AMO as the lack of such a capability acts as a significant impediment to market participants.

ASX was requested to change the current CHES 'Trade Registration Request' message (161-02) to include a 'Settlement Date' field. The request applied only to the 161-02 messages reporting trades through the AMO's Trade Report Facility. The changes were implemented by ASX in December 2017 and are available for use.

2.4 Enhancement 4 - Retain User Identification Code for Change of Share Registry

In July 2017 ASX made a change to allow an issuer to retain the same User Identification Code (UIC) when it changed from one share registry provider to another share registry provider. Prior to the change, a new UIC was created for new issuers and when an issuer changes share registry provider. The change enables issuers to move between share registries with greater ease, decreases system risk and has reduced ASX processing time for a change of share registry.

This change had been identified by ASX Operations as a desirable enhancement in order to improve efficiencies in the process. Share registry users were notified of the change.

2.5 Enhancement 5 – AMO Operational Procedures

ASX and the AMOs have mutually agreed Operational Procedures for the maintenance of issuers and their products to allow for the provision of clearing and settlement services by ASX to the AMOs. ASX regularly reviews the Operational Procedures for AMOs and liaises bilaterally with AMOs on any proposed changes, or in turn reviews any operational change requests received from AMOs.

Changes to the procedures drafted and negotiated during the previous review period took effect in August 2017. Refer to the previous report for further details.



ASX has made further enhancements to the procedures, most recently to convert forms previously included as Appendices to the procedures to a fillable PDF form format available via a new public ASX Online web page. ASX advised AMO of the changes on 6 June 2018.

2.6 Other enhancements

During the report period ASX has delivered a number of enhancements internal to ASX to improve its own operational and regulatory processes and reporting capabilities.

3. Future planned enhancements

ASX publishes a quarterly Market Notice to advise of technology upgrade releases planned for the next 6 to 12 months across the various customer facing platforms, including CHESSE. The known future enhancements planned for core clearing and settlement functionality in CHESSE³, including material rule amendments being considered by ASX that will affect processes for core cash equity clearing and settlement services, are outlined below.

3.1 CHESSE Replacement business requirements being progressed as business-as-usual service enhancements

Two business requirements identified by the CHESSE Replacement Business Requirements Working Groups are being progressed by ASX outside of the CHESSE Replacement project, as Business-As-Usual processes, as neither are dependent on the new system. Subject to feedback received as part of consultation on the requirements, including the Consultation Paper “Transfers to the CHESSE Subregister” released 13 July 2018, and subject to the necessary regulatory clearances, ASX considers that both business requirements are deliverable prior to go-live of the CHESSE Replacement system. The two enhancements are outlined below.

3.1.1 Transfers between sub-registers – Custodian off-market transfers

ASX is considering removing the requirement under the ASX Settlement Operating Rules for settlement participants that are not ASX trading participants (“settlement-only participants”), to receive and provide to the issuer a transfer document signed by, or on behalf of, the holder (registrable transfer document) for the transfer of an issuer sponsored holding to a CHESSE holding controlled by the settlement participant.

Transfers involving settlement participants that are also ASX trading participants are not subject to this requirement. This is due to the absence of protections for holders under the National Guarantee Fund (NGF) in respect of an unauthorised transfer by a settlement-only participant.

ASX proposes that this change would be contingent on also amending the ASX Settlement Operating Rules to extend existing measures (which currently only apply to settlement participants that are also ASX trading participants) to settlement-only participants. These measures include:

- the warranty in favour of issuers that the holder has authorised the transfer; and
- the requirement to carry out additional checks that the relevant financial products were deducted from the correct issuer sponsored holding and to undertake rectification steps if this is not the case.

This enhancement will streamline the process giving effect to transfers and align the treatment of settlement participants irrespective of whether they are also trading participants.

³ Excluding the ASX mFund service.



ASX has received support for this enhancement through the CHESSE Replacement Settlement Enhancements Working Group convened as part of the CHESSE replacement consultation process to elicit input on business requirements, and also separately from issuers and their share registries.

On 13 July 2018 ASX released a consultation paper “Transfers to the CHESSE Subregister”, seeking feedback from stakeholders in respect of the proposal, including whether they consider the proposed amendments will adversely impact on holder protections and any additional issues not identified in this paper that should be considered by ASX. The close date for submissions was 10 August 2018. ASX is currently assessing the consultation feedback and its response to that feedback.

3.1.2 Corporate actions – takeover offer

Members of the CHESSE Replacement Corporate Actions Working Group requested that the existing process for acceptance of an off-market takeover offer (in respect of CHESSE holdings) be enhanced to ensure the timely actioning by sponsoring participants of any participant bidder initiated acceptance messages (i.e. where the holder’s takeover acceptance instructions were sent directly to the bidder, not the sponsoring participant for the CHESSE holding). This is on the basis that it would assist to reduce the risk of an entitled holder missing the takeover offer.

The amendments being considered for this business requirement include an additional requirement on sponsoring participants to seek the relevant holder’s instructions when receiving a participant bidder initiated acceptance message so as to be able to promptly respond and an indemnity to the bidder and holder against losses resulting from the sponsoring participant neither accepting or rejecting a participant bidder initiated message within 1 business day.

3.2 Removal of Registered Holder Collateral Cover Authorisation (RHCCA) Form for client accounts from the ASX Clear Operating Rules Procedures

Proposed amendments to facilitate third party security interest over collateral and excess cash

On 3 April 2018, ASX released a consultation paper, “ASX Clear: Removal of Registered Holder Collateral Cover Authorisation Form”. The paper sought feedback from Participants on ASX’s proposals to:

- remove the Registered Holder Collateral Cover Authorisation form for client accounts (RHCCA form) from the ASX Clear Operating Rules Procedures. ASX intends to replace the RHCCA form with amendments to the ASX Settlement Operating Rules and ASX Clear Operating Rules and Procedures that preserve ASX Clear’s interest in, and rights to use and dispose of, CHESSE securities lodged as collateral for clients trading options market contracts. Market feedback has indicated that the current process is inefficient; and
- enable a third party to take a security interest over collateral and excess cash where the parties to the security interest agree between themselves in writing that ASX Clear’s security interest has priority. This will be facilitated via minor amendments to the ASX Clear Operating Rules and Procedures.

ASX received six (6) submissions, five (5) of which were supportive of the proposed amendments. In response to feedback received, ASX made minor amendments to its proposed rules framework. On 6 September 2018, ASX formally lodged the rule amendments with ASIC and shortly thereafter released its response to the consultation paper. The effective date of the final rule and procedure amendments is 1 March 2019.



To the Directors
ASX Limited

Reasonable assurance report on compliance with the Regulatory Expectations as represented in ASX Settlement Pty Limited and ASX Clear Pty Limited's (ASX) Compliance Framework

Independent Assurance Report

Opinion

We have been engaged by ASX Limited on its own behalf and behalf of its subsidiaries ASX Operations Pty Ltd, ASX Settlement Pty Ltd and ASX Clear Pty Ltd (together collectively referred to as the Client Entities) to undertake a reasonable assurance engagement in relation to ASX's compliance, in all material respects, for the year ended 30 June 2018, with:

- the Regulatory Expectations for the Conduct of Cash Equity Clearing and Settlement Services in Australia issued by the Council of Financial Regulators (CFR) in October 2016 and revised in September 2017 (the Regulatory Expectations) as represented in ASX's Compliance Framework which comprises the ASX Code of Practice and related policies and procedures listed in Appendix A (together the Compliance Framework).

In our opinion, ASX has complied, in all material respects, with the Regulatory Expectations as represented in the Compliance Framework for the year ended 30 June 2018

Basis for Opinion

We conducted our engagement in accordance with Standard on Assurance Engagements ASAE 3100 *Compliance Engagements* issued by the Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

ASX's Responsibilities

ASX is responsible for:

- a) The compliance activity undertaken to meet the Regulatory Expectations; and
- b) Identification of risks that threaten the compliance with the Regulatory Expectations identified above being met and controls which will mitigate those risks and monitor ongoing compliance.

PricewaterhouseCoopers, ABN 52 780 433 757
One International Towers Sydney, Watermans Quay, Barangaroo NSW 2000,
GPO BOX 2650 Sydney NSW 2001
T: +61 2 8266 0000, F: +61 2 8266 9999, www.pwc.com.au
Level 11, 1PSQ, 169 Macquarie Street, Parramatta NSW 2150, PO Box 1155 Parramatta NSW 2124
T: +61 2 9659 2476, F: +61 2 8266 9999, www.pwc.com.au



Our Independence and Quality Control

We have complied with the relevant ethical requirements relating to assurance engagements, which include independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

In accordance with Auditing Standard ASQC 1 *Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, Other Assurance Engagements and Related Services Engagements*, the firm maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Assurance Practitioner's Responsibilities

Our responsibility is to express an opinion on ASX's compliance, in all material respects, with the Regulatory Expectations as represented in the Compliance Framework for the year ended 30 June 2018. ASAE 3100 requires that we plan and perform our procedures to obtain reasonable assurance about whether ASX has complied, in all material respects, with the Regulatory Expectations as represented in the Compliance Framework, for the year ended 30 June 2018.

An assurance engagement to report on ASX's compliance with the Regulatory Expectations involves performing procedures to obtain evidence about the compliance activity and controls implemented to meet the Regulatory Expectations. The procedures selected depend on our judgement, including the identification and assessment of risks of material non-compliance with the Regulatory Expectations as represented in the Compliance Framework.

Inherent Limitations

Because of the inherent limitations of an assurance engagement, together with the inherent limitations of any internal control structure it is possible that fraud, error, or non-compliance with compliance requirements may occur and not be detected. Additionally, there is a certain level of subjectivity within the subject matter as represented in the Regulatory Expectations. A reasonable assurance engagement throughout the year ended 30 June 2018 does not provide assurance on whether compliance with the Regulatory Expectations will continue in the future.

Other procedure - Consultation with Business Committee members

As agreed in our engagement letter signed on 3 August 2018, we have performed consultation with Business Committee members as required by the External audit Terms of Reference. Appendix B to this report provides further information on these other procedures and related recommendations.



Matters relating to the electronic presentation of ASX's Compliance Framework

This assurance report relates to the compliance of ASX with the Regulatory Expectations as represented in ASX's Compliance Framework for the year ended 30 June 2018 (compliance subject matter). The Client Entities are responsible for their website and its integrity and we do not accept responsibility for any changes that may have occurred to the compliance subject matter information or ASX's Compliance Framework since they were presented on the Client Entities' website as at the date of this report. We have not been engaged to report on the integrity of this website. The assurance report refers only to ASX's Compliance Framework applicable as at the date of this report. It does not provide an opinion on any other information which may have been hyperlinked to/from ASX's Compliance Framework or to/from Client Entities' website.

Restricted Use

This report was prepared for use by the Directors, officers and employees of the Client Entities to assist ASX in addressing the Regulatory Expectations. We disclaim any assumption of responsibility for any reliance on this report to any other person or for any purpose other than that for which it was prepared.

PricewaterhouseCoopers

PricewaterhouseCoopers

Deanna Chesler

Deanna Chesler
Partner

Sydney
12 September 2018



ASX's Compliance Framework and supporting documents

The table below includes the policies, procedures and other documents which we referred to within our report that form part of the Compliance Framework.

| Compliance framework supporting document | Date | Hyperlink to ASX website |
|--|---|---|
| Regulatory Expectations | September 2017 | https://www.cfr.gov.au/publications/cfr-publications/2016/regulatory-expectations-policy-statement/pdf/policy-statement.pdf |
| Code of Practice | May 2017 | http://www.asx.com.au/cs/documents/asx-code-of-practice.pdf |
| Business Committee Meetings - agendas, papers, minutes and Business Committee reports to the ASX Boards | Various version dates as applicable as at the date of this report | http://www.asx.com.au/cs/business-committee-meetings.htm |
| Clearing and Settlement Boards Charter | November 2017 | http://www.asx.com.au/documents/asx-compliance/CS-Board-Charter.pdf |
| Business Committee Charter | May 2017 | Not on ASX's website |
| Business Committee Role and Membership details | As applicable as at the date of this report | http://www.asx.com.au/cs/business-committee.htm |
| ASX Boards' members details | As applicable as at the date of this report | http://www.asx.com.au/about/asx-clearing-settlement-boards.htm |
| 2014 Oxera report: 'Global cost benchmarking of cash equity clearing and settlement services' | June 2014 | http://www.asx.com.au/cs/documents/Global_cost_benchmarking_of_cash_equity_clearing_settlement_services_Final_20Jun14.pdf |
| 2016 Oxera report: 'Global cost benchmarking: review of price lists' | April 2016 | Not on ASX's website |
| Audited 'Cash Market Clearing and Settlement management income statement' - 2018 | June 2018 | Not on ASX's website |
| ASX internal cost allocation and transfer pricing policy between ASX group entities for clearing and settlement of cash equities in Australia | As applicable as at the date of this report | http://www.asx.com.au/cs/documents/cost_allocation_policy.pdf |
| Audited 'Cash Market Clearing and Settlement management income statement' - 2017 | June 2017 | https://www.asx.com.au/cs/financial-statements.htm |
| Enterprise Wide Pricing Framework | January 2017 | Not on ASX's website |
| Clearing, Settlement and Issuer Administration Services Schedule of Fees | December 2016 | https://www.asxonline.com/content/dam/asxonline/public/documents/schedule-of-fees/clearing-settlement-and-issuer-administration-services-schedule-of-fees-effective-1-Dec-2016.pdf |



| Compliance framework supporting document | Date | Hyperlink to ASX website |
|--|-------------|---|
| Consultation Paper 'CHESS Replacement: New Scope and Implementation Plan' | April 2018 | https://www.asx.com.au/documents/public-consultations/chess-replacement-new-scope-and-implementation-plan.pdf |
| ASX Trade Acceptance Service (TAS) – Review of Legal Terms | Feb 2016 | http://www.asx.com.au/documents/public-consultations/Review of TAS Legal Terms.pdf |
| Settlement Facilitation Service (SFS) Agreement | March 2014 | http://www.asx.com.au/documents/settlement/Settlement Facilitation Service Agreement Template.pdf |
| ASX Cash Equities Clearing and Settlement Code of Practice - Access Protocols | July 2017 | http://www.asx.com.au/cs/documents/COP-Access-Protocols-1-7-17.pdf |
| Procedures for Access Requests by Approved Market Operators (AMOs) | July 2017 | http://www.asx.com.au/cs/documents/AMO-Procedures-for-Access-Requests.pdf |
| Procedures for Access Requests by Approved Listing Market Operators (ALMOs) | July 2017 | http://www.asx.com.au/cs/documents/almo-procedures-for-access-requests.pdf |
| ASX's Conflict Handling Arrangements | March 2016 | http://www.asx.com.au/documents/asx-compliance/asx_conflict_handling_arrangements.pdf |
| Information Handling Standard | May 2018 | Not on ASX's website |



Consultation with Business Committee members

Per the terms of our engagement, we are required to “seek feedback from the members of the Business Committee in relation to ASX’s compliance with the Regulatory Expectations”. To that effect, we sent a questionnaire to 24 Business Committee members, seeking feedback on the compliance of ASX with the Regulatory Expectations. We received 11 responses, all of which have been provided to ASX.

Where the Business Committee member comments directly related to compliance with the Regulatory Expectations, we designed procedures for us to obtain sufficient appropriate evidence about the compliance of ASX with the Regulatory Expectations. We have not performed testing in relation to the responses which were not directly related to compliance with the Regulatory Expectations.

We did not note any instances of non-compliance with the Regulatory Expectations through our review of the Business Committee members’ responses.

| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 3A | |
|---|--|
| Topic | CHES Replacement – Program Update |
| Date | 28 September 2018 |
| Purpose of this paper | Members will be provided with a program update including ASX’s formal response to the feedback received on ‘CHES Replacement: New Scope and Implementation Plan’ consultation paper |

OVERVIEW

The CHES replacement program continues to gather pace and is tracking to plan with new resources being added and work underway for the delivery of the first tranche of customer technical documentation in December 2018.

ASX released its response to the public consultation on ‘CHES Replacement: New Scope and Implementation Plan’ on 4 September 2018. The paper provided a summary of the responses received and detailed the changes ASX has made to the scope and implementation plan as a result of industry feedback. This included lightening the Day 1 scope and extending the earliest commencement date for the new system by six months, to March or April 2021. These changes were made in response to stakeholder feedback.

Program Update

Software development continues by both Digital Asset (DA) and ASX to build and test the solution in readiness for customers to begin development by connecting to the Customer Development Environment (CDE) in April 2019. Delivery of the first tranche of customer technical documentation to facilitate users’ development and testing also remains on track for December 2018.

In parallel, solution design and development work continues on the new Day 1 scope items. This work has been strengthened with the appointment of two new subject matter experts (SMEs) who complement the existing team by bringing with them a strong custodial and institutional broking background.

Katie McDermott, General Manager, Equity Post Trade, has been appointed the lead on the CHES replacement project, reporting to Cliff Richards.

The ISO 20022 work to map all the equivalent ‘as-is’ messages to a consolidated set of messages is now complete. The consolidated target ‘to-be’ message mapping state is in progress. See agenda item 3b for further details.

ASX hosted several full days of DAML SDK (Digital Asset Modelling Language – Software Development Kit) training in July and August. The training has now been attended by eight clearing and settlement participants and four vendors. This training will continue to be made available for clearing and settlement participants and their back-office system vendors where there is demand.

ASX’s response to feedback received on ‘CHES Replacement: New Scope and Implementation Plan’ consultation paper

ASX provided its response to industry feedback on the consultation paper, ‘CHES Replacement: New Scope and Implementation Plan’ on 4 September 2018. The paper sought industry feedback on the new and enhanced business functionality proposed for the new equity clearing and settlement system; some redundant services that would be decommissioned; the draft plan for implementation of the new system; and the testing and transition arrangements. The paper also described the system’s high-level technology architecture for the DLT-based model and connectivity options.

In total, ASX received 41 written submissions, many of which were detailed and extended beyond the scope of the specific questions asked.

ASX's response to consultation feedback included a summary of the responses received and detailed the specific changes ASX has made to both the Day 1 scope and timeline. This included revising the earliest commencement date for the new system to March or April 2021 (rather than 4th quarter 2020). The revised timeline affords users additional time for software development and testing.

ASX continues to develop the material required by participants to continue their project planning to interface to the replacement solution. This material will be made available through a number of mediums such as the working and focus groups outlined in the responses paper.

Additional Stakeholder Engagement

ASX's response to consultation feedback outlined a forward work plan for key stakeholder activities including focus groups (on some new requirements), and the two new working groups to be convened, the Connectivity and Integration working group and the Implementation and Transition working group. Both working groups will also be supplemented with dedicated focus groups where there is a need to drill down on detail for specific matters such as the clean-up of dormant CHES holders.

ASX can now confirm the Connectivity and Integration working group will convene in October. It will follow the next webinar that has been scheduled for 3 October 2018, where a broad range of interested parties will be invited to register. This webinar will provide a general update on the project and provide additional detail on the technology solution including the different connectivity options. This webinar will seek to level-set the industry's understanding on the overall technology architecture with the aim of ensuring a common understanding on some key design principles. This will then lay the foundation for drilling down into more detail in subsequent webinars and working group meetings.

To this end, a second webinar is planned for 10 October 2018, which will be specifically targeted to clearing and settlement participants and vendors. It will focus on providing additional information on what it means to take a node and the features for reporting this connectivity option provides.

The purpose of both webinars is to provide the relevant information to the right group of stakeholders on the different connectivity options. This will help users to determine where they want to invest time to drill down into further detail as the Connectivity and Integration working group proceeds on the specific options in classroom style meetings. The meetings are envisioned to allow the right group of people to come together in a room to facilitate an interactive discussion. In contrast, the webinars are seeking to address as many of the common and unanswered questions with as many stakeholders as possible and therefore by design, are less interactive.

In parallel, focus groups on some new features will convene in October. The first session will focus on account structures and hierarchy, and holder registration details. This will be followed by focus groups in November on settlement instruction related new features including bilateral transaction matching, linking and settlement locks.

| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 3B | |
|--|---|
| Topic | ISO 20022 Technical Committee Report and Minutes |
| Date | 28 September 2018 |
| Purpose of this paper | To provide Business Committee members with a copy of the report and minutes from recent meetings of the ISO 20022 Technical Committee. |

OVERVIEW

The ISO 20022 Technical Committee met on 26 June, 31 July 2018 and 4 September 2018. A copy of the Technical Committee's report and minutes for the first two of those meetings are attached.

A verbal update on the third meeting will be provided at the meeting.

The Forward Work Plan for the ISO 20022 Technical Committee is provided in Attachment D.

ATTACHMENTS

Attachment A – ISO 20022 Technical Committee Reports - 26 June and 31 July meetings

Attachment B - ISO 20022 Technical Committee Minutes - 26 June meeting

Attachment C - ISO 20022 Technical Committee Minutes - 31 July meeting

Attachment D - ISO 20022 Technical Committee Forward Work Plan

ISO 2022 Technical Committee Report to the Business Committee

This report provides an overview of two ISO 2022 Technical Committee meetings held on 26 June and 31 July 2018, and a summary of the agenda for the 4 September 2018 meeting.

ISO 2022 TECHNICAL COMMITTEE MEETING 26 JUNE 2018

The Technical Committee met on 26 June 2018 in Sydney.

MEETING AGENDA (NON STANDARD ITEMS)

Business and Technical Matters For Consideration:

- Review feedback on draft published messages - netting
- Further review of Notified Broker to Broker Trade 'to-be' messaging
- Registration details – further discussion
- Creation of account (HIN)
- More information on sample xml considerations
- Review of 'to-be' messaging – sett_101, sett_104

KEY ISSUES DISCUSSED

- The Chair reviewed open action items from the previous meeting, and noted that:
 - One open action item remained on hold;
 - One open action item was closed; and
 - Three open action items remain open.
- The committee members were provided with an update on the CHES Replacement project, focused on ASX's initial analysis of responses to the public consultation which closed on 22 June. ASX noted that next steps include preparation of a public response, kicking off the Connectivity and Integration working group and a number of focused working groups.
- ASX noted that Digital Asset would commence training on the DAML Software Development Kit (SDK) from July, and that a link to register with Digital Asset for the DAML SDK is available on ASX's CHES Replacement website.
- As part of the ISO 2022 project update, ASX confirmed that the ISO team had been working on various topics alongside the requirements stream, including trade registration, netting, unnetting, account management, party roles and continued work on registration details. ASX seized an opportunity to submit a change request to the ISO 2022 registration authority in early June, regarding addition of Business Date in the Business Application Header (BAH). The request was acknowledged and the next

step was to wait for the process of review. The committee endorsed ASX's recommendation that 'to-be' mapping continue on the assumption that the change request would be approved.

- The ASX analysts presented a number of ASX updates and recommendations to the committee with regard to the matters for consideration.
 - ASX played back key points of feedback on the published draft 'to-be' netting messages.
 - ASX requested member input on the ASX recommendation to use coordinated universal time (UTC) for Transaction Date Time in the sett_101 (equivalent to EIS 164) message.
 - ASX presented more information on its review of registration details – focused on name, address and designation, including typical usage, use of abbreviations and breaches of existing standards. ASX was carefully considering how new standards would be applied in CHES Replacement and appreciated the impact this might have on stakeholders. This was a priority item for the project. Share registry members offered to review their own data to ascertain statistics around abbreviations, ampersand usage etc. Questions were asked around the size of the problem (the extent of inconsistencies in current registration details) and the need to give consideration to the envelope window size used by mailing houses.
 - ASX provided an overview of account (HIN) creation usage guidelines, noting the guidelines were still in draft.
 - ASX provided an overview of sample xml document considerations, in the context of ASX starting to provide sample xml messages together with published draft 'to-be' usage guidelines. The Chair noted that a SWIFT representative would provide an overview of the SWIFT MyStandards Readiness Portal tool at the next meeting.
 - ASX provided an overview of the two draft usage guidelines to be published in MyStandards for review by committee members. ASX noted it would provide sample xml and code list.

AGREED ACTIONS

One additional action item was raised at the meeting, with four outstanding action item noted. The action items are detailed in full in the Minutes from the meeting. Minutes from the meeting are attached.

ISO 20022 TECHNICAL COMMITTEE MEETING 31 JULY 2018

The Technical Committee met on 31 July 2018 in Melbourne.

MEETING AGENDA (NON STANDARD ITEMS)

Business and Technical Matters For Consideration:

- MyStandards Community – ‘to-be’ usage guidelines feedback
- Account management update – consolidation
- Overview of Technical Documentation
- Overview of SWIFT MyStandards Readiness Portal

KEY ISSUES DISCUSSED

- The Chair noted that of five open action items, two actions remained open, two had been closed, and one action item remained on hold.
- The committee members were provided with an update on the CHES Replacement project, centred around the key themes and questions arising from the 41 submissions ASX received to its consultation on the new scope and implementation timeline. Members questioned whether they would have opportunities for further feedback, and it was confirmed that this would be the case. ASX advised its response to consultation would be available in the next 3 to 4 weeks, and would answer questions for which ASX currently had answers, and that ASX would otherwise continue work, including industry representatives where needed.
- As part of the ISO 20022 project update, ASX noted the questionnaire sent to members regarding the current EIS 164 message and ASX proposed changes. Some responses had been received and ASX requested other members to respond prior to the next meeting to enable ASX to provide a summary and outcomes. ASX provided an update from the 30 July Securities Evaluation Group meeting, which was focused on change requests proposed for standards release 2019. ASX committed to providing members the details of where they could find further information on change requests and the release. In relation to ASX’s change request to the ISO 20022 registration authority for the Business Application Header (BAH), ASX updated members that SWIFT had confirmed the change request would be reviewed by the Technical Support Group (TSG).
- ASX provided an update from the last Business Committee meeting held on 5 July, a meeting which was largely aligned to the project update provided to members regarding responses to the CHES Replacement consultation paper. Another agenda item for the meeting was an update on the Corporate Actions STP project, for which ASX would form a working group. Members of the technical committee had a number of questions regarding the STP project and composition of the working group, and ASX committed to providing more information regarding the project.
- ASX provided an overview of account management update process and that a number of existing EIS messages would be consolidated to a single equivalent ISO 20022 message. This would also assist with achieving straight through processing of updates. ASX provided an overview of the Technical Documentation to be developed and released by ASX for the CHES Replacement project; generally three months ahead of technical releases with the first release in December 2018. Updates will be broadcast and shared with relevant stakeholders, and will allow stakeholders to commence early development and testing of message formats through the SWIFT MyStandards Readiness Portal. ASX was

currently assessing the possible platforms to host the documentation, and would showcase the platform to stakeholders ahead of the first release.

- A SWIFT standards consultant provided an overview and live demonstration of the SWIFT MyStandards Readiness Portal, an online tool which will allow members to format test their own developed messages against the ASX published message specifications. ASX confirmed the Readiness Portal would be available at the same time as the December release of Technical Documentation.

AGREED ACTIONS

Five additional action items were raised at the meeting, with a total of eight outstanding action items noted. The action items are detailed in full in the Minutes from the meeting. Minutes from the meeting are attached.

ISO 20022 TECHNICAL COMMITTEE MEETING 4 SEPTEMBER 2018 - Sydney

The agenda for the 4 September 2018 meeting included the following matters for consideration. A detailed report and minutes from the 4 September meeting will be provided at the next Business Committee meeting.

MEETING AGENDA (NON STANDARD ITEMS)

Business and Technical Matters For Consideration:

- Security holding locks
- Unilateral and bilateral demand transfer
- Usage guideline annotation standard
- Review feedback on questions for EIS 164/sett_101, next steps
- Review of 'to-be' messaging to be shared with members for comment



MINUTES OF THE ISO 20022 TECHNICAL COMMITTEE

Tuesday 26 June 2018
ASX offices, Sydney; Webinar

-
1. **Welcome, Agenda**

 2. **Minutes from last meeting, open actions**

 3. **CHESS Replacement project update by ASX**

 4. **ISO 20022 project update by ASX**

 5. **Update from Business Committee**

 6. **Matters for Consideration (Business and Technical Matters)**
 - a) Review feedback on draft published messages - netting
 - b) Further review of Notified Broker to Broker Trade 'to-be' messaging
 - c) Registration details – further discussion
 - d) Creation of account (HIN)
 - e) More information on sample xml considerations
 - f) Review of 'to-be' messaging – sett_101, sett_104

 7. **Next Meeting - 31 July 2018 – Melbourne, webinar**



Technical Committee Members

| Company | Name | Job Title | Apologies |
|-------------------------------------|--------------------|--|-----------|
| Australian Payments Network Limited | Andy White | Chief Operating Officer | Apology |
| Australian Payments Network Limited | Paul Creswick | Security Standards Manager | Apology |
| Bank of America Merrill Lynch | Andree Hindmarsh | Head of GMOT Australia | |
| Bank of America Merrill Lynch | Jimmie Alam | | |
| Bell Potter Securities | Dean Surkitt | Managing Director Retail | |
| BNP Paribas Securities | Narelle Rutter | Head of Local Custody & Clearing Operations | |
| BNP Paribas Securities | Wayne Murphy | Project Manager | |
| Boardroom Limited | Tony Robinson | Senior Software Engineer | |
| Boardroom Limited | Michael Mullins | CIO | |
| Broadridge (Australia) | Manoj Mathew | Business Analyst | |
| Broadridge (Australia) | Mabel Chow | Development and Support Manager | |
| CBA Equities | Joel Cox | Technical Business Analyst | |
| CBA Equities | Carolyn Webb | Test Manager | |
| CBA Equities | Ben Lowe | Manager Settlements | |
| Chi-X Australia | Mike Aikins | Head of Solution Development | |
| Chi-X Australia | Suketu Adhvaryu | Senior Solution Architect | |
| Citicorp | Miles O'Connor | Director, Direct Custody & Clearing Securities Markets & Securities Services | |
| Citicorp | Andrew Gibson | Director – Head of Direct Custody and Clearing Australia & NZ | |
| Citicorp | Brett Dennis | Head of Operations – Party Clearing | |
| Citicorp | Lyall Herron | | |
| Citicorp | Janice O'Brien | Markets & Securities Services Technology | |
| Citicorp | Matthew Warner | | |
| Citicorp | Ashok Kumar Balusa | | |



| Company | Name | Job Title | Apologies |
|-----------------------------|-------------------|--|-----------|
| Citicorp | Glenn Pahilan | | |
| Citicorp | Stephen Rylands | Product Manager | |
| CMC Markets Stockbroking | Nikola Vanstan | Change Manager | |
| Computershare | Paul Walton | Senior Manager, Corporate Actions & New Business Development – Investor Services | |
| Computershare | Leanne Bailey | Senior Business Analyst Product & Innovation | |
| Computershare | Laik Tan | | |
| Deutsche Securities | Kevin Novini | | |
| Digital Asset | Fil Mackay | Senior Product Architect | |
| Dion Global Solutions | Craig Gray | Product Manager – Australia and NZ | |
| Dion Global Solutions | Nikki Gleisner | Account Manager | |
| GBST | Andrew Murdoch | Product Specialist, GBST Capital Markets | |
| GBST | Sue Schafer | Product Owner | |
| Goldman Sachs | Darrel Schwarz | Technology Vice President | |
| Goldman Sachs | Josh Rice | | |
| Goldman Sachs | Nidhi Luthra | | |
| HSBC Securities Services | Gregory Wilkin | Head of HSBC Operations | |
| HSBC Securities Services | Salih Kulic | Manager Custody | |
| HSBC Bank Australia Limited | Michael Macintosh | Senior Client Account Manager, Global Liquidity and Cash Management | |
| HSBC Bank Australia Limited | Anna Fratini | Senior Product Manager – High Value Payments, Clearing and Financial Institutions, | |
| HSBC Bank Australia Limited | Phyllis Yeung | Senior Analyst | |
| JP Morgan | Ed Lawson | Settlements Manager | |
| JP Morgan | Danny Ng | Middle and Back office AD Manager | |
| JP Morgan | Scott Oakland | Direct Custody Product Manager Australia | |
| JP Morgan | Ned Minglez | | |



| Company | Name | Job Title | Apologies |
|---------------------------|------------------|--|-----------|
| JP Morgan | Daniel Smith | VP, Network Management | |
| JP Morgan | Lesley Henderson | Technology Product team | |
| Link Group | Ian Batterham | Business Applications Architect | |
| Link Market Services | Sue Julian | National Manager, Corporate Actions | |
| Macquarie Group | Paul Bragg | Senior Manager Equities Clearing ANZ | |
| Macquarie Group | Merrilyn Auton | Manager Operations | Apology |
| Morgans Financial | Matt Neubauer | Team Leader, Service Management Team | |
| Morgans Financial | Ed Strike | IT Manager | |
| Morgan Stanley | Dorothy Wilson | Executive Director, Morgan Stanley Wealth Management, ISG Technology | |
| Morgan Stanley | Kirsty Venters | VP, Prime Brkrng Funding & Fin Tech | |
| Morgan Stanley | Oscar Dela Cruz | | |
| Morgan Stanley | Andrew Fielder | | |
| Morgan Stanley | Gordon Davies | VP/Firmwide Ops | |
| Morgan Stanley | Andrew Sime | | |
| NAB Asset Management | Suresh Chinnappa | Head of Custody Service Operations | Apology |
| National Stock Exchange | Lina Lim | Head of Technology | |
| Nomura Research Institute | John Ryan | Senior Consultant | |
| Nomura Research Institute | Ashish Jha | | |
| Northern Trust | Yen Pan Chung | Senior BA, Market Advocacy and Innovation Research | |
| Securitease | Anton Smith | Director | |
| Securitease | Chris Werry | Business Analyst | |
| Securitease | Angela Losurdo | Business Systems Analyst | |
| Share Investing | Phil Barnes | Senior Manager, Platforms | |
| SWIFT Standards | Nicole Jolliffe | Senior APAC Standards consultant | |
| Sydney Stock Exchange | Leo Zhang | Business Analyst | |
| Sydney Stock Exchange | Jason Shen | Market Operations Officer | |
| UBS | Phillip Drury | Phillip Drury, Executive Director, Equities IT | |
| UBS | Duncan Earl | Executive Director, Head of Change, UBS Group Operations | |
| UBS | Neil Martin | IT – Project Management | |
| Wealthhub Securities | James Channon | Manager, Capital Markets Trading | |



ASX Management

| Name | Job Title | Apologies |
|---------------------------|--|------------------|
| Tim Hogben | Chief Operating Officer (Chair of the Technical Committee) | Apology |
| Cliff Richards | Executive General Manager, Equity Post Trade Services | Apology |
| Brendon Luscombe | General Manager, Product Owner, CHES Replacement Project | |
| Karen Webb | Senior Manager, Equity Post Trade Services (Acting Chair) | |
| Keith Purdie | Senior Manager, Equity Post Trade Services | |
| Russell Eyre | Enterprise Architect | |
| Anne-Marie Fisher-Taylor | Team Lead, Application Development | |
| Darcy Wright | Senior Business Analyst, Equity Post Trade | |
| Priscilla Ferri de Barros | Senior Business Analyst, Equity Post Trade | |
| Nicky Darwin | Senior Business Analyst, Equity Post Trade | |
| Gary Hobourn | Senior Economic Analyst, Regulatory and Public Policy | Apology |
| Fraser Moodie | Manager, Integration and Connectivity, CHES Replacement | |
| Katie McDermott | General Manager, Equity Post Trade Services | |



The meeting commenced at 3.00pm.

Agenda item 1: Agenda overview

The Chair welcomed Technical Committee members to the meeting including members attending by webinar.

The Chair outlined the Agenda for the meeting, referring to the presentation slides prepared by ASX.

Agenda item 2: Minutes from last meeting, open actions

The Chair noted that the minutes from the last meeting held on 22 May 2018 had been finalised and no comments had been received from members. The minutes had been distributed and published on the web page.

The Chair noted the outstanding actions from the last meeting as outlined on slide number 5 in the ASX presentation.

Action item 20 was for ASX to provide a proposed plan for the remaining training webinars. The Chair noted that ASX was still considering when the delivery of industry training would be appropriate during ASX's progression of the 'to-be' state, and particularly was for consideration alongside other working group activities and documentation information. **This item remains on hold.**

Action item 50 was for Digital Asset to review the NDA regarding the DAML SDK and respond to questions around one way vs. two way. The member representing Digital Asset confirmed that requests from participants for modifications to the NDA had been received and would be reviewed on a case by case basis. At least one participant had provided an amended NDA re one way protection and that had been processed. ASX notes that negotiations on the SDK are directly between a participant and Digital Asset. **This item was closed.**

Action item 51 was for ASX to consider how impacted stakeholders could be engaged on the standards for registration details prior to the next meeting. The Chair noted members concerns regarding the potential changes to the registration details and the meeting agenda item for further discussion. ASX was currently working on a well-considered approach to the changes. The Chair invited ASX's General Manager, Product Owner - CHES Replacement Project to provide further information. The General Manager confirmed this was an important topic and that ASX was analysing feedback from consultation responses, as well as a few other considerations prior to convening a group to review registration details. ASX would also talk to its own mailing house for views on address sizes for example, given they would likely be similar to other mailing house's considerations. ASX expected that a focus group could be convened in third quarter of this year to review ASX information, discuss all issues and come to an agreement on how to move forward. Registration details was currently rated ASX's number one topic for the project. **This item remains open.**

Action item 52 was for ASX to give consideration to how it would advise users of any change to the external code lists and report back to members. The Chair noted that ASX did not yet have a specific response. This would be considered in the scope of documentation being prepared for the market, including how ASX would publish and advise users of changes. At the next meeting of the Technical Committee ASX would provide an overview of the project documentation. **This item remains open.**



Action item 53 was for Members to answer four questions if they are considering using a BIC as their party identification: whether they would use a new or existing BIC, whether the BIC was connected or non-connected, whether it was a BIC8 or BIC11, and if that BIC would apply to all activity for that organisation or actor, or for single or multiple activities. Members were requested to provide examples, if possible. The Chair noted that ASX had received one response to date, and requested that other participants share this information with ASX as soon as possible. **This item remains open.**

Agenda item 3: CHES Replacement project update by ASX

The Chair invited the Senior Manager, Equity Post Trade Services to provide an update on the project.

The Senior Manager provided an overview of the Consultation process, confirming the 8 week consultation period closed last Friday (22 June) and thanked everyone for their responses. It was noted that ASX had received a number of responses, close to the 36 written submissions received to the 2016 consultation paper. A small number of entities had missed the Friday deadline with their responses expected within the next week. The Senior Manager noted that some responses were very detailed. Many responses had provided specific feedback on the new features outlined by ASX - including requirements ASX may have missed, or provided opinions on priority.

The next step for ASX was to distil and analyse the feedback and understand the common themes that respondents broadly agreed on; tease out areas where there were differing perspectives and views; and continue to work on a roadmap for future stakeholder engagement taking into account the feedback. ASX will prepare a public response to the written submissions and was targeting late July, but the timing would be dependent on the size of the review effort, given the amount of feedback. The Senior Manager noted that ASX would provide a preliminary summary of responses to the Business Committee meeting on 5 July.

The Connectivity and Integration working group was expected to kick off in September. The General Manager, Product Owner also confirmed that there were expected to be a number of focused working groups convened to discuss new features.

The Senior Manager provided an overview of the additional information now available regarding Digital Asset's DAML Software Development Kit (SDK). A link was available on ASX's CHES Replacement web page to register with Digital Asset. Training on DAML SDK would be provided from early next month, including a one day hands-on training course that would be primarily of a technical nature and would suit programmer or technology developers.

A member asked if ASX could provide any further information on the planned topics for the Connectivity & Integration working groups. The Senior Manager confirmed that ASX would start outlining the topics particularly with reference to the consultation responses, and ASX should be in a position to share that information in the near term. Kick off of the working group was expected in mid-September 2018.

Agenda Item 4: ISO 20022 project update by ASX

The Chair provided an update on the ISO 20022 project, noting that members of the ASX ISO team had been working on various topics alongside requirements stream. These topics included trade registration, netting, unnetting, account management, party roles and continued work on registration details.



The Chair confirmed that ASX continued to engage globally on the standards adoption, including joining the SEG meetings that are held each month, the most recent on the previous evening. The SEG would start reviewing the change requests submitted for the 2019 standards release as well as new message submissions made by other FIs or markets. The T2S evaluation team hadn't met since March, pending the work to be done by the 4CBs to make updates to the reda and admi messages, as requested by ASX and others. ASX expected to see some progress in the next month or so.

The Chair noted an exciting development in ASX's work. A small window of opportunity presented in early June with regard to the Business Application Header (BAH). ASX had previously been advised by the SWIFT standards team that there was little chance of changes to the BAH, as it was used broadly across message sets. SWIFT had heard that others had submitted change requests regarding the BAH, so ASX should consider any changes required. ASX submitted a change request to the ISO 20022 registration authority in early June to include Business Date in the BAH (equivalent to EIS Processing Date that formed part of the EIS Processing Timestamp BP21 field). This would allow a more elegant solution that will be consistent, compared to the current inconsistent mapping of this field within the body of various messages. The request had been acknowledged and the next step was to wait for process of review.

ASX recommended that the committee accept ASX's approach to submit the change request, and that ASX continue 'to-be' mapping on the assumption that the Business Date would be included in the BAH, as if the change request would be approved, rather than mapping the date to different elements in message content.

A member asked if ASX knew which market practice group would be considering the BAH changes. The member attended global meetings of SMPG and could help to promote the change on behalf of the community. The SWIFT representative confirmed they will source this information and advise ASX.

The committee endorsed ASX's approach to the change request and mapping of the Business Date in the 'to-be' messages.

Agenda item 5: Update from Business Committee

The Chair noted that the next Business Committee meeting was scheduled for Thursday 5 July, with a focus on CHES Replacement as it has been for the past few meetings. ASX was planning to provide a preliminary overview of responses received to the consultation paper and general project update. Other agenda items included an update on Regulatory Expectations for the provision of Clearing and Settlement Services, including the annual audit. ASX would also provide reports from the Technical Committee, and provide an update on the Corporate Actions STP Phase 2 project, as well as the forward work program for the Business Committee and the Technical Committee. The following meeting is planned for September.

Agenda item 6: Matters for Consideration

a) Review feedback on draft published messages – netting

The ASX Senior Business Analyst noted that comments had been received from one participant and one vendor on the recently published draft 'to-be' messages, including comm_801, sett_102 and sett_170. Comments had also been submitted on the 'as-is' collection, with nothing of note to call out.



ASX had not received any feedback on the sample xml and external code list provided. The Senior Business Analyst asked if members had found the attachments useful. One member noted the extra information was definitely helpful. The Senior Business Analyst noted that the samples were rich in content and annotated.

As outlined on ASX presentation slide number 11 the Senior Business Analyst touched on the key points of feedback. A general comment had been raised questioning why ASX was specifying so many guidelines specific to each scenario, rather than one base message guideline to support various uses. The Senior Business Analyst noted an example like T2S, where single base messages were the norm, but had the overhead of a very large accompanying rule book to describe how to use the messages. The SWIFT standards team had advised against this approach. ASX was also consolidating where possible, so looking to reduce from over 500 current CHESS EIS messages to a smaller number.

b) Further review of Notified Broker to Broker Trade 'to-be' messaging

The ASX Senior Business Analyst referred to the previous meeting's initial overview of the ISO 20022 equivalent (sett_101) of the current EIS 164. Further information was now available to introduce key concepts in the message, including segregation of clearing and settlement roles, trade leg details, concept of the buy/sell indicator, masking of data within the sett_101, who receives sett_101, and an overview of the associated cancellation message.

Referring to ASX presentation slide number 13 the Senior Business Analyst provided an overview of a key change to separately identify clearing participants and settlement participants (as was done in other markets). If the same entity performed both roles, the message would be populated with the two values with the same details. In future this could be different to accommodate the separation of participant roles. These could now be differentiated in the same message.

Referring to ASX presentation slide number 14 the ASX Senior Business Analyst provided information on trade leg details. The analyst noted as per last meeting, the Trade Execution Identifier had been moved into the body message. A Trade Date timestamp was mandatory in the base message, and ASX proposed this would include the date, with time zeroed out. ASX was also recommending that Transaction Date Time (<TxDtTm>) is UTC and was seeking members' feedback on this point. The analyst explained the reason to do this was to keep a consistent date format with AMO records. No concerns were raised by members. The Chair suggested that members should review the recommendation and provide any feedback prior to the next meeting. **[Matters Arising – Action item 54]**

The Senior Business Analyst also noted that the Buy Sell indicator in the message drove other data population within the message. Depending on which side of the transaction a participant was on, this influenced the data presented, including the message recipient, counterparty information. The Trading Party field was also dependent on the Buy Sell indicator.

Referring to ASX presentation slide number 15, the analyst outlined the clear identification of the three parties to the transaction, including clearing participant, settlement participant and trading participant. Again, the display depends on which side of the transaction (i.e. buy/sell) the participant was on. On presentation slide number 16 an example of the presentation of masking information was provided – related to a novated market trade. The analyst confirmed that no changes to masking rules were anticipated. Presentation slide number 17 provided an example of the messages and details sent to each party. There was no loss of information compared to the existing EIS 164, it is presented in a different



format. Finally presentation slide number 18 provided an overview of the related cancellation message sett_104 (equivalent to EIS 116). The cancellation reason would be provided in an external code list.

c) Registration details – further discussion

The Senior Business Analyst referred to prior discussions regarding changes to registration details. ASX was presenting more information on the review ASX was undertaking on registration details and considerations for adoption of ISO 20022.

The analyst provided a recap on the 'as-is' registration details, and provided an example of usage for foreign and domestic addresses. While the 'as-is' details were present in up to 6 lines of 30 characters each, the ISO 20022 'to-be' information will be segregated into different fields – for example, name, address, post code, town name, country. The analyst noted that while the current EIS used the same fields for all information, there were rules provided about how to segregate that information (e.g. name, address) within the fields.

The analyst provided an overview on 3 areas of focus by the ASX team – name, address and designation. Firstly, the current examples for the capture of a holder's name in registration details. ASX's analysis revealed that some records showed the use of up to 5 lines to populate name, leaving only one line to include the address details. There was also evidence of a number of joint accounts. CHES currently allowed for 3 joint accounts, and in the future this may need to be increased. ASX was continuing its investigation of the ATO and SMSF requirements that could possibly increase the number of names to six. This information meant that sufficient field size should be provided to accommodate name in the future. The ISO 20022 field for name allows up to 350 characters. The ASX had also found that while the APG outlined standards for representation of name in the data, especially regarding abbreviations, there was evidence of the standards not being followed. For example, some joint accounts used ampersand character instead of "+", and incorrect representation of the names through abbreviation.

This means that the practices used are in some circumstances ignoring the standards, and due to space limitations are likely to limit the ability to represent the holder's name accurately in CHES compared to participants own systems.

A member asked how many examples of 5 lines being used for name and what was the size of the problem. The Chair responded that regardless of size, we still need to migrate these holder details effectively. ASX was attempting to demonstrate the current usage samples. The ASX Senior Business Analyst added that even if CHES data had less than 5 lines usage of name, it is highly likely the names were still being abbreviated to fit in the current field sizes. This indicates a need for increased fields.

Share registry members offered to review their own data to ascertain statistics around abbreviations, ampersand usage etc. A member asked if ASX has data on how many accounts were using incorrect characters. The Chair noted that the key point was that evidence was suggesting that current CHES fields are not allowing the ability to accurately reflect the holders name and address, and that we should be attempting to do this in CHES Replacement.

A member asked that where "Est." was added for a deceased estate, was that a consideration for data cleaning and segregation. The Chair noted that ASX would check with the requirements team if this particular attribute had been reviewed yet and would inform members.



A member asked if there should be any consideration to segregate the name itself into first name, last name etc. The ASX Senior Business Analyst responded that ISO only had one field available for name. ASX's preference was not to break the standard. The Chair noted that ASX had provided an overview at the last meeting regarding typical usage in other markets that had adopted ISO 20022. All examples had used a single name field.

Referring to ASX presentation slide number 22 the ASX Senior Business Analyst provided an overview of the considerations for address fields. The analyst had reviewed various samples, particularly international samples. The evidence indicated that a maximum of 5 lines and 180 characters was not sufficient to allow complete address information. In ISO 20022 the address fields were more flexible, and there may be a number of options for the adoption approach. In ISO 20022 can have up to 5 lines up to 70 characters each. We could agree to leave this as is with no restrictions (total 350 characters); or second option to restrict to lower number of lines, and lower number of characters. ASX and the members would need to make this decision based on typical usage, and taking into account future requirements. ASX was not expecting a decision now but describing the options for members' consideration.

A member suggested that one of the issues previously raised was the envelope window sizes used by mailing houses, and was interested to know if any members had checked with mailing houses the maximum sizes available. This was probably an important consideration for the decision. The Chair confirmed that ASX would be checking with its own mailing house ready for further discussions. The Chair also noted that ASX was also looking at the Australia Post standards.

The ASX Senior Business Analyst provided an overview of the considerations for designation information, referring to ASX presentation slide number 23. For current CHES there were standards described in the APG where designation should not be more than 30 characters. This was a recommendation, and CHES was not currently validating this data. ASX had found some samples where designation information was greater than 30 characters, with largest at 56 characters. The analyst noted that designation would be separated into a separate field, and also need to consider the size.

A member suggested the EIS doesn't currently specify a limitation, but they hadn't checked the APG. The analyst confirmed that the APG does provide guidance. The member confirmed they would check their own registry data.

In summary the ASX Senior Business Analyst provided a recap on the differences between application and schema validation for the registration details proposed by ASX.

The analyst noted that ASX would continue to review current usage in registration details alongside future requirements to further determine recommendations for registration details changes. ASX would provide more information at the next meeting. The Chair reiterated ASX's appreciation of the potential impact of any changes and that ASX would continue work to present well researched and informed view of recommendations at future meetings and working groups.

d) Creation of account (HIN)

The ASX Senior Business Analyst presented ASX's overview of account creation usage guidelines (equivalent to EIS 201 and 202), as part of the Account Management collection. The analyst reiterated that ASX was proposing to use draft T2S messages for the ISO 20022 equivalents, and would continue engagement with the T2S evaluation group to seek changes to meet the Australian market's requirements.



The T2S messages were currently not well structured, where a general block of information was available for any element. ASX would not adopt this approach but would use more structure in supplementary data for now. ASX would also promote a request to move more structure into the base message. If the request was rejected then this information would remain in supplementary data.

Referring to ASX presentation slide number 27 the analyst highlighted the new fields in the message, for example Account Type was a merger of existing CHES fields Holder Type BP18 and Entrepot Type BP71. This detail was still in draft, for example missing the currently available value “payment entrepot”.

A member asked what the payment entrepot was. An ASX representative confirmed that it was used in the settlement of cash specifically for application and/or redemption orders. Noting that an application payment entrepot and redemption payment entrepot is required for mFunds. The payment entrepot was not used for market trades or bilateral transactions.

The analyst noted another new field Communication Preference to specify the method used to deliver holding statements or notifications to the holder. The participant could choose for example email or post service.

A member asked if codes would be part of the schema. The analyst confirmed that codes would be included if they were unlikely to change; otherwise where a code list was likely to change in the future, ASX would provide the codes in external code list rather than in the schema.

The analyst referred to ASX presentation slide number 28 to demonstrate the flow of messages for account creation, including sample transaction ids. It was noted the usage guidelines were still in draft.

e) More information on sample xml considerations

The ASX Senior Business Analyst provided an overview of sample xml document considerations, and that this would lead into the discussion of the tools ASX would provide such as the Readiness Portal to validate sample xml messages against the schemas (usage guidelines).

Referring to ASX presentation slide number 30, the analyst noted that ASX had started providing sample xml messages with published draft ‘to-be’ usage guidelines. In the usage guidelines ASX was defining the structure of elements, order, whether fields were mandatory or optional, size and patterns. For a system to accept xml data, it needs to be valid against the defined schema. Elements were represented by open and close tags (<>) and may also have attributes. That meant that ASX would disallow the use of the open and close tags in any field content.

The analyst also provided an overview of the usage of namespace and the schemaLocation attribute. The schemaLocation attribute is optional for Participants to use in the messages they create but ASX would be populating this attribute for outbound messages. It helps facilitate schema validation with some XML tools, such as XML Spy. Note that ASX will still check that inbound messages are schema valid, but will not rely on the schemaLocation attribute in order to determine which schema to use.

The Chair noted that the SWIFT representative would provide an overview at the next meeting of the SWIFT MyStandards Readiness Portal tool that ASX would make available to members for sample xml document validation.



f) Review of ‘to-be’ messaging = sett_101, sett_104

The ASX Senior Business Analyst provided an overview of the two draft usage guidelines that ASX would publish in MyStandards for review by members. The usage guidelines included the sett_101 (equivalent to EIS 164) and sett_104 (equivalent to EIS 116), noting the cancellation guideline was specific to this scenario only. ASX would also provide sample xml and code list. More details were provided in ASX presentation slide number 31.

Agenda item 7: Next meeting

The Chair noted that one additional action item had been raised during the meeting, and as in the past draft minutes from the meeting would be circulated to members for review. Four action items were noted as being carried forward to the next meeting or beyond as discussed, and reminded members to review action item 53 as soon as possible. The Chair also noted that SWIFT would provide details of the review group that would consider the BAH change request. It was also noted that two share registries had offered to review their own data and provide statistics on registration details including size of name and joint accounts, designation, use of ampersand, etc.

The Chair confirmed that the next meeting would be held on Tuesday 31 July 2018, in Melbourne. NAB had kindly offered to host the meeting which will be held at 700 Bourke St, Docklands.

ASX had already proposed the agenda items for the next meeting, some of which would provide further information on topics of conversation from today’s meeting including registration details and account creation. Other agenda items would include a review of member feedback on the sett_101, sett_104 usage guidelines, further detail on the consultation responses, and ASX’s response, an overview of the proposed functional and technical documents to be released by ASX to users later this year, and an overview of the SWIFT MyStandards Readiness Portal.

The Chair thanked members for their input, and for participating in the meeting. The meeting closed at 4.40 pm.

Signed as a correct record of the meeting.

Technical Committee Chair (Acting)

Date



ACTION ITEMS

| No. | Meeting Date | Open Action Items | Owner | Due Date |
|-----|--------------|---|---------|------------------|
| 20 | 2 May 2017 | Provide details of a proposed plan including potential topics for the remaining training webinars for feedback, standard training provided by SWIFT, and including identification of business vs. technical topics. | ASX | On hold |
| 51 | 22 May 2018 | ASX to consider how impacted stakeholders could be engaged on the standards for registration details prior to the next meeting. | ASX | 4 September 2018 |
| 52 | 22 May 2018 | ASX to give consideration to how it would advise users of any change to the external code lists and report back to members. | ASX | 31 July 2018 |
| 53 | 22 May 2018 | Members to answer 4 questions if they are considering using a BIC as their party identification: whether they would use a new or existing BIC, whether the BIC was connected or non-connected, whether it was a BIC8 or BIC11, and if that BIC would apply to all activity for that organisation or actor, or for multiple activities. Examples would be helpful. | Members | 31 July 2018 |
| 54 | 26 June 2018 | Members to review and advise ASX of any feedback on the recommendation that Transaction Date Time (<TxDtTm>) in the sett_101 message is UTC. | Members | 31 July 2018 |

| No. | Meeting Date | Closed Action Items | Owner | Closed Date |
|-----|------------------|---|-----------|------------------|
| 1 | 13 December 2016 | Amend the Charter to reflect that the Chair “will” (instead of “may”) forward copies of the minutes to the Business Committee for endorsement. ASX to publish and distribute final Charter. | ASX | 13 December 2016 |
| 2 | 13 December 2016 | Provide members with information on how to access SWIFT MyStandards. | ASX | 14 March 2017 |
| 3 | 13 December 2016 | Provide members with an overview of ISO 20022 training options. | ASX/SWIFT | 7 February 2017 |



| No. | Meeting Date | Closed Action Items | Owner | Closed Date |
|-----|-----------------|--|----------------------|---------------|
| 4 | 7 February 2017 | Provide members with list of current scope of messages for detailed mapping during first half 2017. | ASX | 14 March 2017 |
| 5 | 7 February 2017 | Schedule training webinar for the attendance by members and seek and review feedback after the initial webinar. | ASX / SWIFT | 14 March 2017 |
| 6 | 7 February 2017 | Add link to relevant ISO 20022 information websites to the CHES Replacement web page. | ASX | 14 March 2017 |
| 7 | 7 February 2017 | Provide more details on access to online education available at swift.com. | SWIFT | 14 March 2017 |
| 8 | 7 February 2017 | Provide members with the current list of Market Identification Codes (MICs) | ASX | 14 March 2017 |
| 9 | 7 February 2017 | Provide members with more information on the use of BIC vs. UIC as the party identification code. | ASX / SWIFT | 14 March 2017 |
| 10 | 7 February 2017 | Market Operators to advise the preferred MIC to be presented in trade related messages as the "Place of Trade". | ASX, Chi-X, NSX, SSX | 6 June 2017 |
| 11 | 7 February 2017 | ASX to conduct analysis on whether the identification of a financial instrument is a fixed value or true value of the proprietary code issuer. | ASX | 14 March 2017 |
| 12 | 7 February 2017 | Provide list of proposed code (i.e. condition or BOM) in ISO 20022 format (4 character) mapped against CHES codes. | ASX | 14 March 2017 |
| 13 | 7 February 2017 | Add a general CHES Replacement update to the standing agenda for meetings. | ASX | 14 March 2017 |
| 14 | 7 February 2017 | Check the next Technical Committee meeting date planned for March and advise members of any change. | ASX | 14 March 2017 |
| 15 | 14 March 2017 | Schedule future agenda item to discuss transition arrangements, including any changed values (e.g. party identifiers). | ASX | 2 May 2017 |
| 16 | 14 March 2017 | Create register of matters that may impact upstream, downstream systems or processes, including codes, identifiers and ISO 15022. | ASX | 2 May 2017 |



| No. | Meeting Date | Closed Action Items | Owner | Closed Date |
|-----|---------------|--|-----------|----------------|
| 18 | 14 March 2017 | ASX to draft procedures for change requests to usage guidelines and code lists. | ASX | 2 May 2017 |
| 21 | 2 May 2017 | Provide a list of standard training topics to share. Noted this action item is combined with action item 20. | SWIFT | 6 June 2017 |
| 22 | 2 May 2017 | Provide members with a copy of the presentation material from the trial training webinar held on 27 April 2017. | ASX | 6 June 2017 |
| 24 | 2 May 2017 | Resolve issue with Comments function on MyStandards and advise members when fixed. | ASX/SWIFT | 6 June 2017 |
| 25 | 2 May 2017 | Provide samples of the proposed consolidation and rationalisation scenarios for EIS 138 and EIS 134. | ASX | 6 June 2017 |
| 26 | 2 May 2017 | Provide proposal to broaden the engagement and method to seek feedback on key concepts such as consolidation/rationalisation. | ASX | 6 June 2017 |
| 27 | 6 June 2017 | Publish list of comments received on MyStandards with ASX responses regularly, around the time of each meeting. | ASX | 18 July 2017 |
| 28 | 6 June 2017 | Re-publish ISO 20022 equivalent of EIS 138 with corrected default value INFO for issuer of financial instrument code. | ASX | 18 July 2017 |
| 29 | 6 June 2017 | Review EIS 102 mapped equivalent message with Scott Oakland, JPM – optional inclusion of HIN. | ASX | 18 July 2017 |
| 33 | 6 June 2017 | Provide a presentation of CHES EIS mapping to ISO 20022, and typical ISO 20022 flows to assist committee discussion of key topics (e.g. rationalisation, consolidation, descope of certain processes like allegation modify). ASX would also seek input from key members about the best process going forward. | ASX | 18 July 2017 |
| 34 | 6 June 2017 | Add the overview of transaction ids to the July meeting agenda. | ASX | 18 July 2017 |
| 31 | 6 June 2017 | Sample consolidated (EIS 138) and rationalised (EIS 138 and 134) messages published in the MyStandards community – in a separate collection "Sample Message Review". Members to review and provide further comments via MyStandards, email. | Members | 22 August 2017 |



| No. | Meeting Date | Closed Action Item | Owner | Closed Date |
|-----|---------------|--|--------------|------------------|
| 32 | 6 June 2017 | For Cancel/Correct & Modify, ASX recommendation revised to only do cancel/correct for bilateral modifications (and not allow modify – removal of EIS 121). ASX to contact users of EIS 121, and action remains open until all members confirmed their agreement with the recommendation. | ASX, Members | 22 August 2017 |
| 30 | 6 June 2017 | Obtain international usage comparisons on the use of UTC time format. Members to provide input from international offices where possible. | ASX, members | 22 August 2017 |
| 35 | 18 July 2017 | ASX to publish all final draft usage guidelines in MyStandards and highlight to members those usage guidelines that need their review. SWIFT to advise if a flag is available in MyStandards to indicate particular review items. | ASX, SWIFT | 22 August 2017 |
| 36 | 18 July 2017 | Provide members with details of feature in MyStandards to affirm a comment. | ASX, SWIFT | 22 August 2017 |
| 17 | 14 March 2017 | Provide further information on party identification for issuers – UIC or BIC and proposed process. | ASX | 10 October 2017 |
| 37 | 18 July 2017 | Provide comparisons to other market implementations of transaction ids. | ASX, SWIFT | 22 August 2017 |
| 38 | 22 Aug 2017 | Review consistency of the application of UTC date, date and time, zulu format, and add item to upstream/downstream considerations log re the use of UTC for Trade Date confirmations from AMOs (with flow on impact to EIS 164 equivalent). | ASX | 10 October 2017 |
| 40 | 22 Aug 2017 | Provide list of CHES EIS messages in scope for detailed mapping during 2 nd half of 2017, including identification of descoped messages. | ASX | 10 October 2017 |
| 44 | 10 Oct 2017 | ASX project team to consider effective housekeeping of rights that expire worthless – and whether this could be improved. | ASX | 21 November 2017 |
| 45 | 10 Oct 2017 | Review recommendations put to committee in Agenda item 6c) – approach to ISO best practice exceptions and provide feedback to ASX. | Members | 21 November 2017 |



| No. | Meeting Date | Closed Action Items | Owner | Closed Date |
|-----|-----------------|---|--------------------|------------------|
| 46 | 10 Oct 2017 | Review recommendation put to committee in Agenda item 6d) – inclusion of unique event id in Market Infrastructure Tx id (MITI) field. | Members | 21 November 2017 |
| 47 | 10 Oct 2017 | Allow for future use of Party2+ identification in messages, and ensure discussion on same point at working group meetings re business requirement. | ASX | 21 November 2017 |
| 19 | 2 May 2017 | Provide sample of demonstration of comparison between ISO 20022 and ISO 15022 messages. | Scott Oakland, JPM | On hold |
| 23 | 2 May 2017 | Further review of the ASX CHES demand reporting summary and responses to questions contained in that summary. ASX to continue review of reports and provide further candidates for descope at meetings. | Members / ASX | 21 November 2017 |
| 39 | 22 Aug 2017 | Chair to contact members seeking feedback on the approach of the Technical Committee, any suggestions to improve the process. | ASX | 21 November 2017 |
| 41 | 22 Aug 2017 | Conduct bilateral discussions with share registries and mailing houses regarding structuring of registration details and associated static data. | ASX | 21 November 2017 |
| 42 | 22 Aug 2017 | Conduct bilateral discussions with share registries regarding current holding balance changes associated with corporate actions and proposed withdrawal of EIS 421. | ASX | 21 November 2017 |
| 43 | 10 Oct 2017 | Provide a proposed governance method for Technical Committee input to and review of all matters tabled at the Standards Evaluation Group (SEG), including any matters raised by ASX on behalf of community. | ASX | 21 November 2017 |
| 48 | 21 Nov 2017 | Members to review information provided in agenda item 6d) and respond to the question – was there appetite for using xml in model 1b or 2a as presented or keep the mapping 1 to 1. | Members | 6 February 2018 |
| 49 | 6 February 2018 | ASX to confirm additional 'as-is' usage guidelines that could be published in Q2 and members to provide expression of interest in reviewing this set. | ASX | 17 April 2018 |



| No. | Meeting Date | Cloud Action Items | Owner | Close Date |
|-----|--------------|---|-------|--------------|
| 50 | 22 May 2018 | Digital Asset to review the NDA regarding the DAML SDK and respond to questions around one way vs. two way. | DA | 26 June 2018 |



MINUTES OF THE ISO 2022 TECHNICAL COMMITTEE

Tuesday 31 July 2018

NAB offices, Melbourne; Webinar

-
1. **Welcome, Agenda**

 2. **Minutes from last meeting, open actions**

 3. **CHESS Replacement project update by ASX**

 4. **ISO 2022 project update by ASX**

 5. **Update from Business Committee**

 6. **Matters for Consideration (Business and Technical Matters)**
 - a) MyStandards Community – ‘to-be’ usage guideline feedback
 - b) Account management update - consolidation
 - c) Overview of Technical Documentation
 - d) Overview of SWIFT MyStandards Readiness Portal

 7. **Next Meeting - 4 September 2018 – Sydney, webinar**



Technical Committee Members

| Company | Name | Job Title | Apologies |
|-------------------------------------|--------------------|--|-----------|
| Australian Payments Network Limited | Andy White | Chief Operating Officer | Apology |
| Australian Payments Network Limited | Paul Creswick | Security Standards Manager | |
| Bank of America Merrill Lynch | Andree Hindmarsh | Head of GMOT Australia | |
| Bank of America Merrill Lynch | Jimmie Alam | | |
| Bell Potter Securities | Dean Surkitt | Managing Director Retail | |
| BNP Paribas Securities | Narelle Rutter | Head of Local Custody & Clearing Operations | |
| BNP Paribas Securities | Wayne Murphy | Project Manager | |
| Boardroom Limited | Tony Robinson | Senior Software Engineer | |
| Boardroom Limited | Michael Mullins | CIO | |
| Broadridge (Australia) | Manoj Mathew | Business Analyst | |
| Broadridge (Australia) | Mabel Chow | Development and Support Manager | |
| CBA Equities | Joel Cox | Technical Business Analyst | |
| CBA Equities | Carolyn Webb | Test Manager | |
| CBA Equities | Ben Lowe | Manager Settlements | |
| Chi-X Australia | Mike Aikins | Head of Solution Development | |
| Chi-X Australia | Suketu Adhvaryu | Senior Solution Architect | |
| Citicorp | Miles O'Connor | Director, Direct Custody & Clearing Securities Markets & Securities Services | |
| Citicorp | Andrew Gibson | Director – Head of Direct Custody and Clearing Australia & NZ | |
| Citicorp | Brett Dennis | Head of Operations – Party Clearing | |
| Citicorp | Lyall Herron | | |
| Citicorp | Janice O'Brien | Markets & Securities Services Technology | |
| Citicorp | Matthew Warner | | |
| Citicorp | Ashok Kumar Balusa | | |



| Company | Name | Job Title | Apologies |
|-----------------------------|-------------------|--|-----------|
| Citicorp | Glenn Pahilan | | |
| Citicorp | Stephen Rylands | Product Manager | |
| CMC Markets Stockbroking | Nikola Vanstan | Change Manager | |
| Computershare | Paul Walton | Senior Manager, Corporate Actions & New Business Development – Investor Services | Apology |
| Computershare | Leanne Bailey | Senior Business Analyst Product & Innovation | |
| Computershare | Laik Tan | | |
| Deutsche Securities | Kevin Novini | | |
| Digital Asset | Fil Mackay | Senior Product Architect | |
| Dion Global Solutions | Craig Gray | Product Manager – Australia and NZ | Apology |
| Dion Global Solutions | Nikki Gleisner | Account Manager | |
| GBST | Andrew Murdoch | Product Specialist, GBST Capital Markets | |
| GBST | Sue Schafer | Product Owner | |
| Goldman Sachs | Darrel Schwarz | Technology Vice President | |
| Goldman Sachs | Josh Rice | | |
| Goldman Sachs | Nidhi Luthra | | |
| HSBC Securities Services | Gregory Wilkin | Head of HSBC Operations | |
| HSBC Securities Services | Salih Kulic | Manager Custody | |
| HSBC Bank Australia Limited | Michael Macintosh | Senior Client Account Manager, Global Liquidity and Cash Management | |
| HSBC Bank Australia Limited | Anna Fratini | Senior Product Manager – High Value Payments, Clearing and Financial Institutions, | |
| HSBC Bank Australia Limited | Phyllis Yeung | Senior Analyst | |
| HSBC | Herman Wong | Manager, Change Management & Delivery | |
| HSBC | Edmond Chan | Senior IT Development Manager | |
| HSBC | Cherrie Xu | Head of IT Securities Service | |
| HSBC | Asri Asat | Optimisation Manager, Securities Service | |



| Company | Name | Job Title | Apologies |
|---------------------------|------------------|---|-----------|
| HSBC | Chang Gao | Business Consultant | |
| JP Morgan | Ed Lawson | Settlements Manager | |
| JP Morgan | Danny Ng | Middle and Back office AD Manager | |
| JP Morgan | Scott Oakland | Direct Custody Product Manager Australia | |
| JP Morgan | Ned Miglez | | |
| JP Morgan | Daniel Smith | VP, Network Management | |
| JP Morgan | Lesley Henderson | Technology Product team | |
| Link Group | Ian Batterham | Business Applications Architect | |
| Link Market Services | Sue Julian | National Manager, Corporate Actions | |
| Macquarie Group | Paul Bragg | Senior Manager Equities Clearing ANZ | |
| Macquarie Group | Merrilyn Auton | Manager Operations | |
| Morgans Financial | Matt Neaubauer | Team Leader, Service Management Team | |
| Morgans Financial | Ed Strike | IT Manager | |
| Morgan Stanley | Dorothy Wilson | Executive Director, Morgan Stanley Wealth Management, ISG Technology | |
| Morgan Stanley | Kirsty Venters | VP, Prime Brkrng Funding & Fin Tech | |
| Morgan Stanley | Oscar Dela Cruz | | |
| Morgan Stanley | Andrew Fielder | | |
| Morgan Stanley | Gordon Davies | VP/Firmwide Ops | |
| Morgan Stanley | Andrew Sime | | |
| NAB Asset Management | Suresh Chinnappa | Head of Custody Service Operations | |
| National Stock Exchange | Lina Lim | Head of Technology | |
| Nomura Research Institute | John Ryan | Senior Consultant | |
| Nomura Research Institute | Ashish Jha | | |
| Northern Trust | Yen Pan Chung | Senior BA, Market Advocacy and Innovation Research | |
| Securitease | Anton Smith | Director | |
| Securitease | Chris Werry | Business Analyst | |
| Securitease | Angela Losurdo | Business Systems Analyst | |
| Share Investing | Phil Barnes | Senior Manager, Platforms | |
| SWIFT Standards | Nicole Jolliffe | Senior APAC Standards consultant | |
| Sydney Stock Exchange | Leo Zhang | Business Analyst | |



| Company | Name | Job Title | Apologies |
|-----------------------|---------------|--|-----------|
| Sydney Stock Exchange | Jason Shen | Market Operations Officer | |
| UBS | Phillip Drury | Phillip Drury, Executive Director, Equities IT | |
| UBS | Duncan Earl | Executive Director, Head of Change, UBS Group Operations | |
| UBS | Neil Martin | IT – Project Management | |
| Wealthhub Securities | James Channon | Manager, Capital Markets Trading | |

ASX Management

| Name | Job Title | Apologies |
|---------------------------|--|-----------|
| Tim Hogben | Chief Operating Officer (Chair of the Technical Committee) | |
| Cliff Richards | Executive General Manager, Equity Post Trade Services | |
| Brendon Luscombe | General Manager, Product Owner, CHES Replacement Project | Apology |
| Karen Webb | Senior Manager, Equity Post Trade Services | |
| Russell Eyre | Enterprise Architect | |
| Anne-Marie Fisher-Taylor | Project Subject Specialist | |
| Darcy Wright | Senior Business Analyst, Equity Post Trade | |
| Priscilla Ferri de Barros | Senior Business Analyst, Equity Post Trade | |
| Nicky Darwin | Senior Business Analyst, Equity Post Trade | |
| Gary Hobourn | Senior Economic Analyst, Regulatory and Public Policy | Apology |
| Fraser Moodie | Manager, Integration and Connectivity, CHES Replacement | |
| Karen Hamilton | Manager, Business Analysis | |



The meeting commenced at 3.00pm.

Agenda item 1: Agenda overview

The Chair welcomed Technical Committee members to the meeting including members attending by webinar, and thanked NAB for hosting the meeting in its offices in Melbourne.

The Chair outlined the Agenda for the meeting, referring to the presentation slides prepared by ASX.

Agenda item 2: Minutes from last meeting, open actions

The Chair noted that the minutes from the last meeting held on 26 June 2018 had been finalised and no comments had been received from members. The minutes had been distributed and published on the web page.

The Chair noted the outstanding actions from the last meeting as outlined on slide number 6 in the ASX presentation.

Action item 20 was for ASX to provide a proposed plan for the remaining training webinars. The Chair noted that ASX was still considering when the delivery of industry training would be appropriate during ASX's progression of the 'to-be' state, and particularly was for consideration alongside other working group activities and documentation information. **This item remains on hold.**

Action item 51 was for ASX to consider how impacted stakeholders could be engaged on the standards for registration details prior to the next meeting. The Chair noted the high level of attention this topic was being given by ASX and by committee members. ASX was still in the process of reviewing requirements and still proposed to convene a focus group in the next few months to discuss. It was noted that a question was raised at the previous meeting about whether the reference "Est." would be carried forward in the replacement system to indicate a deceased estate. The ASX Senior Manager confirmed that this had been included in the ASX requirements. **This item remains open.**

Action item 52 was for ASX to give consideration to how it would advise users of any change to the external code lists and report back to members. The Chair noted that ASX would provide an overview of Technical Documentation in this meeting and preliminary view of how updates would be published. This will address this action item. **This item was closed.**

Action item 53 was for Members to answer four questions if they are considering using a BIC as their party identification: whether they would use a new or existing BIC, whether the BIC was connected or non-connected, whether it was a BIC8 or BIC11, and if that BIC would apply to all activity for that organisation or actor, or for single or multiple activities. Members were requested to provide examples, if possible. The Chair noted that ASX had received only 2 responses to date, and requested that other participants share this information with ASX as soon as possible. ASX would like to resolve these questions as soon as possible, so reiterated the request for participants to respond. 2 members confirmed their preference in the meeting to use BIC 11, with branch identification. **This item remains open.**

Action item 54 was for members to review and advise ASX of any feedback on the recommendation that Transaction Date Time (<TxDtTm>) in the sett_101 message is UTC. Only one response had been received by ASX confirming agreement with recommendation. The Chair asked committee members for any



additional feedback, noting that in the absence of any objections the recommendation would be applied. No further comments were raised by members. Recommendation applied. This item was closed.

Agenda item 3: CHES Replacement project update by ASX

The Chair invited the Executive General Manager, Equity Post Trade Services to provide an update on the project, also thanking members for their continuing support and input to the project, particularly during the recent requirements consultation.

The Executive General Manager echoed the Chair's comments regarding the members' participation in consultation. The ASX had received 41 responses to the consultation representing a good cross section of the industry. The key thematic of the responses included demonstration of high engagement, positive response for most of the new functionality, an appetite for more detail. Key questions were also posed by respondents including requests for more information and understanding on the connectivity options in order to make informed choices and decisions. Questions were raised around the scope for Day 1, with suggestions on priority of some requirements. Questions were also asked about the approach to and considerations for migration, access to data and rights to data, pricing, and interoperability opportunities (for example how much historical data).

The Chair also noted that regulators have been provided with copies of all responses and been briefed on key themes. A member asked if there would be any opportunity for further feedback by participants. The Executive General Manager confirmed this was likely via the working group process. The Connectivity and Integration working group was expected to kick off in September and there were expected to be a number of focused working groups convened to discuss new features.

A member asked when the ASX response would be available. The Executive General Manager confirmed this would be within the next 3 to 4 weeks. A member asked if more information on the implementation timeline would be included in ASX's response. ASX confirmed that was the case.

The ASX response would address as many questions for which ASX currently had answers, and would otherwise continue work, including the industry where needed.

The Executive General Manager noted that the project was continuing with build activities on core clearing and settlement activities, including the development of technical documentation that would be available to stakeholders late in the year.

Agenda item 4: ISO 20022 project update by ASX

The ASX Senior Manager provided an update on the ISO 20022 project, noting that members of the ASX ISO team had been working on various topics alongside requirements stream. The latest topics included account management updates including consolidation of messages (for discussion at this meeting), account and security holding lock (for preview at this meeting and follow up at the next meeting), unilateral demand, bilateral demand (to be reviewed at next meeting), unilateral scheduled, bilateral scheduled (to be reviewed at next meeting), creation and update of payment facilities, and continued work on registration details. The Senior Manager noted that ASX had also sent members a questionnaire regarding the EIS 164 message (equivalent sett_101 in ISO 20022), and noted a number of responses had been received. ASX would appreciate responses by members for ASX consideration, and was expecting to come back to members at the next meeting with a summary and outcomes.



ASX continued engagement in global ISO groups, with the latest Securities Evaluation Group (SEG) meeting held on 30 July. The meeting focused on discussion of the groups of change requests proposed for SR2019 that would be reviewed during August. The changes were present in funds, settlement and corporate actions. The meeting also received updates from evaluation teams, including the T2S team in which ASX participates. For now there had been no change for T2S, as we were still waiting for the 4 central banks to make updates to certain reda and admi messages and re-register the changes.

At the last meeting ASX outlined the change request it had submitted to ISO 20022 registration authority for the Business Application Header (BAH) to include Business Date. SWIFT had confirmed that the Technical Support Group (TSG) would review ASX and others' proposed change requests to the BAH. The SWIFT standards consultants had also liaised with their representative on the TSG to appraise them of the ASX proposed change.

A member asked where change requests for SR2019 would be visible. The Senior Manager confirmed ASX would send information on where to find the information. The information is also published on MyStandards. **[Matters Arising 1 – Action item 55]**

Agenda item 5: Update from Business Committee

The Chair asked the Executive General Manager to provide an update on the Business Committee meeting held on Thursday 5 July. The meeting focused on the CHES Replacement project, with ASX providing an update on progress, and an early view of the responses to the consultation paper. The Executive General Manager noted he had covered most of the key points in the project update.

The Executive General Manager also noted that the meeting was also provided with an update on the Corporate Actions STP project which was being progressed in parallel with CHES Replacement. The project would be delivered over approximately 2 years, with potentially 2 phases of delivery. It was noted that ASX would form a working group for the project. A member asked if the working group would include similar members to the CHES Replacement corporate action working group. ASX confirmed that was the case. A member asked when and how ASX would provide more information on the project, including any costing? ASX noted it was considering communications for the project. A member asked if there would be any impact on existing corporate actions, and any intention to replace the existing ReferencePoint notifications. ASX confirmed the scope covered a review of the Phase 1 events (dividend, interest payment, return of capital, reconstructions) with any changes required, and adoption of STP for the remaining corporate actions supported by ASX. Existing ReferencePoint products would remain in place – the ISO 20022 product was an additional real time notification service. A member asked about the nature of the changes – whether mandatory or optional. ASX confirmed the implementation of the announcement process would be mandatory for issuers, with the increased coverage in the ISO 20022 format notifications an optional service. ASX confirmed it would provide more information to members regarding the project. **[Matters Arising 2 – Action item 56]**

Agenda item 6: Matters for Consideration

a) Review feedback on draft published messages – sett_101, sett_104

The ASX Senior Business Analyst noted that comments had been received from 2 contributors on the recently published draft 'to-be' messages, including sett_101 and sett_104. Two key issues had been notified in the feedback. Firstly an inconsistent mapping of the presence of BIC and UIC as choice element.



The analyst noted this was an ASX error and would be amended in the next published version of the message. The second point was regarding broader consideration to only publish a single list of settlement obligations at the end of each day. Referring to ASX presentation slide number 12, an ASX Project Subject Specialist expanded on this point and ASX's consideration of minor changes to the settlement obligation notifications. This included the continuation of the provision of Notified Broker trades (sett_101) on a near real time basis; and to enhance the dissemination of settlement obligations to include a complete set of Market Settlement Obligations. This would include the existing Net Broker obligations (sett_102) and introduce an additional Gross Broker Obligation (message tbc). ASX believed this solution would allow participants and their vendors the greatest scope when considering any system enhancements / changes including being able to maintain the status quo if desired.

A member asked if the Net Broker Obligation could be provided per security. ASX confirmed that was the case but if no netting, then it would be gross line by line. The member noted that ideally they would prefer a single aggregated obligation per security. ASX confirmed it would be taken into consideration. The Executive General Manager noted that we also wouldn't want to be making any changes that raised barriers to other clearing and settlement providers. This must also be taken into account.

The Chair requested that members review the notes presented by ASX and provide feedback to ASX on this matter. **[Matters Arising 3 – Action item 57]**

b) Account management Update Consolidation

The ASX Senior Business Analyst referred to ASX presentation slide number 13 to provide an overview of the re-designed registration details update process.

The current EIS process required manual verification by ASX of proposed updates by participants to Registration details, before confirming or rejecting an update to the participant, and providing the update to the share registry. The ASX had reviewed the existing messages for similarities and it was proposed that a single ISO 20022 message (reda.021) would replace the EIS 220, 512 and 546 messages (a proposal supported by the SWIFT standards team), effectively consolidating the message set. This would also allow for straight through processing of the updates, with a single message to be sent to the participant and share registry confirming the changes. The EIS 080 equivalent would be retired. The comm_808 would be used as the business reject message (a common message across multiple scenarios).

A view of the current EIS message details compared to the proposed ISO 20022 messages was outlined on ASX presentation slide number 14. The Chair asked the analyst if ASX was seeking feedback on the changes. The analyst confirmed ASX would be happy to receive feedback, and would publish the proposed to be messages on MyStandards for review and comment. **[Matters Arising 4 – Action item 58]**

With regard to the new reda.023 message usage – Securities Account Modification Request, the analyst highlighted 3 areas of change compared to current messages. The Account identification field was a merger between Holder Type (BP18) and Entrepot Type (BP71) – not necessarily new information but a logical outcome. A new option that allows for the participant to amend the account type that may have been set up in error from Direct to Sponsored or Sponsored to Direct – known as Account Type Update. The final feature was a new Default Account Indicator to update the nominated settlement entrepot for Market Trade and net broker obligations (the first set up of the account naturally goes to a default, there was now an option to change this).



A member asked if there was still a foreign indicator on an account. The analyst confirmed that was the case.

Referring to ASX presentation slide number 16, the analyst provided an overview of the 'to-be' ISO 20022 messages for the current EIS 512 – regarding account and security locking. ISO 20022 separates the concept of an account update (reda.021) from a security holding update (semt.015) into separate business areas. To adopt the standard, ASX would follow this approach. The ASX 'to-be' message hold_206 (reda.021) would be used for reporting of account modifications such as locking or unlocking an account. The ASX 'to-be' message hold_205 (semt.015) would be used for reporting of security modifications such as locking or unlocking a partial or full holding.

A member asked whether the locks could only be made once during a settlement cycle. The analyst suggested that at the next meeting ASX would present on the account lock process flows and iterations around the usage of the messages. At that meeting ASX would request feedback on the proposed messages.

A member asked if the messages accommodated broker sponsored and issuer sponsored changes. ASX confirmed the process was only in relation to broker sponsored for now.

A member asked if this would cover sub positions for collateral and takeover, for example. The analyst confirmed that wasn't currently the case as ASX was yet to confirm these particular requirements.

The Chair requested clarification on the purpose of the locks, and coverage of various scenarios. The ASX Manager, Business Analysis noted that the examples covered to date were simple examples and there would be further analysis and releases around other scenarios. The Chair noted there was real interest in these messages and associated processes from members and looked forward to the overview to be provided in the next meeting.

c) Overview of Technical Documentation

The Chair invited the Manager, Business Analysis to provide the members with an overview of the Technical Documentation to be developed and released by ASX for the CHES Replacement project.

Referring to ASX presentation slide number 18 the Manager noted that ASX would provide supporting technical documentation to stakeholders to facilitate their own build and implementation for each technical release of functionality. Each release would be known as a tranche comprising a group of artefacts (tranche package). ASX's general approach will be to release technical documentation 3 months ahead of technical releases. This would allow stakeholders to commence early development, and in particular testing of message formats through the SWIFT MyStandards Readiness Portal. The first step would be preparation for the planned release in Q2 2019 of the customer development and test environments. The associated technical documentation tranche package would be available from Q4 2018. Tranches of technical documentation and release would then follow at regular intervals, with documentation continuing to be enriched and enhanced. Any update will be broadcast to and shared with relevant stakeholders. The documentation would have appropriate version control and highlight of any updates.

ASX had reviewed the existing documentation available to CHES users including the ASX Settlement Procedure Guidelines (APG) and the CHES External Interface Specification (EIS) for content and format to inform its approach and coverage for the CHES Replacement technical documentation. Key



documentation going forward would include firstly APG documentation including APG Synopsis, APG Sections and a Glossary. Secondly EIS replacement documentation including messaging information, overview of architecture, connectivity and disaster recovery information. Finally, overarching this documentation ASX would also provide a CHES Replacement synopsis identifying key functional changes, release notes, and testing documentation packages. The Manager provided a brief overview of the contents of each of these documents referring to ASX presentation slide number 20. Given the focus of this committee, the Manager provided further information on the messaging information in particular what would be included in the tranche packages. Messaging information would cover API, FIX and ISO 20022 messaging. For ISO 20022 a number of artefacts would be made available. Firstly the Messaging Catalogue with links to the usage guidelines published in SWIFT MyStandards alongside user guides for MyStandards. Secondly an ISO 20022 Technical Manual that would cover a CHES Cross Reference Guide, ASX Proprietary Code Lists, and Error Code Lists. Referring to ASX presentation slides numbered 23 and 24 the Manager provided a brief overview of the contents of each of these documents.

Finally the Manager provided an overview of how the documentation would be released and its format. Again, ASX had reviewed existing formats and publication methods with a view to adopting a best practice approach for the replacement project. ASX was currently assessing the possible platforms to host the documentation, and had specified a number of requirements for that platform including – a responsive design, searchable, version controlled, providing linkage to related content and URLs, download friendly, printer friendly. The aim was to have this platform available and accessible in time for the first Technical Documentation release. ASX would showcase this platform to stakeholders ahead of the first release.

A member asked when the prototype platform would be available to access. The Manager confirmed ASX would likely provide an update at the next Technical Committee meeting, and again noted ASX was targeting the first Technical Documentation release for the platform to be available.

A member noted that users currently access CHES documentation via ASX Online, and asked whether it would be the same platform and what impact on other documents. ASX noted it would confirm this information in due course.

A member noted that for information not covered in the usage guidelines (for example code lists) it would be helpful for vendors if the information was structured.

The Chair asked members to contact ASX if they had any additional comments on the Technical Documentation overview.

d) Overview of SWIFT MyStandards Readiness Portal

The Chair invited the SWIFT Senior APAC Standards Consultant to provide members with an overview of the SWIFT MyStandards Readiness Portal, noting the portal would be used by ASX for the project. The Standards consultant firstly provided a recap on how the MyStandards application supported the creation and sharing of standards – from base through to local market practice implementations, through definition, publication, community onboarding and maintenance. In tandem with the published specifications on MyStandards, the availability of the Readiness Portal allowed members of a market infrastructure test their own developed messages against the message specifications via an internet facility. This was a self-service facility that also allowed for immediate feedback and correction and tracking of testing performed. A view of the breadth of testing was available to the individual organisation, the market infrastructure and possibly others in the same group. The Standards Consultant noted that



this approach had been adopted by other market infrastructures globally using MyStandards. The early testing of format available in the portal provided benefits through faster time to onboard community members, autonomy in their own format testing, reducing the risk of format errors occurring in test and production environments and an easy to use tool. The tool was channel agnostic, with focus on supporting standardised messages. The portal allowed message testing with immediate feedback on inconsistencies vs. the relevant ISO 20022 usage guideline – including ISO 20022 base message, cross-element rules, and reference data; as well as Market Infrastructure imposed restrictions in the guideline, cross-element rules with defined customised error messages.

The ASX Senior Manager noted that ASX's intention was for the Readiness Portal to be available to members and other CHESs stakeholders at the same time as the Technical Documentation release planned for December 2018. Noting this was an early view of the portal and that ASX would provide a refresher on the portal functionality closer to December.

The Standards Consultant then provided members with a live demonstration of the portal access and functionality. For an equivalent view, members were provided with screenshots in ASX presentation slides numbered 39 to 50. The overview included a view on how the Market Infrastructure would make usage guidelines available for testing. The consultant walked through the process of uploading sample messages for testing and how results and errors were displayed. The demonstration included how the user could either on screen or via a new upload test changes to the samples to resolve errors with immediate feedback. The portal also provided a view of the aspects of the usage guideline that had and hadn't been tested – allowing for the reduction of risk in coverage of guideline scenarios. The consultant noted that a newer version of the readiness portal was currently in development, with target to implement in November this year. The key changes were for a more responsive platform, a dashboard view, and cosmetic changes, ability to upload single or bulk test files and better alignment with MyStandards itself. The changes would therefore be in place prior to ASX making the portal available to users.

A member noted that their organisation may experience security restrictions in the ability to upload files to an external environment. Was there a possibility to download the readiness portal functionality locally. The consultant confirmed that an alternate was not available.

A member noted that they had difficulty accessing MyStandards at certain times. The ASX Senior Manager and SWIFT consultant confirmed that there were currently maintenance windows for MyStandards that did impact Australian business hours. These maintenance windows would be shifted to the weekend later this year. Members were asked to contact ASX if they did experience any difficulties with access.

A member asked about the annual standards maintenance periods (standards releases) and updates and how ASX would manage that process. ASX noted it would provide more information on this process.

Agenda item 7: Next meeting

The Chair noted a number of existing actions and new actions from the meeting. The Chair reminded members to provide feedback on action # 53 regarding feedback on usage of BIC, and responses to the ASX questionnaire on the EIS 164. With regard to action #54 the Chair confirmed that ASX would implement the recommendation to use UTC for Transaction Date Time.



The Chair also noted the ASX forward agenda plan for the meetings outlined on ASX presentation slide number 5 and asked members to review the topics covered to date and in the future and provide any additional suggestions to ASX.

The Chair also emphasised ASX's approach to the meetings and associated work where recommendations or questions were put to members, with the aim of seeking considered and timely feedback. This was important to the process, and ASX was open to suggestions where more time was required or changes to the way the information is presented. ASX did have a pace of work though that needed to continue, so in the absence of feedback it would proceed with its proposals.

A member noted that their share registry organisation had offered to share their own statistics regarding registration details. This work had been done and they were interested to share this information with the group. Preliminary analysis indicated that usage of name for example was largely covered in the 1st or 2nd line of registration details. A member did note that this was likely due to current conventions to abbreviate information to make it fit within the current available space. The Chair invited the share registries to share this information at the next meeting. **[Matters Arising 5 – Action item 59]**

The Chair confirmed that the next meeting would be held on Tuesday 4 September 2018 in Sydney.

ASX had already proposed the agenda items for the next meeting, including an overview of ASX's response to consultation, more information on account and security updates/locking, and an overview of unilateral demand, bilateral demand, and unilateral scheduled, bilateral scheduled messages.

The Chair thanked members for their input, and for participating in the meeting. The meeting closed at 4.50 pm.

Signed as a correct record of the meeting.

A handwritten signature in blue ink, appearing to be 'M. ...', is written over a horizontal line.

Technical Committee Chair

A handwritten date '29 August 2018.' is written in blue ink above a horizontal line.

Date



ACTION ITEMS

| No. | Meeting Date | Open Action Items | Owner | Due Date |
|-----|--------------|---|------------------|------------------|
| 20 | 2 May 2017 | Provide details of a proposed plan including potential topics for the remaining training webinars for feedback, standard training provided by SWIFT, and including identification of business vs. technical topics. | ASX | On hold |
| 51 | 22 May 2018 | ASX to consider how impacted stakeholders could be engaged on the standards for registration details prior to the next meeting. | ASX | 4 September 2018 |
| 53 | 22 May 2018 | Members to answer 4 questions if they are considering using a BIC as their party identification: whether they would use a new or existing BIC, whether the BIC was connected or non-connected, whether it was a BIC8 or BIC11, and if that BIC would apply to all activity for that organisation or actor, or for multiple activities. Examples would be helpful. | Members | 4 September 2018 |
| 55 | 31 July 2018 | A member asked where change requests for SR2019 would be visible. The Senior Manager confirmed ASX would send information on where to find the information. The information is also published on MyStandards. | ASX | 4 September 2018 |
| 56 | 31 July 2018 | Provide members with more information on the Corporate Actions STP Phase 2 project. | ASX | 4 September 2018 |
| 57 | 31 July 2018 | Members to review the consideration to provide a complete set of settlement obligations (net broker, gross broker - per slide #12 from 31 July presentation) and advise feedback to ASX. | Members | 4 September 2018 |
| 58 | 31 July 2018 | ASX to publish proposed to be messages for updates to accounts – reda_023, reda_020, reda_021 for member review. | ASX | 4 September 2018 |
| 59 | 31 July 2018 | Share registries to share findings from study of registration details at the 4 September meeting. | Share registries | 4 September 2018 |



| No | Meeting Date | Closed Action Items | Owner | Closed Date |
|----|------------------|---|----------------------|------------------|
| 1 | 13 December 2016 | Amend the Charter to reflect that the Chair “will” (instead of “may”) forward copies of the minutes to the Business Committee for endorsement. ASX to publish and distribute final Charter. | ASX | 13 December 2016 |
| 2 | 13 December 2016 | Provide members with information on how to access SWIFT MyStandards. | ASX | 14 March 2017 |
| 3 | 13 December 2016 | Provide members with an overview of ISO 20022 training options. | ASX/SWIFT | 7 February 2017 |
| 4 | 7 February 2017 | Provide members with list of current scope of messages for detailed mapping during first half 2017. | ASX | 14 March 2017 |
| 5 | 7 February 2017 | Schedule training webinar for the attendance by members and seek and review feedback after the initial webinar. | ASX / SWIFT | 14 March 2017 |
| 6 | 7 February 2017 | Add link to relevant ISO 20022 information websites to the CHES Replacement web page. | ASX | 14 March 2017 |
| 7 | 7 February 2017 | Provide more details on access to online education available at swift.com. | SWIFT | 14 March 2017 |
| 8 | 7 February 2017 | Provide members with the current list of Market Identification Codes (MICs) | ASX | 14 March 2017 |
| 9 | 7 February 2017 | Provide members with more information on the use of BIC vs. UIC as the party identification code. | ASX / SWIFT | 14 March 2017 |
| 10 | 7 February 2017 | Market Operators to advise the preferred MIC to be presented in trade related messages as the “Place of Trade”. | ASX, Chi-X, NSX, SSX | 6 June 2017 |
| 11 | 7 February 2017 | ASX to conduct analysis on whether the identification of a financial instrument is a fixed value or true value of the proprietary code issuer. | ASX | 14 March 2017 |
| 12 | 7 February 2017 | Provide list of proposed code (i.e. condition or BOM) in ISO 20022 format (4 character) mapped against CHES codes. | ASX | 14 March 2017 |



| No. | Meeting Date | Closed Action Items | Owner | Closed Date |
|-----|-----------------|---|-----------|---------------|
| 13 | 7 February 2017 | Add a general CHES Replacement update to the standing agenda for meetings. | ASX | 14 March 2017 |
| 14 | 7 February 2017 | Check the next Technical Committee meeting date planned for March and advise members of any change. | ASX | 14 March 2017 |
| 15 | 14 March 2017 | Schedule future agenda item to discuss transition arrangements, including any changed values (e.g. party identifiers). | ASX | 2 May 2017 |
| 16 | 14 March 2017 | Create register of matters that may impact upstream, downstream systems or processes, including codes, identifiers and ISO 15022. | ASX | 2 May 2017 |
| 18 | 14 March 2017 | ASX to draft procedures for change requests to usage guidelines and code lists. | ASX | 2 May 2017 |
| 21 | 2 May 2017 | Provide a list of standard training topics to share. Noted this action item is combined with action item 20. | SWIFT | 6 June 2017 |
| 22 | 2 May 2017 | Provide members with a copy of the presentation material from the trial training webinar held on 27 April 2017. | ASX | 6 June 2017 |
| 24 | 2 May 2017 | Resolve issue with Comments function on MyStandards and advise members when fixed. | ASX/SWIFT | 6 June 2017 |
| 25 | 2 May 2017 | Provide samples of the proposed consolidation and rationalisation scenarios for EIS 138 and EIS 134. | ASX | 6 June 2017 |
| 26 | 2 May 2017 | Provide proposal to broaden the engagement and method to seek feedback on key concepts such as consolidation/rationalisation. | ASX | 6 June 2017 |
| 27 | 6 June 2017 | Publish list of comments received on MyStandards with ASX responses regularly, around the time of each meeting. | ASX | 18 July 2017 |
| 28 | 6 June 2017 | Re-publish ISO 20022 equivalent of EIS 138 with corrected default value INFO for issuer of financial instrument code. | ASX | 18 July 2017 |
| 29 | 6 June 2017 | Review EIS 102 mapped equivalent message with Scott Oakland, JPM – optional inclusion of HIN. | ASX | 18 July 2017 |
| 33 | 6 June 2017 | Provide a presentation of CHES EIS mapping to ISO 20022, and typical ISO 20022 flows to assist committee discussion of key topics (e.g. | ASX | 18 July 2017 |



| No. | Meeting Date | Closed Action Items | Owner | Closed Date |
|-----|---------------|--|--------------|-----------------|
| | | rationalisation, consolidation, descope of certain processes like allegation modify). ASX would also seek input from key members about the best process going forward. | | |
| 34 | 6 June 2017 | Add the overview of transaction ids to the July meeting agenda. | ASX | 18 July 2017 |
| 31 | 6 June 2017 | Sample consolidated (EIS 138) and rationalised (EIS 138 and 134) messages published in the MyStandards community – in a separate collection "Sample Message Review". Members to review and provide further comments via MyStandards, email. | Members | 22 August 2017 |
| 32 | 6 June 2017 | For Cancel/Correct & Modify, ASX recommendation revised to only do cancel/correct for bilateral modifications (and not allow modify – removal of EIS 121). ASX to contact users of EIS 121, and action remains open until all members confirmed their agreement with the recommendation. | ASX, Members | 22 August 2017 |
| 30 | 6 June 2017 | Obtain international usage comparisons on the use of UTC time format. Members to provide input from international offices where possible. | ASX, members | 22 August 2017 |
| 35 | 18 July 2017 | ASX to publish all final draft usage guidelines in MyStandards and highlight to members those usage guidelines that need their review. SWIFT to advise if a flag is available in MyStandards to indicate particular review items. | ASX, SWIFT | 22 August 2017 |
| 36 | 18 July 2017 | Provide members with details of feature in MyStandards to affirm a comment. | ASX, SWIFT | 22 August 2017 |
| 17 | 14 March 2017 | Provide further information on party identification for issuers – UIC or BIC and proposed process. | ASX | 10 October 2017 |
| 37 | 18 July 2017 | Provide comparisons to other market implementations of transaction ids. | ASX, SWIFT | 22 August 2017 |
| 38 | 22 Aug 2017 | Review consistency of the application of UTC date, date and time, zulu format, and add item to upstream/downstream considerations log re the use of UTC for Trade Date confirmations | ASX | 10 October 2017 |

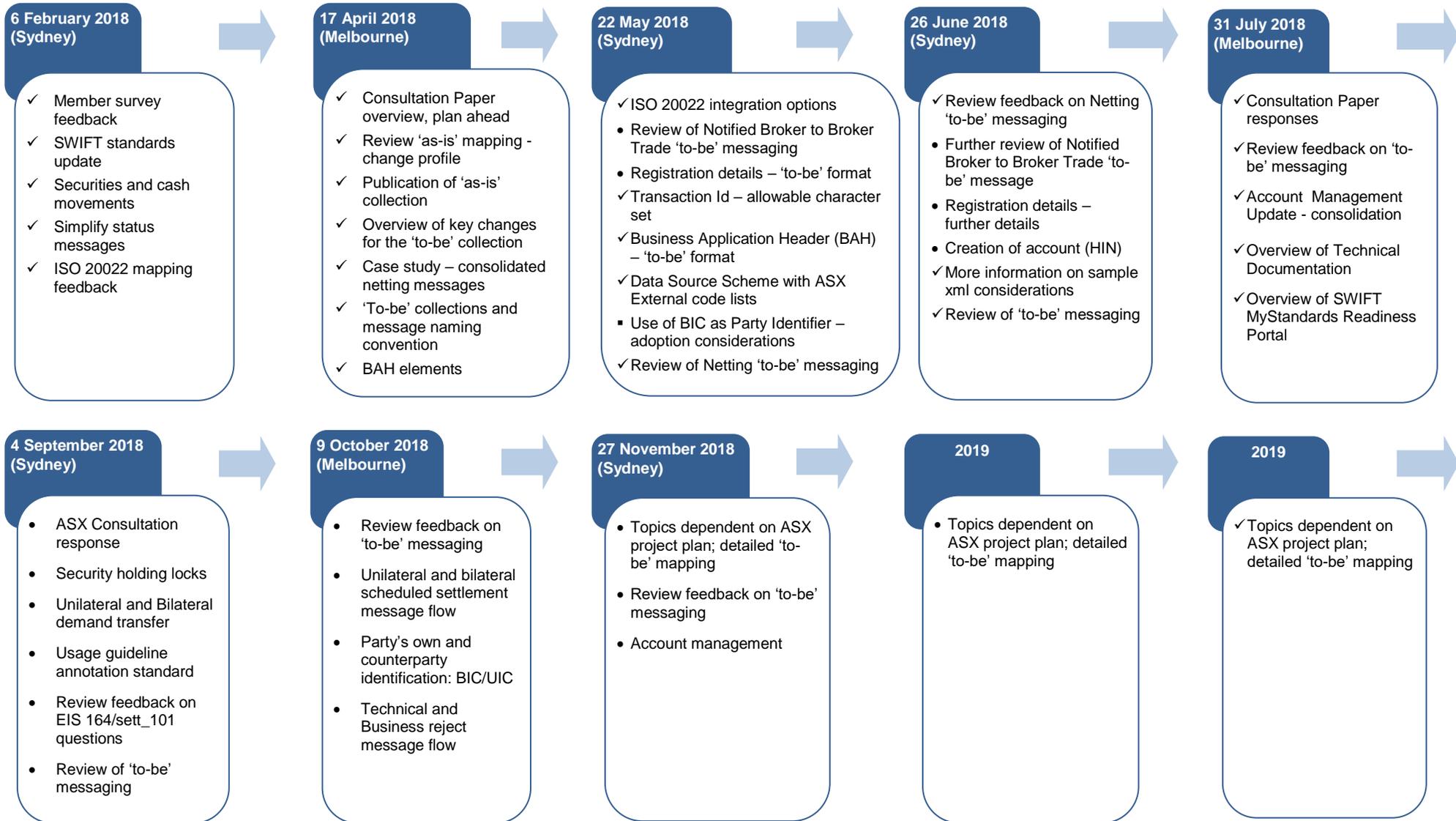


| No. | Meeting Date | Closed Action Items | Owner | Closed Date |
|-----|--------------|---|--------------------|------------------|
| | | from AMOs (with flow on impact to EIS 164 equivalent). | | |
| 40 | 22 Aug 2017 | Provide list of CHES EIS messages in scope for detailed mapping during 2 nd half of 2017, including identification of descoped messages. | ASX | 10 October 2017 |
| 44 | 10 Oct 2017 | ASX project team to consider effective housekeeping of rights that expire worthless – and whether this could be improved. | ASX | 21 November 2017 |
| 45 | 10 Oct 2017 | Review recommendations put to committee in Agenda item 6c) – approach to ISO best practice exceptions and provide feedback to ASX. | Members | 21 November 2017 |
| 46 | 10 Oct 2017 | Review recommendation put to committee in Agenda item 6d) – inclusion of unique event id in Market Infrastructure Tx id (MITI) field. | Members | 21 November 2017 |
| 47 | 10 Oct 2017 | Allow for future use of Party2+ identification in messages, and ensure discussion on same point at working group meetings re business requirement. | ASX | 21 November 2017 |
| 19 | 2 May 2017 | Provide sample of demonstration of comparison between ISO 20022 and ISO 15022 messages. | Scott Oakland, JPM | On hold |
| 23 | 2 May 2017 | Further review of the ASX CHES demand reporting summary and responses to questions contained in that summary. ASX to continue review of reports and provide further candidates for descope at meetings. | Members / ASX | 21 November 2017 |
| 39 | 22 Aug 2017 | Chair to contact members seeking feedback on the approach of the Technical Committee, any suggestions to improve the process. | ASX | 21 November 2017 |
| 41 | 22 Aug 2017 | Conduct bilateral discussions with share registries and mailing houses regarding structuring of registration details and associated static data. | ASX | 21 November 2017 |
| 42 | 22 Aug 2017 | Conduct bilateral discussions with share registries regarding current holding balance changes associated with corporate actions and proposed withdrawal of EIS 421. | ASX | 21 November 2017 |



| No | Meeting Date | Closed Action Items | Owner | Closed Date |
|----|-----------------|---|---------|------------------|
| 43 | 10 Oct 2017 | Provide a proposed governance method for Technical Committee input to and review of all matters tabled at the Standards Evaluation Group (SEG), including any matters raised by ASX on behalf of community. | ASX | 21 November 2017 |
| 48 | 21 Nov 2017 | Members to review information provided in agenda item 6d) and respond to the question – was there appetite for using xml in model 1b or 2a as presented or keep the mapping 1 to 1. | Members | 6 February 2018 |
| 49 | 6 February 2018 | ASX to confirm additional 'as-is' usage guidelines that could be published in Q2 and members to provide expression of interest in reviewing this set. | ASX | 17 April 2018 |
| 50 | 22 May 2018 | Digital Asset to review the NDA regarding the DAML SDK and respond to questions around one way vs. two way. | DA | 26 June 2018 |
| 52 | 22 May 2018 | ASX to give consideration to how it would advise users of any change to the external code lists and report back to members. | ASX | 31 July 2018 |
| 54 | 26 June 2018 | Members to review and advise ASX of any feedback on the recommendation that Transaction Date Time (<TxDtTm>) in the sett_101 message is UTC. | Members | 31 July 2018 |

Attachment B: Technical Committee on ISO 2022 Forward Work Plan (matters for consideration @ September 2018)



Note: Items with a 'tick' have been discussed and all actions have been completed. Items from previous meetings that do not have a 'tick' have been discussed, but there are outstanding actions.

The Forward Work Program is an evolving document and is presented above as at September 2018.

| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 4A | |
|---|---|
| Topic | Minutes from 5 July 2018 Business Committee Meeting |
| Date | 28 September 2018 |
| Purpose of this paper | To provide Business Committee members with the minutes and Business Committee report to the ASX Boards from the 5 July 2018 meeting. |

OVERVIEW

Draft minutes and the draft report to the Boards of ASX Clear and ASX Settlement from the 5 July 2018 Business Committee meeting were emailed to all members of the Business Committee on 1 August 2018 for comment. The Secretariat did not receive any comments from members.

The Business Committee report and minutes will be formally presented to the next meeting of the ASX Clear and ASX Settlement Boards.

ATTACHMENTS

Attachment A – Business Committee Report and Minutes from the 5 July 2018 Meeting.

Business Committee Report to the Boards of ASX Clear and ASX Settlement

Business Committee Meeting

At its 5 July 2018 meeting, the Business Committee was updated on the:

- operating performance of CHES for the June Quarter 2018 to date;
- two events that impacted participants and market operations;
- the upcoming external audit of ASX's compliance with CFR's regulatory expectations;
- progress with the CHES replacement project;
- Corporate Action STP Phase 2 project; and
- Technical Committee's progress in mapping CHES messages to the ISO 20022 standards.

KEY ISSUES DISCUSSED

The Committee was provided with a project update and a high level summary of the feedback received to the CHES replacement consultation paper, in advance of ASX's formal response. It was noted that the Business Committee and the Technical Committee on ISO 20022 would meet regularly during the next twelve months and two new working groups would be established to assist over the life of the project covering connectivity and integration and implementation and transition.

An update on two market events was provided: the accidental activation of the gas fire suppression system at ALC and the Unibail-Rodamco (URW) acquisition of Westfield Corporation (WFD). Learnings in relation to communication around these events were discussed.

Agreed Actions

None

Minutes from the meeting are attached.

Minutes

Business Committee Meeting

| | | | |
|-------------|-------------|-------------|------------------|
| Date | 5 July 2018 | Time | 12:00pm – 2:00pm |
|-------------|-------------|-------------|------------------|

| | |
|-----------------|---|
| Location | ASX Offices – Level 1, 20 Bridge Street, Sydney |
|-----------------|---|

1. Service Performance

- a) Cash Market Clearing and Settlement - Operating Performance
- b) Market Events (verbal update)
 - Accidental Activation of Gas Fire Suppression System at ALC
 - Unibail-Rodamco (URW) acquisition of Westfield Corporation (WFD)

2. Regulatory Expectations

- a) Regulatory Expectations – External Audit

3. CHES Replacement Project

- a) CHES Replacement
- b) Corporate Action STP Phase 2 Update
- c) ISO 20022 Technical Committee Report and Minutes

4. Administration

- a) Minutes from the 28 March 2018 Business Committee Meeting
- b) Forward work program
- c) Other matters

5. Next Meeting - 19 September 2018

Business Committee Members

| Company | Name | Job Title | Apologies |
|----------------------------------|---------------------------|---|-------------------|
| ABN AMRO Clearing | Barry Parker | Chief Executive Officer | |
| ACSA | Rob Brown | Chief Executive Officer | |
| AFMA | Tracey Lyons (delegate) | Head of Policy | David Lynch |
| ANZ | Andrew Koudrin (delegate) | Head of Execution Assurance and Middle Office | Peter Mullin |
| ASX | Peter Hiom | Business Committee Chair, Deputy CEO | |
| Bank of America Merrill Lynch | Rhys Cahill | Global Markets COO | Rhys Cahill |
| Bell Potter Securities | Dean Surkitt | Managing Director Retail | By Phone |
| BNP Paribas | David Braga | Head of Securities Services | |
| Chi-X Australia | Mike Aikins | Chief Operating Officer | |
| Citi | Miles O'Connor | Director, Direct Custody & Clearing Securities & Funds Services | |
| CBA | Sheridan Thompson | Head of Strategic Development, CommSec | |
| Credit Suisse | Winston Loke | Australia Equities COO | By Phone |
| Deutsche Bank AG | Geoffrey Plaisted | Chief Operating Officer, Equities | Geoffrey Plaisted |
| Goldman Sachs | Yen Le | Executive Director | |
| HSBC | Conrad Tsang (delegate) | Head of Global Banking and Markets IT, Aust & NZ | Peter Snodgrass |
| J.P. Morgan | Jonathan Evans | Head of Custody and Markets Operations | |
| Macquarie Group | James Indge | Cash Equities Business Manager | James Indge |
| Morgans | Daniel Spokes (delegate) | Manager, Transactional Services & Settlement Systems | Peter Chisholm |
| Morgan Stanley | Craig McGuire | Head of Operations | |
| NAB | Greg Bowrey | General Manager, Self-Directed Wealth Products & Markets | |
| NSX | Ann Bowering | Managing Director | |
| Pershing Securities | Leigh Conder | Chief Operating Officer | |
| SAFAA | Andrew Green | Chief Executive Officer | Andrew Green |
| Sydney Stock Exchange | Peter Gan (delegate) | Company Secretary | Tony Sacre |

| | | |
|-----|-------------|-------------------------|
| UBS | Conor Foley | Chief Operating Officer |
|-----|-------------|-------------------------|

ASX Management

| Name | Job Title |
|------------------|---|
| Hamish Treleaven | Chief Risk Officer |
| Eloise Wett | Executive General Manager, Operations |
| Cliff Richards | Executive General Manager, Equity Post Trade Services |
| Sally Palmer | Deputy General Counsel |
| Con Korkofigas | Senior Legal Counsel and Senior Manager |
| Karen Webb | Senior Manager, Equity Post Trade Services |
| Keith Purdie | Senior Manager, Equity Post Trade Services |
| Gary Hobourn | Senior Economic Analyst, Regulatory and Public Policy |
| Boronia Morison | Senior Policy Analyst, Regulatory and Public Policy |
| Adriarne Gatty | Equity Post Trade Analyst |

INTRODUCTION

The Chair welcomed members and delegates to the second meeting of the year. He noted that Geoffrey Plaisted (Deutsche Bank AG), James Indge (Macquarie Group), Andrew Green (SAFAA) and Rhys Cahill (BAML) were unable to attend and a few members had nominated delegates to attend on their behalf: Andrew Koudrin (ANZ); Conrad Tsang (HSBC), Peter Gan (SSX), Tracey Lyons (AFMA) and Daniel Spokes (Morgans).

Two members dialled in to the meeting: Dean Surkitt (Bell Potter Securities) and Winston Loke (Credit Suisse).

AGENDA ITEM 1: SERVICE PERFORMANCE

a) Operating Performance Report

The ASX Executive General Manager, Operations spoke to the June quarter performance report¹ noting that:

- Overall activity levels are in line with the previous quarter, average traded value sitting at \$6.3 billion, slightly down from \$6.5 billion but in the same range.
- The average monthly system availability was 100.00% for CHES. The average monthly availability of CHES has been 99.9% between November 2011 and May 2018.
- The value of CHES holdings has ticked over the \$2 trillion mark for the first time since CHES has been in place
- There were a small number of trade rejections on ASX, these were straightforward involving incorrect trade dates
- Fail rates also continued to be very low for the June quarter, at 0.21%.
- The mFund service continues to grow in terms of number of transactions (1500) and funds under management (\$653m).

b) Market Events (verbal update)

The ASX Executive General Manager, Operations gave an overview of two market events and the learnings from these experiences. She thanked member for the efforts their firms and the broader participant community had made in responding to these incidents.

- Accidental Activation of Gas Fire Suppression System at ALC
 - On Monday 4 June, an accidental activation of the gas suppression system in the data centre at the ALC occurred. The loud sound and pressure wave resulted in some impact to customers' infrastructure and ASX OUCH gateways. Following an initial assessment of the information at hand, including the likely overall participation in the CSPA and taking into account some feedback from previous events, ASX took the decision that the equity market would close at the scheduled time.
 - In regards to the futures market, the day session closed at its scheduled time. To allow ASX and customers to further assess the status of infrastructure and recovery requirements, a decision was made to delay the opening of ASX24 until 10pm that evening.
 - Following feedback from customers, ASX are undertaking improvements to communication processes for similar events.
 - A member raised the issue of communication and transparency in ASX's decision-making, particularly in regard to the delay in opening of ASX24 and their need to respond to customer queries.
 - The ASX Executive General Manager, Operations indicated feedback from a range of sources was being taken into consideration to enable ASX to improve communications processes in the future.
- Unibail-Rodamco (URW) acquisition of Westfield Corporation (WFD)

¹ Up to 31 May 2018

- On 28 May 2018 Unibail advised the market that a French transaction tax would be payable on each purchase of the CDIs created out of the URW takeover. This had not previously been advised to the market or to Westfield security holders.
- The timing of disclosure of that information meant that some participants were not initially in a position to confirm that they could be in the market for the commencement of trading of the new securities.
- Through consultation, and in assessing its fair, orderly and transparent obligations, ASX received assurance from a sufficient number of participants that processes would be in place in time for the commencement of trading.
- Trading in the new securities on 31 May 2018 was orderly.
- Both ASX and ASIC have been looking at what could be done to reduce the risk of similar occurrences in the future – recognising that listed entities and their advisers have an obligation to ensure that they disclose all appropriate information in advance of a listing.
- A member noted ongoing uncertainty around the collection of the tax in the case of off-market trades including who is liable for the tax and practical questions around the timing of particular transactions (e.g. the applicable exchange rate). This may impact on the willingness of firms to process off-market trades in URW. The member indicated that they were seeking further guidance.
- Other members raised complexities and uncertainties with the practical application of the tax and indicated they were also engaging with the ATO to seek clarity on the application of the GST in these circumstances and were expecting answers in the near future.
- In relation to financial transaction tax, a member indicated that a European organisation had been in contact to seek clarity on reporting obligations of European firms for this European tax which demonstrated further confusion internationally.

AGENDA ITEM 2: REGULATORY EXPECTATIONS

Regulatory Expectations External Audit

The ASX Senior Economic Analyst, Regulatory and Public Policy, provided an update on the Regulatory Expectations External Audit as follows:

- The scope and Terms of Reference of the audit is the same as last year.
- This audit is used by the regulators as input into their assessment of whether ASX is compliant with the regulatory expectations.
- The audit report for financial year 2018 will commence shortly and a report is due within 90 days from the end of the financial year.
- Similar to last year, Business Committee members will be contacted by the auditors to provide feedback.
- A report will come back to this Committee.

Members had no comments or questions on this item.

AGENDA ITEM 3: CHESSE REPLACEMENT PROJECT

a) CHESSE Replacement

The Chair thanked members and their organisations for their participation during the consultation process to date. He noted that the process had been extremely intensive and appreciated the resources firms have allocated to this process.

The ASX Executive General Manager Equity Post-Trade Services updated members on the CHES replacement process. The functional build, including creation of participants and securities, trade registration, core clearing and settlement services, is progressing with Digital Asset. This heavily focuses on what will be the first release into the customer development environment, which ASX aims to have available towards the back end of the first quarter calendar 2019.

Parallel to that development work, ASX continues to perform the functional gap analysis, as well as developing the ISO 20022 catalogue, updating the MyStandards usage guidelines, and providing sample XML for ISO 20022 messages constructed in an XML format. Sample documentation relevant to the functionality that will be going out in that first release was being developed. The documentation will be publically available through the ASX website.

He also noted the amount of work that is in progress in the infrastructure and security analysis space – including specification and design activities and related hardware commissioning. External consultants have been engaged to assist in the security design.

Analysis is also being undertaken in regard to the design of DLT nodes offered as a managed service by ASX.

The Digital Asset Modelling Language software developer kit (DAML SDK) has been made available by Digital Asset in a beta form.

A number of the Business Committee member firms and back office software vendors either have completed or are in the process of completing the NDA with Digital Asset and the licensing agreement such that they can get access to the DAML SDK.

He noted that ASX will be assisting participants by providing some hands-on training workshops. They will provide an overview of the digital asset platform.

A member then queried (regarding DAML SDK) whether a technology vendor or back-office solutions developer who is interested in developing a new product or service can be provided with access to the software development kit.

The ASX Executive General Manager Equity Post-Trade Services clarified that Digital Asset was managing this process and ASX's role has been to provide the current list of incumbent participants and vendors which will be prioritised for access to the software and attendance at any workshops. To the extent that others have an interest, it will be up to Digital Asset to manage this process.

ASX Senior Legal Counsel then provided an update on the off-market transfer business requirement which had been discussed at the last meeting. He indicated that a consultation paper in relation to the removal of the requirement for a registrable transfer document is going through final review and it should be released within the next week. A four-week consultation period on the consultation paper will be undertaken. In the absence of any new issues being identified through the consultation process, new arrangements could be in place by the end of the year.

He noted that a separate piece of work is also being undertaken in the space of holder protections, looking at issues with risks of identity fraud.

The ASX Executive General Manager Equity Post-Trade Services then provided an overview of the submissions received as follows:

- 38 responses have been received to date with a broad coverage across the industry: clearing and settlement participants, custodians, share registries, AMOs, vendors and associations.
- No additional business requirements were identified aside from some minor changes to those that were presented.
- Most of the day one features received broad support. Five of the new features for day one were not consistently supported. These were around the common investor number or the CIN; another one was around the bilateral transaction matching; settlement in foreign currencies; optional early settlement; and the transfer of cum entitlement balances.

- There has been a high level of interest in nodes including understanding the benefits of this method of connectivity and requests for more detail on taking a node as a managed service.
- There has been requests for clarification on the different connectivity options and their associated benefits and use cases. There are broadly two classes of connectivity option, one is to continue to send and receive messages, in an ISO 20022 not a CHESSE EIS format and that would be over a wire, the other is to take a node.
- Interest was also focused on data ownership and information security - for example, who are the technical owners of the data in the segregated data store, when will the structure of the segregated data store be published, retention policy on transactions and a node.
- There were questions on pricing of the different connectivity models.
- More detail was requested on interoperability, integration and the availability of historical data and a number of requests for details around the data API provision and usage.
- Feedback in many submissions that the implementation timeline was ambitious, particularly given the scope and information that has yet to be provided.
- A desire for earlier access to documentation and test environments and a longer period between release of documentation and the commencement of functional testing.

The Chair noted that ASX has identified some differences in priorities identified between previous and current submissions from the same organisation and that ASX would be contacting those organisations for clarity on the reasons for the shift in views.

Members queried the next steps regarding the five features that were not broadly supported. The ASX Executive General Manager Equity Post-Trade Services explained that a further detailed review will occur drawing on the detailed responses ASX had received.

The ASX Executive General Manager Equity Post-Trade Services also outlined the approach to the single cut-over weekend migration between CHESSE and the new system that was put forward in the consultation and the rationale behind it. He noted that some respondents did not support this approach while others had questions on the migration tools.

He noted that working groups will convene, starting with large group sessions to answer the questions and provide additional information before deeper dives on particular issues with a smaller group of organisations. The first working group will focus on connectivity and integration should commence in September, with the second on implementation and transition to follow later.

He then thanked the participants for their efforts in replying to the consultation paper.

Prior to release of ASX's response to the consultation paper feedback, further consultation will occur with the Boards of ASX Clear and ASX Settlement and regulators, noting that the consultation responses have already been provided to the regulators.

b) Corporate Action STP Phase 2 Update

The ASX Senior Manager, Equity Post Trade Services provided an update on Phase 2 of the Corporate Actions STP enhancements project covering the scope, the delivery timeline and stakeholder engagement.

The scope covers: delivery of the STP solution for the remaining corporate actions that ASX currently supports, delivery of an STP capability through to data capture for all announced issuer capital changes and requests for quotation that are sought from ASX, expanded solutions to cover other product types like ETFs and mFund, renewal and delivery of specific enhancements that have been raised by the market for the phase one events, and the requirements that have come from the replacement of CHESSE.

The timeline is for a two-year delivery period through to the second quarter of 2020 to target implementation of the project before CHES replacement goes live. It is likely the project will be delivered in two phases, the first in mid-2019 and the second in 2020. Stakeholder engagement has commenced through the corporate actions working group for CHES. A similar group is expected to be convened this quarter which may include more representation from issuers. There may be more formal consultation around the project in a public consultation document.

The ASX Senior Manager, Equity Post Trade Services thanked members for their support for this project and noted it continues to be a high priority for, and is well supported by many customers.

A member asked whether corporate actions data would be provided via the data API or a separate interface and if the service would be offered to non-ASX affiliated AMOs or direct to their issuers. It was confirmed that a different interface would be used for the distribution of corporate action information and that any service would be offered to AMOs.

c) ISO 20022 Technical Committee Report and Minutes

Members received reports from the April & May 2018 Technical Committee meetings.

The ASX Senior Manager, Equity Post Trade Services provided an update. There are now over 80 members from 32 organisations, indicating strong representation across the industry. Those members are very well engaged in the process and participate well in the conversations.

The April meeting was a step change in the way ISO 20022 implementation had been approached. Up to that point, the focus was on developing a message set based on the as is or production CHES message set and translating that into ISO 20022. In March that piece of work concluded.

From April, the work brought to the Committee will focus on adjusting that base message set to meet the scope requirements for the day one CHES replacement.

Members of the Committee have also been advised ASX is moving away from EIS naming conventions.

In the May meeting, the architect provided an overview of how ISO 20022 fits in with the connectivity options following the consultation paper release.

The June meeting covered the international engagement on the adoption of ISO 20022.

The next meeting in July will provide a preliminary overview of a browser-based portal that is intended to allow early testing of 20022 message formats, as well as a high level overview of the CHES replacement technical documentation.

AGENDA ITEM 4: Administration

a) Minutes from the 28 March 2018 Business Committee Meeting

The minutes of the 28 March 2018 meeting were approved without further change.

b) Forward work program and BC Meeting dates for 2018

The Chair noted that the forward work program focused on CHES replacement and the Corporate Actions Project but that it remained open to members to suggest any other agenda items.

c) Other matters

The Chair noted that ASX would have an exhibition stand at Sibos and would be organising some events during the conference. Members were encouraged to attend. It was noted that if members are hosting overseas visitors during that period and wished to organise meetings with ASX, they are encouraged to do so as soon as possible as scheduling will likely be tight.

Next meeting

The next meeting is scheduled to be held on 19 September 2018.

The meeting closed at 1.30pm.

Signed as a correct record of the meeting.

Chairman

Date

DRAFT

| BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 4B | |
|---|--|
| Topic | Forward Work Program |
| Date | 28 September 2018 |
| Purpose of this paper | To update Members on the forward work program of the Business Committee for 2018. |

OVERVIEW

There is one final meeting of the Business Committee this year, scheduled for 29 November 2018.

Subject to any input from members who wish to add additional items, the forward work program of the Business Committee this year and next will be predominately focused on CHES replacement: technology development, business requirements, and implementation processes.

A second major stream of work will be Corporate Action STP Phase 2. A working group drawing on a range of stakeholders will commence work shortly.

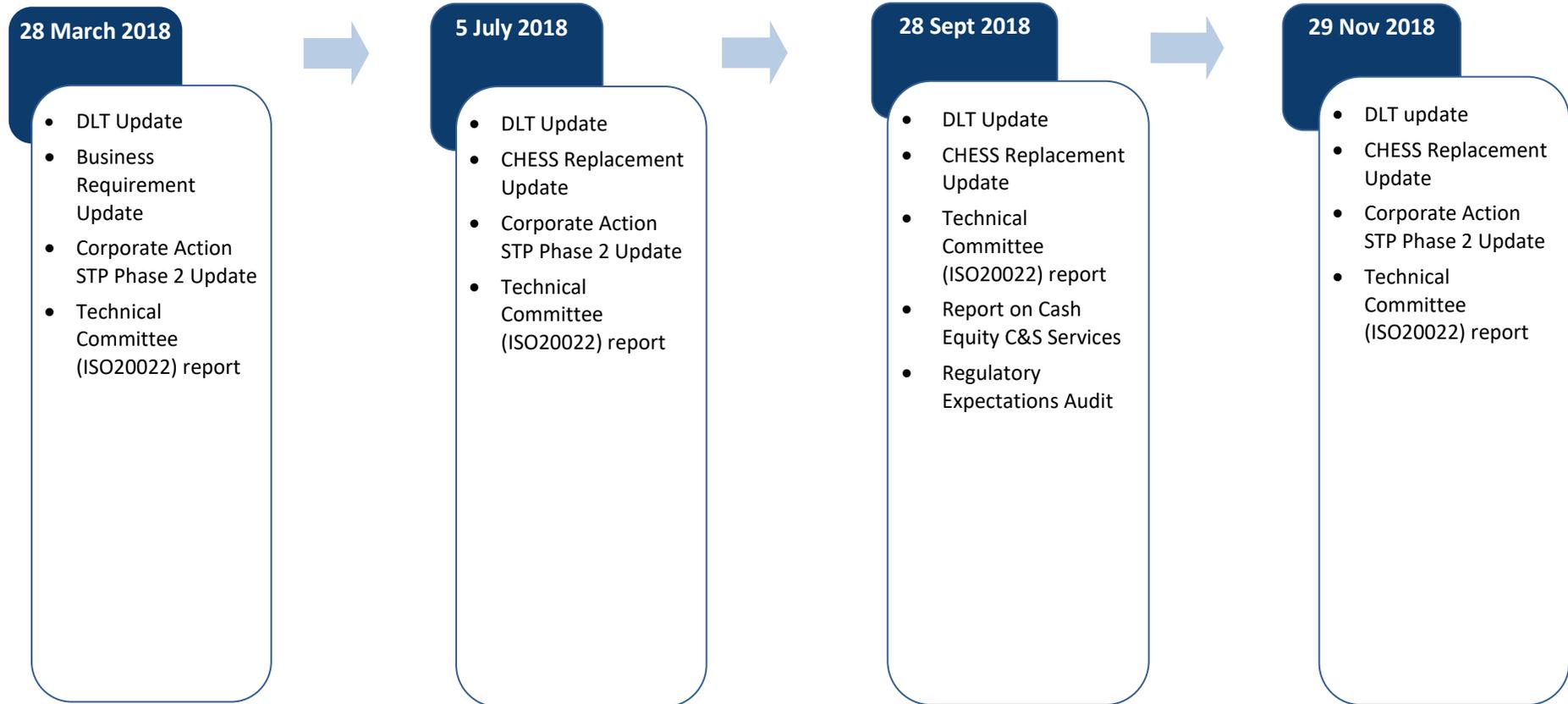
Members of the Business Committee are invited to suggest topics for inclusion in the forward work program at any time by contacting the Business Committee Secretariat.

The forward work program for the ISO 20022 Technical Committee can be found at Agenda Item 3b (Attachment D).

ATTACHMENTS

Attachment A – Business Committee Forward Work Program

Attachment A: Business Committee Forward Work Plan



Note: the forward work program does not include the standing agenda items for each meeting.