BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 1	
Topic	**Cash market clearing and settlement services - Operational performance**
Date	28 March 2018
Purpose of this paper	**To report on key performance metrics for ASX's clearing and settlement services.**

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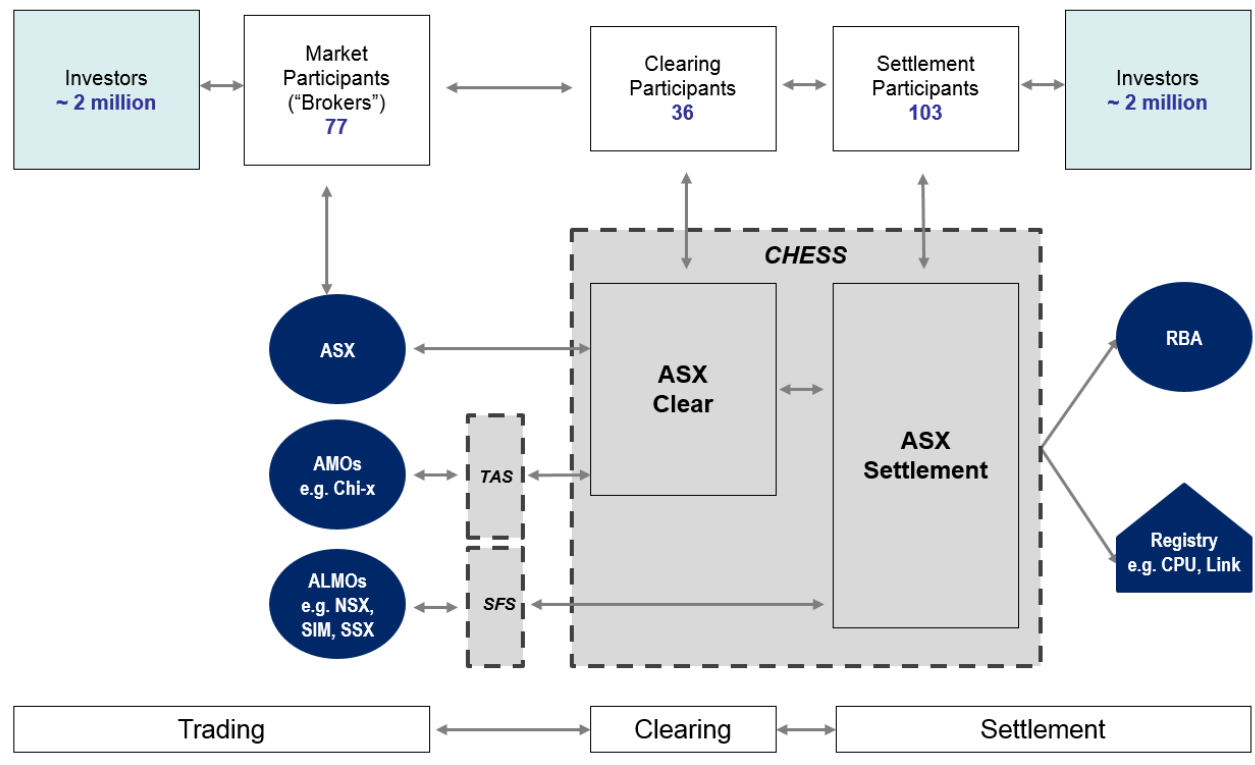
The clearing and settlement of equities performs a critical role in the operation of Australia's financial markets, helping to reduce counterparty and systemic risk, and provide transaction efficiency and certainty for end investors.

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 CHESS. It is critical for market operations, that CHESS 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 CHESS is 99.80%.

For the March 2018 quarter[1], the average monthly system availability was 99.93% for CHESS. The average monthly availability of CHESS has been 99.99% between November 2011 and February 2018.

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[1] Up to 28 Feb 2018

Trade Acceptance Service

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

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

For the February 2018 quarter[2], 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 February 2018 (which is the same as CHESS).

Reporting on clearing and settlement service performance

The key metrics noted above on novation, netting efficiency and settlement efficiency for the December 2017 quarter are reported in Attachment A. They are also supported by charts demonstrating a longer reporting period in Attachment B.
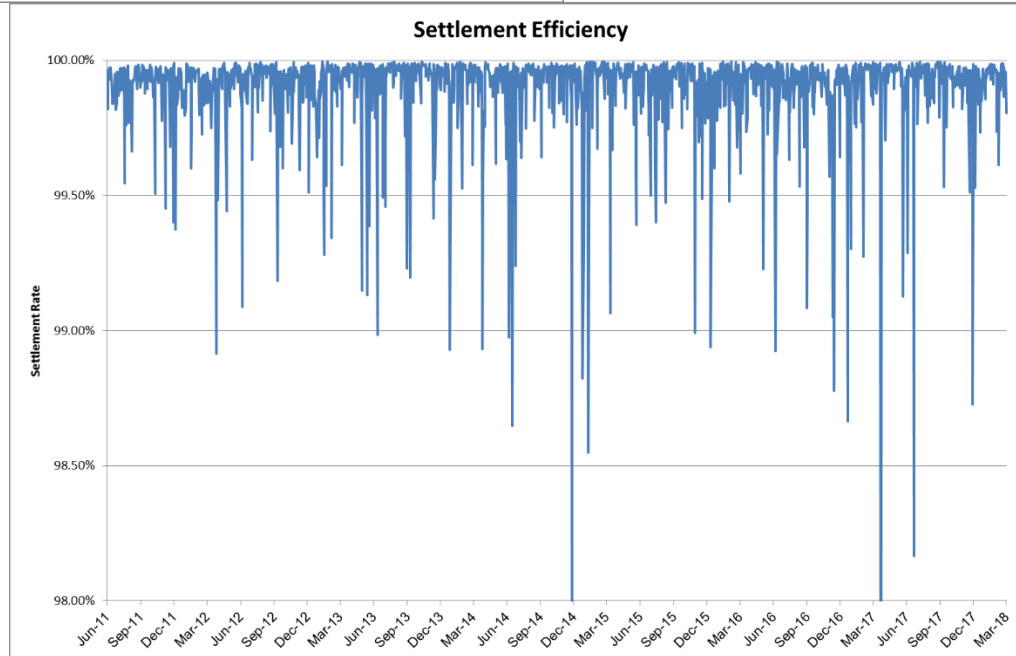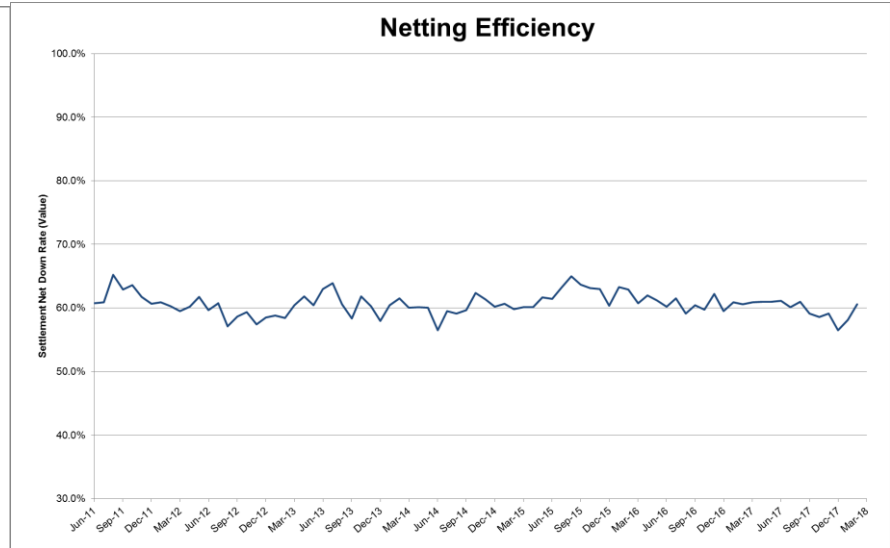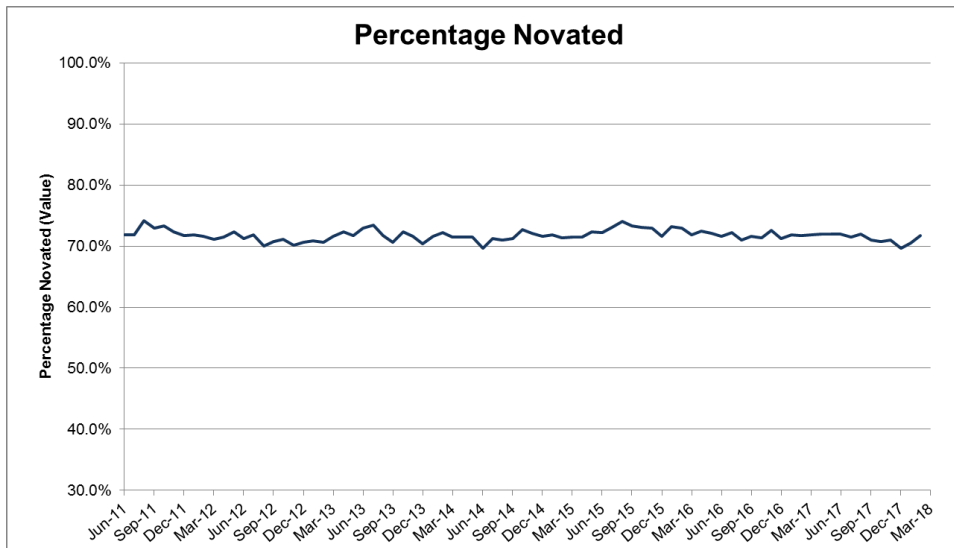
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[2] Up to 28 Feb 2018

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

	March 2018 Quarter[3]	December 2017 Quarter	September 2017 Quarter
System Availability (CHESS)	99.93%	100%	100%
System Availability (TAS)	100.00%	100%	100%
Total Trades Accepted (ASX)	49,792,700	73,927,275	74,837,425
Total Trades Rejected (ASX)	2	1,156	4
Total Trades Accepted (Chi-X)	19,331,029	29,275,952	29,338,189
Total Trades Rejected (Chi-X)	0	14	0
Total Settlements (SSX)	0	0	0
Total Value of Settlements (SSX)	$0	$0	$0
Total Settlements (NSX)	164	401	505
Total Value of Settlements (NSX)	$515,975	$1,393,680	$1,078,305
Daily Average Traded Value (On and Off Market)	$6.32 billion	$6.35 billion	$6.3 billion
Daily Average Cleared Value	$4.5 billion	$4.47 billion	$4.47 billion
Percentage Novated	71.1%	70.5%	71.5%
Daily Average Cleared Value Post-Netting	$1.82 billion	$1.88 billion	$1.79 billion
Netting Efficiency	59.3%	58.1%	60.1%
Daily Average Settled Value (Including Non-Novated)	$9 billion	$9.6 billion	$9 billion
Settlement Efficiency	99.93%	99.88%	99.94%

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[3] Up to 28 Feb 2018

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

Percentage Novated

Netting Efficiency

Settlement Efficiency

BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2A	
Topic	CHESS Replacement – Program Update
Date	28 March 2018
Purpose of this paper	Members will be provided with an update on the work following ASX's announcement that it would be proceeding with a DLT-based system

OVERVIEW

ASX will use a Distributed Ledger Technology (DLT) based system, developed by Digital Asset, to replace CHESS. ASX made the announcement confirming this decision on 7 December 2017.

Since the announcement, the team's focus has shifted to detailed planning and estimation work to establish the Day 1 scope and the associated delivery plan that will be outlined in the public consultation to be released shortly.

Scope and Implementation Plan

ASX and its software vendor, DA, held joint planning workshops in February. The purpose of the workshops was to develop a plan to complete the project. This included discussions on the delivery model, project scope, task and milestones, migration/transition approach, switch to ISO20022 messaging and technical considerations required to complete the project. The outputs from the workshop are a necessary input into the drafting of the public consultation paper.

Following the February workshop, ASX and DA engaged in daily meetings to perform detailed estimation on the work effort for all anticipated in-scope functional requirements, including the 45 business requirements identified from the industry working groups.

The output from the workshop, and the more immersive daily meetings on work estimation, are key inputs to identifying a timeline to implement that will be outlined in the public consultation paper.

Stakeholder Engagement

In February, a second set of issuer roundtables was held in Perth, Sydney and Melbourne with 43 listed companies, representing over $600bn (or one third) of total Australian market capitalisation. The purpose was to engage issuers on their business requirements for CHESS Replacement. The meetings validated the business requirements captured during the industry working groups and confirmed there were no other ones that had not already been identified. Engagement with this cohort will continue throughout 2018 and beyond, with the next round of meetings to be scheduled in Q3.

Focused working groups have also been held with: (i) custodians & institutional/retail brokers; and (ii) share registries, with the purpose of seeking further information to validate business requirements. There has also been a number of one-on-one discussions with stakeholders to further validate the thinking around specific business requirements.

The first ISO Technical Committee for 2018 was held in February to continue discussion and review of the CHESS to ISO 20022 message mapping and associated concepts.

BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2B	
Topic	**CHESS Replacement – Public Consultation Process**
Date	28 March 2018
Purpose of this paper	**Members will be provided with an update on the upcoming public consultation paper**

OVERVIEW

At the meeting ASX Management will provide Business Committee members with a presentation that provides an advance look at the structure and content of the upcoming consultation paper.

ASX is still drafting the paper that will outline the scope and implementation plan for CHESS replacement. The original timetable for release has been delayed slightly given the significant amount of preparatory work that needed to go into making the assessment of Day 1 business requirements given the broad scope and complexity of the changes and the need to consider the regulatory implications of some of the proposals.

The upcoming consultation paper will also:

- provide a summary of ASX's technical requirements, the DLT based solution and material relevant to the adoption of ISO 20022 messaging;

- explain how industry feedback received through the business requirements working groups has been taken into account and providing an outline of each change proposal;

- highlight key regulatory considerations identified to date which may impact on the timing of implementation of some of the business requirements; and

- outline ASX's proposed migration and implementation plan and activities.

The final consultation paper will provide responses on each of the 45 business requirements identified by the industry working groups. It will define each specific business requirement and explain the rationale for the decision as to whether the requirement should be included for Day 1 implementation or is proposed to be progressed separately (either in advance of CHESS replacement or at a later date). The paper will also set out a plan for the implementation of CHESS replacement.

The consultation period is expected to run for six weeks. ASX should be in a position to announce to the market the final scope and implementation timeline around the end of June 2018.

BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2C	
Topic	**Corporate Actions STP Phase 2 project**
Date	28 March 2018
Purpose of this paper	**To provide Business Committee members with an update on progress of the Corporate Actions STP Phase 2 project.**

OVERVIEW

In response to customer feedback about corporate action event processing, ASX has commenced the next phase of the project to introduce straight through processing (STP) of the capture and dissemination of corporate action event information for all remaining corporate action events that were not covered in the first phase of the project in 2014.

The project is currently in an estimation and planning stage and will be progressed in parallel, but decoupled from the CHESS replacement project. With an estimated 18 to 24 months to completion from the start date (date to be confirmed), the second phase of the corporate actions project is expected to be delivered prior to the replacement of CHESS.

Further information on the project will be including in the CHESS Replacement consultation paper and associated presentation at this meeting. Further details on the confirmed scope, expected delivery timeline and stakeholder engagement will be provided at the next Business Committee meeting.

BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 2D	
Topic	**ISO 20022 Technical Committee Report and Minutes**
Date	28 March 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 21 November 2017 and 6 February 2018.

A copy of the Technical Committee's report and minutes for the 21 November 2017 meeting and the Technical Committee report for the 6 February 2018 meeting are provided in Attachment A.

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

ATTACHMENTS

Attachment A – ISO 20022 Technical Committee Report and Minutes 21 November 2017 meeting.

ISO 20022 Technical Committee Report 6 February 2018 meeting.

Attachment B - ISO 20022 Technical Committee Forward Work Plan

ISO 20022 Technical Committee Report to the Business Committee

ISO 20022 TECHNICAL COMMITTEE MEETING 21 NOVEMBER 2017

The Technical Committee met on 21 November 2017 in Melbourne.

MEETING AGENDA (NON STANDARD ITEMS)

Business and Technical Matters For Consideration:
- Review of member feedback on the draft usage guidelines published on SWIFT MyStandards;
- New ISO 20022 messages – samples (in payment/funding business area);
- Precision of amounts, units, prices, rates elements;
- Reporting – simple vs. complex;
- Re-release 2017 CHESS Replacement ISO 20022 collection for Technical Committee;
- Further ISO 20022 usage guidelines available for member review; and
- A discussion regarding noted action items and next steps for the Committee, including the Technical Committee plan for 2018.

KEY ISSUES DISCUSSED

- The Chair noted that of eleven open action items, four had been actioned and were noted as closed, or for discussion at the meeting and subsequently closed. Seven action items remained open.
- ASX provided the committee with an overview of the business areas where new messages were being developed by ASX in consultation with SWIFT. New messages were considered necessary, given no readily available existing ISO 20022 message being available to match certain CHESS EIS messages. A high level sample was provided to the committee of messages developed in the Funds Settlement area, of particular interest to payment providers. It was noted there was a need for more frequent visibility of fund projections needed up to the settlement batch.
- ASX continued discussion in the meeting of a previously raised topic around reporting and the implications for simple vs. complex report types. A number of questions were raised in consideration of content, timing, and file sizes. The members were requested to review the material provided by ASX with an action to respond to ASX prior to the next meeting.
- ASX provided to the committee an overview of the changes that had been made to the current collection of ISO 20022 usage guidelines shared with the committee, in response to their comments, and further refinement by ASX and SWIFT. The entire collection would be republished for the committee's information but didn't need any further action. The collection was still considered draft on an 'as-is' basis and not yet considered fit for consideration as specifications for the replacement of CHESS messaging.

AGREED ACTIONS

One new action item was noted from the meeting, with a total of eight open action items. The action items are detailed in full in the Minutes from the meeting. The Chair also noted that ASX would be sending members a survey requesting their feedback on the effectiveness of the committee during the year. This would assist ASX with preparing the forward plan for 2018 and beyond.

Minutes from the meeting are attached.

MINUTES OF THE ISO 20022 TECHNICAL COMMITTEE

Tuesday 21 November 2017

NAB Offices, 500 Bourke Street, Melbourne; 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) MyStandards Community – usage guideline feedback
   b) New ISO 20022 message definitions – samples
   c) Precision of amounts, units, prices, rates elements
   d) Reporting – simple vs. complex
   e) Re-release of 2017 CHESS Replacement ISO 20022 collection for Technical Committee
   f) Usage guidelines for review

7. **Next Meeting - 6** February 2018

Technical Committee Members

Company	Name	Job Title	Apologies
Australian Payments Network Limited	Andy White	Chief Operating Officer	
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)	John Greenhow	General Manager, Australia	
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	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		
Citcorp	Stephen Rylands	Product 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		
Dion Global Solutions	Craig Gray	Product Manager – Australia and New Zealand	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	Nichole Alexander	Operations Vice President	
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,	
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	Daniel Smith	VP, Network Management	
JP Morgan	Lesley Henderson	Technology Product team	
Link Group	Ian Batterham	Business Applications Architect	

Company	Name	Job Title	Apologies
Link Market Services	Sue Julian	National Manager, Corporate Actions	
Macquarie Group	Paul Bragg	Senior Manager Equities Clearing ANZ	Apology
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 Brkrg Funding & Fin Tech	
Morgan Stanley	Oscar Dela Cruz		
Morgan Stanley	Andrew Fielder		
Morgan Stanley	Gordon Davies	VP/Firmwide Ops	
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	
Securitease	Anton Smith	Director	
Securitease	Chris Werry	Business Analyst	
Share Investing	Phil Barnes	Senior Manager, Platforms	
SWIFT Standards	Nicole Jolliffe	Senior APAC Standards consultant	
SWIFT Standards	Mieko Morioka	Senior APAC Standards consultant	
SWIFT	Chermaine Lee	SWIFT Project Coordinator	
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	
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	
Brendon Luscombe	General Manager, Product Owner, CHESS Replacement Project	Apology
Karen Webb	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	

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.

The Chair outlined the Agenda for the meeting, referring to the presentation slides prepared by ASX. The agenda included an overview of the proposed forward plan of meeting topics, as outlined on slide number 3 of the ASX presentation.

The Chair noted recent discussions with other CSDs around the topic of best practice adoption of ISO 20022 and supplementary data. The consensus view was that the usage guidelines needed to be registered to ensure adoption by each local market.

The Senior Manager, Equity Post Trade Services provided an overview of the forward plan for the committee, stating that for now the next meeting would be scheduled in February 2018, including topics not yet covered in this year's meeting, as outlined on slide number 3 of the ASX presentation. The ASX survey of Technical Committee members would help ASX to shape the best approach to the forward work plan during 2018 and into 2019, also taking into account ASX's own schedule for stakeholder engagement, including the consultation on the day 1 scope for CHESS Replacement.

Agenda item 2: Minutes from last meeting, open actions

The Chair noted that the minutes from the last meeting held on 10 October 2017 had been finalised without change. ASX had not received any comments on the draft minutes from committee members.

The Chair noted the outstanding actions from the last meeting as outlined on slide number 4 and 5 from the ASX presentation.

Action item 19 remains open and on hold.

Action item 20 was for ASX to provide a proposed plan for the remaining training webinars. The Chair noted that ASX was considering training closer to implementation. **This item remains on hold**.

Action item 23 was for ASX to continue a review of reports and provide further candidates for descope at meetings. The Chair noted that at this point in time ASX did not have any further recommendations for descope. **This item remains open.**

Action item 39 was for the Chair to contact members seeking feedback on the approach of the Technical Committee, any suggestions to improve the process. The Chair noted that ASX would be sending a short survey to Technical Committee members in the coming weeks seeking their feedback. **This item remains open.**

Action item 41 was for ASX to conduct bilateral discussions with share registries and mailing houses regarding structuring of registration details and associated static data. Refer action item 42 notes below.

Action item 42 was for ASX to conduct bilateral discussions with share registries regarding current holding balance changes associated with corporate actions and proposed withdrawal of EIS 421. The Chair noted that meetings had not yet been scheduled, however registries had continued to provide constructive general feedback to the project. A meeting with the registries at executive level was scheduled in the near future.

Both **action items 41 and 42 remain open**.

Action item 43 was for ASX to 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 the community. The Chair noted that ASX will provide this material to members following the meeting after reviewing the SEG frequency and requirements in more detail. **This item remains open**.

Action item 44 was for the ASX project team to consider effective housekeeping of rights that expire worthless – and whether this could be improved. The Chair noted that this request had been passed on the business requirements stream of the project for consideration. **This item was closed**.

Action item 45 was for members to review the recommendations put to the committee by ASX in Agenda item 6c) of the meeting held on 10 October 2017 – approach to ISO best practice exceptions and provide feedback to ASX. The Chair noted that there had only been feedback from one member that was inconclusive. In the absence of any other feedback ASX would proceed with the recommendation and use of supplementary data. **This item was closed.**

Action item 46 was for members to review the recommendation put to the committee by ASX in Agenda item 6d) of the meeting held on 10 October 2017 – inclusion of unique event id in Market Infrastructure Tx id (MITI) field. The Chair noted that there had only been feedback from one member that was inconclusive. In the absence of feedback ASX would proceed with the recommendation and use of supplementary data. **This item was closed.**

Action item 47 was the requirement for ASX to allow for future use of Party2+ identification in messages. The Chair recently raised this topic at a regulatory forum, relevant to a discussion on interest in accommodating and identifying layers of ownership. The regulatory agencies will consider and respond. A member confirmed their interest in the additional identification and support for further discussions and definition. **This item was closed.**

Agenda item 3: CHESS Replacement project update by ASX

The Chair invited the Executive General Manager (EGM), Equity Post Trade to provide an update on the project. The EGM provided an overview of ASX's project progress noting that it had work through all key milestones on the plan to date and ASX was on track or ahead of schedule (refer ASX presentation slide number 6).

The EGM provided more detail on the working groups and the survey to members seeking prioritisation of requirements. The responses received had provided ASX with a good idea of demand in certain areas, there was a lot of interest to inject efficiencies to corporate action processing, transfers and conversions, and good input on non-functional requirements. A summary of the outcomes from the survey was to be provided to the Business Committee at the meeting on 30 November.

ASX's work with Digital Asset was focused on non-functional testing leading to technical decision, together with external security assessments. A summary of the security assessment would also be provided to the Business Committee.

In 2018 ASX was preparing for consultation on the Day 1 scope for CHESS Replacement, with medium level implementation plan with outline of key milestones to allow stakeholders to do their own planning. The consultation would allow a minimum 6 week response period – allowing all stakeholders to provide feedback. The outstanding milestone was the decision on the technology solution – this work was in progress and ASX was keeping key stakeholders like regulators involved.

Agenda item 4: ISO 20022 project update by ASX

The ASX Senior Manager, Equity Post Trade Services provided an overview of the ISO 20022 progress, with further business areas now mapped in draft. Referring to ASX presentation slide number 7, 307 of the 346 messages in scope for mapping in the second half of 2017 had been mapped and delivered to ASX by SWIFT.

Agenda item 5: Update from Business Committee

The Chair noted key items from discussion at the Business Committee held on 11 October. The upcoming Business Committee meeting was scheduled for 30 November with the agenda covering clearing and settlement service performance, and a number of matters on CHESS Replacement including feedback on the work of the last two working groups and draft business requirements, the prioritisation of business requirements, progress on the technology assessment, and the update from the Technical Committee. The next meeting of the Business Committee would be in March 2018.

Agenda item 6: Matters for Consideration

a) MyStandards Community – usage guideline feedback

Referring to ASX presentation slide numbers 10 and 11, the ASX Senior Business Analyst noted that comments had been received on 7 of the 13 usage guidelines published post the 10 October meeting, by 5 Technical Committee members. Comments had been received on Demand Unilateral Transfer, CHESS to Issuer-sponsored Transfer, Registration Details and Holding Adjustment. No comments had been received on Payment Facility Admin.

In all, 19 comments received including 7 noting no issues with Demand Transfers. ASX had received valid feedback that some of these schemas were less structured and provided the options for how this could be addressed. Examples included the EIS 418 with concatenation of like fields within one repeating element, and EIS 512 with Name & Value pairs of elements – both of which reducing the opportunities for validation using the XML schema.

A member asked if that meant that the community was forced to accept a sub-standard outcome. The Analyst noted this wasn't the case and that ASX would lobby for change via the Securities Evaluation Group (SEG) evaluation of these draft ISO20022 base messages.

The Chair requested that if any of the global firms represented in the committee participate in such global groups it would be helpful if they could provide input and support to ASX's proposals. A member noted that the particular messages affected had a limited audience that probably didn't have much depth

globally. Another member noted that from a transactional perspective it was more likely to get international interest.

The Analyst reminded committee members that ASX provided responses to each comment and published these on the CHESS Replacement web page.

b) New ISO 20022 message definitions

The ASX Senior Business Analyst introduced the requirement to extend ISO 20022 standards to cover new common messaging areas currently supported by CHESS. Referring to ASX presentation slide number 12, ASX and SWIFT had so far identified 3 areas to be extended to provide messaging for approximately 30 CHESS EIS messages. If ASX were to progress with registration of the new messages, this was likely to follow confirmation of the Day 1 scope for CHESS Replacement, and wasn't subject to the usual 18 month change cycle for existing standards. The committee would continue to discuss the process and any implications re registration before or after go live, citing the T2S example of using messages in production prior to registration.

Referring to ASX presentation slide number 14 and 15, the Analyst provided an overview of the XML structure and orchestration for new messages in the Funds Settlement area, noting the messages were designed for future use by all Market Infrastructures. The Analyst then asked the question if Funds Notifications (CHESS EIS 300 and 302) provided on settlement day minus one (SD-1) were used by payment providers. A member noted that the CHESS Replacement working group had drafted a requirement to have more notifications especially on settlement day. Another member noted that the projections provided on SD-1 are used in a meaningful way, as CHESS EIS 101s were still processed on settlement day. A member asked if there was any opportunity to use a single payment message, and was there any analysis to look at existing ISO20022 payment messages. The Analyst noted there had been analysis by SWIFT and ASX, and no existing messages were considered suitable for the authorisation of Funds Transfers by Payment Providers. One member noted that there would be checks by payment providers so it was likely there was a need for early projections. The provider probably also checked with participants. The Chair recapped the Tricom default example, and that it was difficult to get a good view now, and that more frequent visibility was needed into net financial obligations.

c) Precision of Amounts, Units, Prices, Rates

The ASX Senior Business Analyst referred to the information on ASX presentation slide number 16, noting the precision in ISO messages around unit quantities, amount, currency, price, unit price compared to the CHESS EIS. Precision was unaffected although ISO representation may differ. No questions were raised by members.

d) Reporting – message requirements and methods

The ASX Senior Business Analyst referenced the conversation at the previous committee meeting regarding simple vs. complex reporting messages. The purpose of this agenda item was to provide an update and more specific example, and presented a case study on particular reports related to request and delivery of cum entitlement balances. Simple report types (e.g. reports types CFB, RPD, TSB and TSH) were not considered problematic as they provided 1 to 1 mapping to CHESS EIS with extensibility and use of pagination or the current trailer method to indicate the end of reports. The report types FHT and FSI were examples of more complex models.

A member asked what would happen if one message/report type was provided end of day, and the other on demand? The Analyst responded that the business process would not be affected. Another member asked if this would be delivered on a per-stock or consolidated basis in one report? The analyst responded that this would depend on the report request parameters. The member noted that it would be good to get end of day balances for all securities. A member asked what the overflow limit would be if scenario 1b (as presented) would be used? The analyst responded that this hadn't been decided yet – ASX would need to confirm maximum message sizes (e.g. T2S has a 4KB message limit). For complex reports the use of the business file header 'wrapper' to bring together different ISO documents as part of the report. A member noted that at the end of the day we need a principle re the design – the protocol needs to work, including the method of grouping and file size. The Chair asked the Analyst if ASX was seeking feedback or immediate response. An action was noted for members to review the information and provide feedback to ASX on the question – was there appetite for using XML in model 1b or 2a as presented or keep the mapping 1 to 1. **(Matters Arising 1 – Action item 48)**

e) Re-release of 2017 CHESS Replacement ISO 20022 collection
The ASX Senior Business Analyst provided an overview of the changes that had been made to the existing collection of usage guidelines shared with the Technical Committee, per ASX presentation slide number 20, including responses to feedback provided by the committee members.

The full collection would be republished, and the expectation was not that the committee members re-review the collection, but noting that ASX had responded to comments. The Chair noted that this provided a good summary of the decisions made to date.

A member asked if ASX was publishing all 300+ usage guidelines it had defined to date and could these be used to as a base to validate CHESS Replacement? The Analyst confirmed that for now it was around 50 usage guidelines, and should not be considered a basis for build yet.

f) Usage guidelines for review
An ASX Senior Business Analyst noted 12 new Usage Guidelines were being published for member review, with comments requested by 12 December 2017. It was noted that the next set used similar base messages to previous similar scenarios. The relevant transaction id flows would be available following the meeting.

Agenda item 7: Next meeting

The Chair noted one additional action item from the meeting and noted that draft minutes from the meeting would be circulated to members for review.

The Chair confirmed that the next meeting would be held in February 2018 allowing for the holiday season and ASX internal reviews with the date to be confirmed. In the meantime ASX would be in touch with details of the member survey.

The Chair noted the planned agenda for the February meeting as outlined on slide number 22 of the ASX presentation, including a list of the usage guidelines to be published by ASX for review by committee members (per Agenda item 6f).

The Chair thanked members for their input, and for participating in the meeting. The meeting closed at 5.00pm.

Signed as a correct record of the meeting.

_____   29 JANUARY 2018
Technical Committee Chair   Date
                                       _____

ACTION ITEMS

No.	Meeting Date	Open Action Items	Owner	Due Date
19	2 May 2017	Provide sample of demonstration of comparison between ISO 20022 and ISO 15022 messages.	Scott Oakland, JPM	On hold
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
23	2 May 2017	Further review of the ASX CHESS 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

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 CHESS 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 CHESS codes.	ASX	14 March 2017
13	7 February 2017	Add a general CHESS Replacement update to the standing agenda for meetings.	ASX	14 March 2017

No.	Meeting Date	Closed Action Items	Owner	Closed Date
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 CHESS 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 allegement 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

No.	Meeting Date	Closed Action Items	Owner	Closed Date
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 from AMOs (with flow on impact to EIS 164 equivalent).	ASX	10 October 2017
40	22 Aug 2017	Provide list of CHESS EIS messages in scope for detailed mapping during 2nd 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

No.	Meeting Date	Closed Action Items	Owner	Closed Date
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

ISO 20022 Technical Committee Report to the Business Committee

ISO 20022 TECHNICAL COMMITTEE MEETING 6 FEBRUARY 2018

The Technical Committee met on 6 February 2018 in Sydney.

MEETING AGENDA (NON STANDARD ITEMS)

Business and Technical Matters For Consideration:
- Review of Technical Committee member survey responses
- Update from SWIFT Standards team
- MyStandards Community – usage guideline feedback
- Securities and cash movements
- Simplify status messages
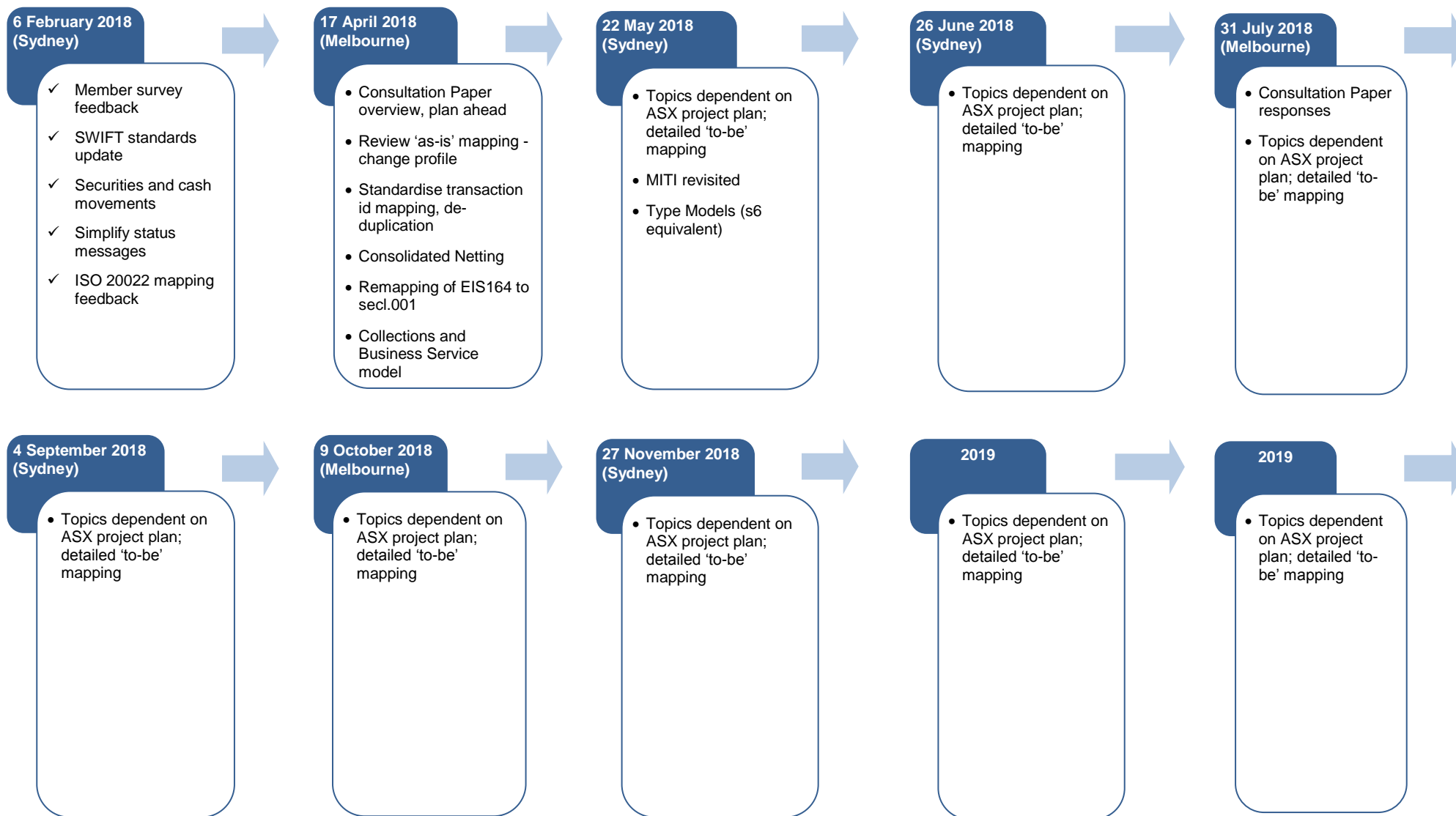- Usage guidelines for review

KEY ISSUES DISCUSSED

- The Chair noted that of eight open action items, seven had been actioned and were noted as closed, or for discussion at the meeting and subsequently closed. One action item remained on hold.
- As part of the ISO 20022 project update, ASX provided the committee with an overview of the proposed governance model between the committee and other Australian and global standards groups, where ASX was representing the Australian community. The committee accepted the proposed model.
- ASX provided the committee with a summary of the responses received from 26% of members to the survey distributed in December 2017. The survey represented an important engagement point to gauge the effectiveness of the committee against its objectives. The responses largely validated ASX's approach to the operation of the committee and the material shared with members, with some good suggestions provided for future consideration.
- All SWIFT standards consultants working on the ISO 20022 project with ASX were physically present at the meeting, providing an opportunity for the European based senior consultant to provide a presentation to the committee with examples and learnings from other ISO 20022 projects, including documentation and best practice adoption considerations.
- ASX presented a recommendation to the committee for consideration, proposing the development of common guidelines supported with usage rules to be used in place of individual CHESS EIS messages that essentially achieve a similar data flow. The example provided was status messages in the business process flows for Transfers. The members agreed with this recommendation, provided the business rules were not unnecessarily complicated.
- ASX noted that it had to date provided the Technical Committee with a subset of all the ISO 20022 messages mapped on an 'as-is' basis. ASX and SWIFT were near finalising the full 'as-is' set and sought expressions of interest from members in reviewing the remaining set across a number of functional areas. ASX noted that it would soon be working on the 'to-be' message set to match the Day 1 scope for the replacement of CHESS, with the 'as-is' messages forming a base for this work, but not necessarily yet considered fit for purpose or build.
- The Chair noted that the next meeting of the committee had been scheduled for mid-April so could ASX could provide an overview of the consultation paper expected to be available before that date.

AGREED ACTIONS

One new action item was noted from the meeting, with a total of two open action items. The action items are detailed in full in the Minutes from the meeting.

Attachment B: Technical Committee on ISO 20022 Forward Work Plan (matters for consideration @ March 2018)

6 February 2018 (Sydney)

- ✓ Member survey feedback
- ✓ SWIFT standards update
- ✓ Securities and cash movements
- ✓ Simplify status messages
- ✓ ISO 20022 mapping feedback

17 April 2018 (Melbourne)

- Consultation Paper overview, plan ahead
- Review 'as-is' mapping - change profile
- Standardise transaction id mapping, de-duplication
- Consolidated Netting
- Remapping of EIS164 to secl.001
- Collections and Business Service model

22 May 2018 (Sydney)

- Topics dependent on ASX project plan; detailed 'to-be' mapping
- MITI revisited
- Type Models (s6 equivalent)

26 June 2018 (Sydney)

- Topics dependent on ASX project plan; detailed 'to-be' mapping

31 July 2018 (Melbourne)

- Consultation Paper responses
- Topics dependent on ASX project plan; detailed 'to-be' mapping

4 September 2018 (Sydney)

- Topics dependent on ASX project plan; detailed 'to-be' mapping

9 October 2018 (Melbourne)

- Topics dependent on ASX project plan; detailed 'to-be' mapping

27 November 2018 (Sydney)

- Topics dependent on ASX project plan; detailed 'to-be' mapping

2019

- Topics dependent on ASX project plan; detailed 'to-be' mapping

2019

- Topics dependent on ASX project plan; detailed 'to-be' mapping

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 March 2018.

BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 3A	
Topic	**Minutes from 30 November 2017 Business Committee Meeting**
Date	28 March 2018
Purpose of this paper	**To provide Business Committee members with the minutes and Business Committee report to the ASX Boards from the 30 November 2017 meeting.**

OVERVIEW

Draft minutes and the draft report to the Boards of ASX Clear and ASX Settlement from the 30 November 2017 Business Committee meeting were emailed to all members of the Business Committee on 15 December 2017 for comments by 22 December 2017. 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 30 November 2017 Meeting.

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

Business Committee Meeting

At its 30 November 2017 meeting, the Business Committee was updated on the:

- operating performance of CHESS for the December Quarter 2017 to date;

- progress in developing and prioritising the business requirements for CHESS replacement through inputs from the industry working groups;

- ASX assessment of distributed ledger technology (DLT) including third-party reviews of the security aspects of the technology; and

- Technical Committee's progress in mapping CHESS messages to the ISO20022 standards.

KEY ISSUES DISCUSSED

The Committee was provided with background on the 40 functional and 5 non-functional business requirements that emerged from the six industry CHESS Replacement Working Groups conducted over a six month period and the responses from an online survey conducted to gauge relative stakeholder demand for the different requirements. The survey highlighted the importance customers place on providing more efficient corporate action processes.

The Committee was also briefed on the process being undertaken by ASX to assess the capability of the DLT-based system developed by Digital Asset (DA) and ASX's upcoming decision whether to use this system to replace CHESS. This included ASX commissioning two third-party security reviews of the DLT-based system.

There was discussion about the ongoing stakeholder engagement that would occur following the upcoming decisions on technology and the 'Day 1' functional scope of the replacement system, and that these arrangements would be used to assist in determining an implementation plan.

Agreed Actions

None

Minutes from the meeting are attached.

Minutes

Business Committee Meeting

Date	30 November 2017	Time	4.00pm – 5.30pm
Location	ASX Offices – Level 1, 20 Bridge Street, Sydney		

1. **Service Performance** 4:00pm - 4:15pm

    a) Cash Market Clearing and Settlement - Operating Performance

2. **CHESS Replacement Project** 4:15pm - 5:15pm

    a) Business Requirements Working Groups

    b) Working Groups' Input on Business Requirements

    c) Technology Assessment Process

    d) Third-Party Security Assessments

    e) ISO 20022 Technical Committee Report and Minutes

3. **Administration** 5:15 – 5:30pm

    a) Minutes from the 11 October 2017 Business Committee Meeting

    b) Forward work program

    c) Other matters

4. **Next Meeting** - 28 March 2018

Business Committee Members

Company	Name	Job Title	Apologies
ABN AMRO Clearing	Barry Parker	Chief Executive Officer	
AFMA	David Lynch	Chief Executive Officer	
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	
Bell Potter Securities	Dean Surkitt	Managing Director Retail	Dean Surkitt
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	
Deutsche Bank AG	Geoffrey Plaisted	Chief Operating Officer, Equities	
Goldman Sachs	Nichole Alexander (delegate)	Executive Director	Jeremy Follett
HSBC	Peter Snodgrass	Head of Direct Custody and Clearing	
J.P. Morgan	Jonathan Evans	Head of Custody and Markets Operations	
Macquarie Group	James Indge	Cash Equities Business Manager	
Morgans	Peter Chisholm	Chief Operating Officer	
Morgan Stanley	Craig McGuire	Head of Operations	
NAB	Greg Bowrey	General Manager, Self-Directed Wealth Products & Markets	
NSX	Ann Bowering	Managing Director	
Pershing Securities	Rob Forbes	Chief Executive Officer	
SAFAA	Andrew Green	Chief Executive Officer	
Sydney Stock Exchange	Geoff Williams (delegate)	Market Operations Manager	Tony Sacre
UBS	Conor Foley	Chief Operating Officer	

ASX Management

Name	Job Title
Tim Hogben	Chief Operating Officer
Hamish Treleaven	Chief Risk Officer
Daniel Moran	Acting General Counsel
Eloise Wett	Executive General Manager, Operations
Cliff Richards	Executive General Manager, Equity Post Trade Services
Diane Lewis	Senior Manager, Regulatory and Public Policy
Gary Hobourn	Senior Economic Analyst, Regulatory and Public Policy
Keith Purdie	Senior Manager, Equity Post Trade Services

INTRODUCTION

The Chair welcomed members and delegates to the sixth meeting of the year. He noted that Dean Surkitt (Bell Potter) was unable to attend and a few members had nominated delegates to attend on their behalf: Andrew Koudrin (ANZ); Nichole Alexander (Goldman Sachs); Daniel Spokes (Morgans); and Geoff Williams (Sydney Stock Exchange).

Two members dialled in to the meeting: Rhys Cahill (Bank of America Merrill Lynch) and Winston Loke (Credit Suisse).

AGENDA ITEM 1: SERVICE PERFORMANCE

a)   Operating Performance Report

The ASX Executive General Manager, Operations spoke to the December quarter performance report (up to 30 October 2017) noting that:

- Availability across CHESS and the TAS was 100% for the period.

- Volumes traded and value settled for both ASX and Chi-X are both broadly higher so far in the December quarter. NSX activity is broadly in line with the previous period.

- The daily average value of batch settlement has declined below $9 billion, the first such occurrence in some time.

- Fail rates remained very low (0.24%) in the September quarter after an uptick in the June quarter. This good performance has continued into October (0.27%).

- The mFund service continues to grow in terms of number of funds and funds under management.

Members had no questions on the performance report.

AGENDA ITEM 2: CHESS REPLACEMENT PROJECT

2a)   Business Requirements Working Groups

The ASX Senior Manager, Equity Post-Trade Services advised members that the series of CHESS Replacement Working Groups, which ran every fortnight for the past six months have concluded their work. There were a total of 13 Working Group meetings covering topics such as account structures and participation models, corporate actions, transfers and conversions, settlement enhancements, data storage and reporting, and non-functional requirements. The working groups identified 40 functional and five non-functional business requirements.

He provided members with an overview of the outcomes of the last three Working Groups:

- 15 settlement enhancement business requirements were identified including:

  - Providing participants with the ability for non-settlement related messages (e.g. corporate actions, transfers and conversions) to continue processing while the daily settlement cycle is running. This would avoid tasks queuing up for processing after the daily settlement cycle and help smooth out operational workload peaks.
  - Streamlining deferred trading and settlement processes by standardising the timeframes where possible.

- 4 data storage and delivery and reporting business requirements were identified including:

  - Providing the capability for a self-service API to enable access to real-time and customised data to improve customer data analytics and their ability to validate the data.
  - Removing duplication in capturing and storing common static data and reducing costs through investigating the feasibility of a centralised depository for end investors' static data and the ability to distribute the data to permissioned users.
  - Providing a real-time notification of holding balance movements to issuers, to help them reconcile their share register in a more timely fashion.

- 5 non-functional business requirements were identified including:

    – Providing customers with global industry standards for message formats and transport options that support best practice authentication and encryption.
    – Providing flexible test environments, including a self-service capability, and a capability to simulate or rehearse production-style scenarios.
    – Providing alternative channels and methods for how to submit transactions during a BCP event. For example, the ability to securely upload and download bulk transactions via a file, or input transactions via a secure browser-based interface.

Subsequent to the conclusion of the Working Groups, members were asked to prioritise the 40 functional business requirements (see Agenda Item 2b).

ASX remains open to bilateral meetings, where appropriate, to obtain a deeper understanding of some of the issues as it works towards issuing a public consultation paper at the end of the first quarter next year.

Members had no questions on the reporting of the Working Groups.

The Chair thanked members for their contributions during the intensive consultative process through the Working Groups. He observed that they had covered a lot of ground and provided significant input into a range of quite complex issues.

2b) Working Groups' Input on Business Requirements

The ASX Executive General Manager Equity Post-Trade Services spoke to process undertaken to gauge the level of demand for each of the 40 functional business requirements identified by the Working Groups. ASX sent out an online survey asking respondents to rank each business requirement, as either a high, medium, or low priority or noting if the requirement was not applicable to their organisation.

The output from the rankings formed one of a number of inputs to assist ASX in determining the 'Day 1' functional scope for the replacement system, which will be subject to a final consultation process next year. ASX's consultation paper will set out the proposed 'Day 1' functional scope the system that replaces CHESS, as well as an implementation plan for the replacement system. This will provide organisations with information to start planning and budgeting their own resourcing for the project.

The ranking process provided a mechanism to broadly group the requirements into high, medium and low priority buckets based on the views from distinct stakeholder cohorts: retail brokers, institutional brokers, custodians, share registries, AMOs and industry associations.

The process identified that six of the top ten business requirements relate to corporate actions, reflecting the widespread support from different groups for removing paper from the process and standardising data that accompanies a corporate action. Other high priority business requirements identified by some stakeholders included:

- Introducing a more flexible account structure hierarchy to enhance the current omnibus/custody model.

- Establishing standardised registration details for the input and maintenance of holder's registration details and providing the ability to quickly and easily access the issuer sponsored SRN.

- Developing API data reporting capabilities to facilitate a more standardised, efficient and easy way to extract information.

In general, there were quite varied responses from AMOs in relation to the 40 identified business requirements, with one AMO marking all of the business requirements as not applicable to their organisation.

A member asked if the order the business requirements were presented in the paper represented their ranking within each classification. The Senior Manager, Equity Post-Trade Services indicated that it was a random grouping of requirements within each category.

The Chair noted that the requirements had been grouped together in different buckets to provide some insight into the overall level of demand. However, it forms only one input into the consideration, over the next three months, of Day 1 business requirements. For example, some business requirements that are particularly important to certain groups, which have not made it into the high priority group overall, could still be included in the Day 1 scope. Similarly some in the high priority group may not make it into Day 1 scope because of other considerations.

In that sense the process is as much an art as a science, applying judgement based on a range of factors including the level of complexity associated with each business requirement and whether there were other preconditions that would need to be taken into account (for example, further industry consultation or regulatory approvals).

The Executive General Manager Equity Post-Trade Services noted that broadly the 40 business requirements will be placed into one of three work streams to be progressed as part of:

• Day 1 CHESS replacement or subsequent enhancements;

• the Corporate Action STP Phase 2 work stream; or

• normal ASX business-as-usual processes separate to, and possibly in advance of, CHESS replacement.

Members asked if ASX had been surprised that optional shorter settlement cycles had ended up a 'low' priority and if there had been different views expressed by retail and institutional participants on the issue.

The Executive General Manager Equity Post-Trade Services indicated that it was not a surprise given the mixed feedback received in response to the original consultation paper which had included limited explanation of how this would work in practice. He explained that while some more detail was provided during the working group process, views have remained mixed. However, ASX believes that more work to clearly articulate the potential benefits could affect demand for settlement optionality. He noted that there is some precedent for settlement optionality in other markets with around 40% of transactions in Europe processed in real-time through T2S.

The Chair drew a distinction between settlement optionality and settlement optimisation. It may be possible to optimise settlement without necessarily fragmenting liquidity. This could be achieved through creating an environment where participants with an inventory of securities could facilitate earlier settlement, and create efficiency within the market

The Chief Operating Officer also pointed out that there was mid-level support for facilitating bilateral DVP settlement outside of the batch. For example, allowing stock and cash movement on a DVP basis on a more real-time basis in the afternoon.

A member asked if ASX would be publishing a more detailed report on the results of the survey, beyond that contained in the Business Committee papers. It was confirmed that there would not be any more detailed report on the survey results but that the consultation launched towards the end of March 2018 would provide transparency around if, and how, the business requirements identified by the Working Group would be taken forward and the reasons for these decisions.

A member complimented the way the Working Groups were run, and expressed his view that they were rewarding for the people who participated in them, providing a deeper understanding of the diverse perspectives and priorities of different stakeholder groups.

The Chair indicated that ASX would look to continue similar customer engagement processes in 2018 and beyond as the project continued, including to assist in determining a range of implementation and transition issues.

A member asked how ASX would resolve the conflicting views and priorities of different groups, such as retail versus institutional brokers. The Chair indicated that ASX would seek to address as many of the business requirements as practicable. Where trade-offs have to be made ASX will make a call and explain why a particular choice was made.

An AMO member noted that the Working Group outcomes and survey did not cover issues of interest to them as they were focused on the services and functionalities used by the other customer groups. He expressed concern that there has not been detailed consultation around the precise detail and nature of the CHESS services AMOs currently use and

what new services might be developed. He asked when and how that engagement would occur prior to ASX settling on the final set of requirements.

It was noted that the AMO Working Group was the appropriate forum for eliciting AMO specific business requirements and that AMOs have been, and continue to be, provided with the opportunity to raise their requirements for the replacement system prior to the March decision. The ASX Chief Operating Officer noted that the AMO Working Group had been halted at their request pending a request for ASX to provide further analysis into the current and future potential services that would be provided to AMOs. He also confirmed that ASX remains available to continue with the AMO Working Group discussions about the AMOs' business requirements.

2c) Technology Assessment Process

The Executive General Manager Equity Post-Trade Services outlined to the selection process for the technology to underpin the replacement of CHESS. He reminded members that the key elements of the process had been underway for around two years and were outlined at the last Business Committee meeting.

This process included assessing the ability of the software vendor to deliver the necessary software on time and consistent with specification as well as testing the functional and non-functional performance of the software.

He noted that while distributed ledger technology architecture is new, much of the technology that would go into a CHESS replacement system is mature and widely used. For example, public-private key infrastructures, cryptography to protect password details, digital certificates, and application programming interfaces (APIs), etc.

A significant element of the assessment process over the last couple of years has involved stepping through and understanding the risk profiles of bringing a new technology to the market.

To test functional performance, a subset of requirements were built to reflect the core clearing and settlement functions that CHESS performs each day, this represents about 20% of the functions but around 70% to 80% of message traffic.

Non-functional testing included an assessment of throughput capacity, latency, resiliency, redundancy and security. This testing was conducted based on the real workflows that occur in the market and at market loads many times larger than those processed by CHESS today.

The functional testing has been completed and everything has passed the acceptance criteria. This means, in practice, that Digital Asset has the capability to model real world business workflows. The non-functional testing has almost been completed.

It needs to be recognised, however, that the system Digital Asset has built to date is not complete as it does not include all current CHESS functionality or any changes to be implemented as a part of the Day 1 business requirements.

A member asked at what point following the December technology and March business requirement decisions would participants and their vendors be in a position to model what the technical specifications will mean for their organisations.

The Executive General Manager Equity Post-Trade Services advised that the March consultation paper will include a plan of the delivery profile. The final scope should be released by mid-year and would include more detail to assist organisations to plan and budget. This would include the first suite of information on technical connectivity options, and sufficient information to allow firms to begin considering their preferred connection method.

A member asked if ASX was considering a single vendor (Digital Asset) solution or was open to a multi-vendor solution with ASX as a systems integrator. The Chair indicated that when an announcement is made in December it should be clear how ASX will be moving forward.

A member commended the rigorous process that ASX had undertaken to capture industry input. He considered it sensible to use the most contemporary technology available when undertaking a major system change. He thought the careful and considered process had worked well, particularly by ensuring that the consideration of business

requirements remained central to the process and the technology choice did not distract from this important aspect of CHESS replacement.

The Chair replied that ASX wants to continue with a similar customer engagement process as the project moves into 2018, and that we will continue to examine ways to make it is effective as possible.

2d) Third-Party Security Assessments

The Executive General Manager Equity Post-Trade Services explained that given the importance of the post-trade infrastructure, ASX commissioned two third-parties, the NCC Group and KPMG to test specific aspects of Digital Asset's DLT-based system.

These reviews supplemented ASX's own assessment of the information security characteristics of the technology by drawing on the specialist personnel and assessment tools of these businesses to examine the way the technology was architected and implemented.

The two parties conducted their assessments independently of each other, both in Digital Asset's headquarters in New York and locally in Sydney. The KPMG team also included some expert personnel from Data61, CSIRO's data division.

While both reports are commercial in confidence, they have been provided to the relevant regulatory agencies.

ASX has not identified any threshold issues of concern based on those reports and our own assessments.

In response to a member's question the Chair noted that the scope of the review was confined to assessing around 50 claims made by Digital Asset about the security of the technology. There will be further assessments that will examine the final deployment of the platform prior to implementation.

A member asked if there had been any feedback from the regulators on the third-party reviews. The Senior Manager, Regulatory and Public Policy explained that ASX, has been engaging with the regulators for about two years on DLT given ASX Clear and ASX Settlement's licence obligations. For example, ASX has conducted a self-assessment against that ASIC DLT Assessment Tool and has provided that to the regulators. ASX has also undertaken a preliminary assessment against key PFMI/FSS requirements in relation to the implications of the DLT-based system. More recently, ASX's engagement with regulators has included providing briefing on the technical and security aspects of the system, including the two third-party security reviews and ASX management's conclusions from those reviews.

She noted that ASX expects this engagement will continue through the life of the project. There will be a particular focus in Q1 next year on the regulatory implications of system and other changes required to implement the 'Day 1' functional scope of system that replaces CHESS.

2e) ISO 20022 Technical Committee Report and Minutes

The ASX Chief Operating Officer noted that the Technical Committee has mapped 382 of the 478 CHESS messages into around 88 individual base ISO 20022 messages.

There are around 20 non-standard ISO messages that may be submitted to the relevant registration authority for global registration. It was noted that a number of new messages have been submitted recently as part of TS2 in Europe. Some of these settlement and payment messages appear relevant to the Australian market and there may be scope to leverage off consideration of these.

The Committee continues the process of identifying redundant messages that could be eliminated as part of the process as well as considering the upstream and downstream impacts of the new global message structure.

ASX has fielded questions around the process and timing for software developers to begin working with the new ISO-based message structure. It was noted that until the Day 1 business requirements are finalised the final suite of ISO messages could be subject to changes. As such, it is advisable for developers to hold back until the middle of next year before devoting significant resources to developing code.

It is proposed to accelerate training around the new message structure in 2018 to allow participant firms to examine the potential opportunities presented by the change.

An upcoming survey of Technical Committee members will collect views on the effectiveness of the process to date and if there are ways this can be enhanced.

Members had no questions on the Technical Committee report.

AGENDA ITEM 3: Administration

3a) Forward work program updated

The Chair noted that 2018 will be another busy year and a more developed forward work program for the Committee is dependent on the upcoming decisions around the technology choice and Day 1 business requirements for CHESS replacement. By the Committee's first meeting of 2018 it should be possible to have a better fleshed-out work program which would include both CHESS replacement and Corporate Action STP Phase 2.

3b) Minutes from the 11 October 2017 meeting

The minutes of the 11 October meeting were approved without change.

3c) Other matters

There were no other matter raised by members.

The Chair expressed his thanks to members and their organisations for their participation and input through the Business Committee, Technical Committee, and CHESS Replacement Working Groups during the year.

Next meeting

The next meeting is scheduled to be held on 28 March 2018.

The meeting closed at 5.15pm.

Signed as a correct record of the meeting.

_____   _____
Chairman   Date

BUSINESS COMMITTEE MEETING PAPER AGENDA ITEM 3B	
Topic	**Forward Work Program**
Date	28 March 2018
Purpose of this paper	**To update Members on the forward work program of the Business Committee for 2018.**

OVERVIEW

It is proposed to have a total of four meetings of the Business Committee and eight meetings of the Technical Committee on ISO 20022 over the course of 2018. The proposed Business Committee dates are:

- 28 March;

- 5 July;

- 19 September; and

- 29 November

Subject to any input from members who wish to add additional items, the forward work program of the Business Committee this year will be predominately focused on CHESS 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 and the project will run for around 18-24 months.
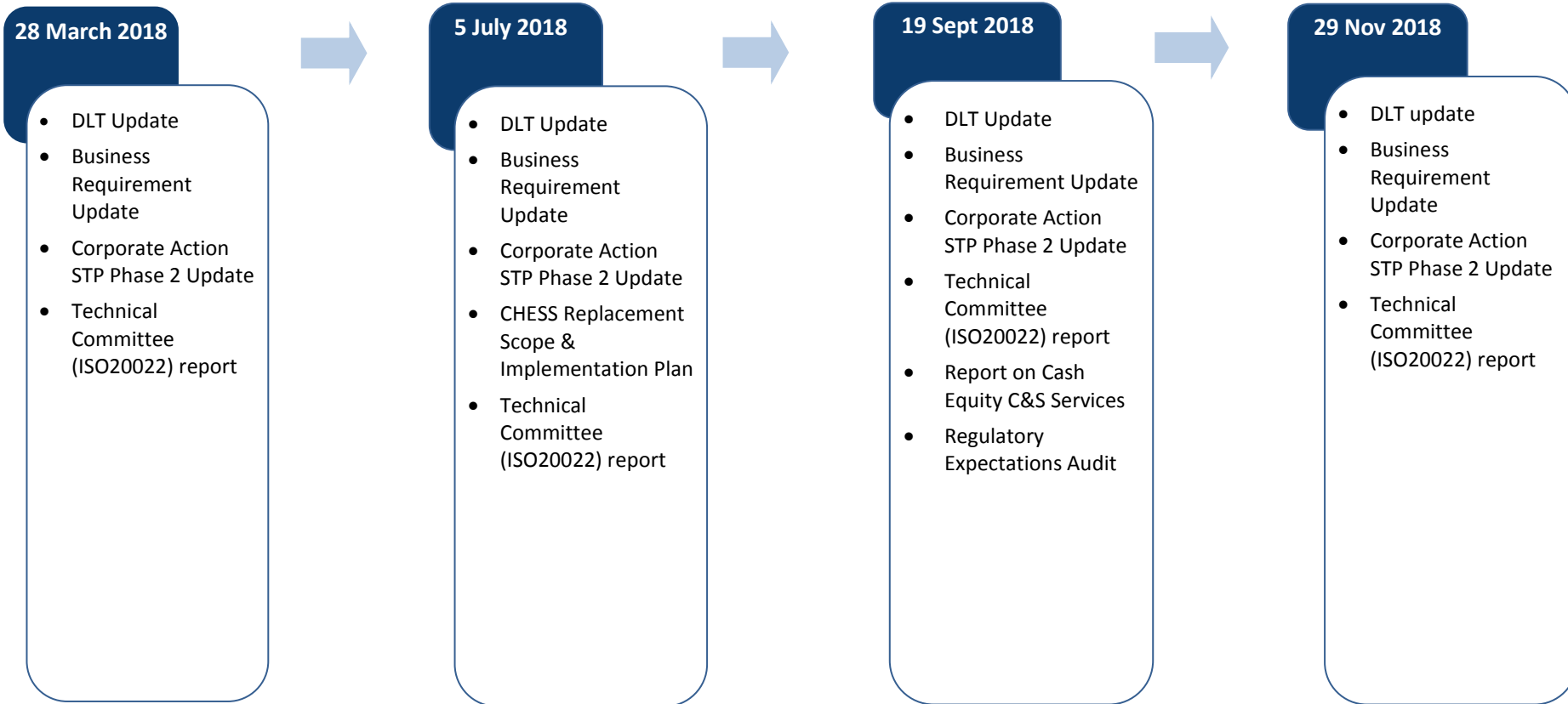
Members of the Business Committee are invited to suggest topics for inclusion in the forward work program for 2018 at any time by contacting the Business Committee Secretariat.

The forward work program for the Technical Committee can be found at Agenda Item 2D (Attachment B).

ATTACHMENTS

Attachment A: Business Committee Forward Work Program

Attachment A: Business Committee Forward Work Plan

28 March 2018

- DLT Update
- Business Requirement Update
- Corporate Action STP Phase 2 Update
- Technical Committee (ISO20022) report

5 July 2018

- DLT Update
- Business Requirement Update
- Corporate Action STP Phase 2 Update
- CHESS Replacement Scope & Implementation Plan
- Technical Committee (ISO20022) report

19 Sept 2018

- DLT Update
- Business Requirement Update
- Corporate Action STP Phase 2 Update
- Technical Committee (ISO20022) report
- Report on Cash Equity C&S Services
- Regulatory Expectations Audit

29 Nov 2018

- DLT update
- Business Requirement Update
- Corporate Action STP Phase 2 Update
- Technical Committee (ISO20022) report

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