Program Newsletter



CHESS Replacement homepage

CHESS Replacement Project Update

December 2019

We've had a big year on the project in 2019, and the cadence will continue in 2020. As the year comes to a close we wanted to take stock of what has been achieved in the last twelve months.

We have achieved several significant milestones during the year, a major one being opening the doors for the market to our Customer Development Environment (CDE). Within the CDE we have capabilities which have been ratified through market Focus Groups, with robust feedback to ensure the CHESS Replacement solution is fit for purpose. Below are just some of the other key headlines from this year.

Critical stakeholder engagement and market feedback channels:

- 4 Business Committee meetings
- 23 Focus Groups on CHESS replacement solution design
- 11 ISO 20022 Technical Committee meetings, through which we are close to mapping all EIS messages to ISO
 messages
- 12 Connectivity & Integration Working Group meetings
- 3 Implementation & Transition Working Group meetings (and one more later this week)
- 7 CHESS Replacement Project Newsletters
- Over 30 DLT demonstrations
- · Hundreds of technical, operational and business development conversations with our customers
- · Delivered the first (of three) tranches of rule changes for public consultation

Functionality and new technology:

- 5 drops of Technical Documentation released for the CHESS Replacement application (taking us to 6 in total including the December 2018 drop and close to 500 pages of documentation published)
- 5 drops of code released for the CHESS Replacement system in to CDE
- 33 customer requests for access to CDE
- Announcement that DAML is open source (April)
- Announcement of partnership between ASX, Digital Asset and VMWare (August)

Next year we will progress towards opening up the new Industry Testing Environment (ITE) in July 2020. From there we will support our customers, vendors and others with industry wide testing and preparations for transition and cutover.

I'd like to thank you for your involvement, energy and passion in the CHESS Replacement project throughout the year. We are committed to delivering Australia a world leading post trade infrastructure and look forward to what we have in store for next year, and as we move towards the CHESS Replacement go-live in 2021.

Below you'll find details on our variety of stakeholder engagement forums, links to reference materials, upcoming milestones, as well as common questions we are asked.

If you have feedback on the content of this newsletter please contact the project team at CHESSReplacement@asx.com.au.

Wishing you all a safe and joyful holiday period and a happy new year.

Cliff Richards

Executive General Manager Equity Post Trade



Engagement Activities



Focus Groups

Focus Groups

Connectivity & Integration Working Group

A Connectivity & Integration working group (C&I WG) was held on 19 February and included an overview on API contracts and details of the upcoming CDE 6 code release.

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Read more >



Read more >



Implementation & Transition Working Group

The latest Implementation & Transition working group was held on 29 January. The webinar focused on ASX's approach to in-flight transactions. The next webinar will be on Wednesday 26 February on the topic of accreditation.

Read more > Read more >

ISO 20022 Technical Committee Meetings

ASX will convene one ISO 20022 Technical Committee meeting during this month on 25 February.



Customer Development Environment Updates

Our fifth release of code (CDE 5) was released on 13 December. ASX will publish the next update of the application in CDE on Tuesday 3 March (CDE 6).

Read more >



Rule Amendment & Public Consultation Timeline

The consultation on the second tranche of operating rule amendments was released on 21 February 2020, with feedback requested by 3 April 2020.

Read more >



Corporate Actions STP

The Corporate Actions STP Phase 2 project continues work on 2020 release schedule.

Read more >



Customer Frequently Asked Questions

We have established the CHESS Replacement mailbox & CSP Support mailbox as a means of addressing any project related or functional questions. We have highlighted the most recent questions of interest.

Read more >



BAU Project Updates

Error rendering macro 'excerpt-include': No link could be created for 'BAU Project Updates'.

Read more >

Technical Documentation







What's new

Release notes

Forward release plan

Where to next?



Project Milestones

Project milestones



Upcoming activities

Useful weblinks

Contact us:

CHESSReplacement@asx.com.au



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Connectivity & Integration Working Group



Connectivity & Integration Working Group

The latest Connectivity & Integration working group (C&I WG) meeting was held on 4 December 2019. The session provided details on:

- CDE 5 updates
- Overview of proposed changes to Reporting
- Updates on the CHESS secure Browser

Materials from this session can be found here.

The next C&I WG meeting will be held on 19 February 2020, topics for discussion include a forward view of CDE 6.

A list of previous meeting topics, future Working Group dates, as well as a copy of all working group presentation materials can be found here.

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Implementation & Transition Working Group



Implementation & Transition Working Group

The latest Implementation & Transition working group (I&T WG) webinar was held on 29 November 2019.

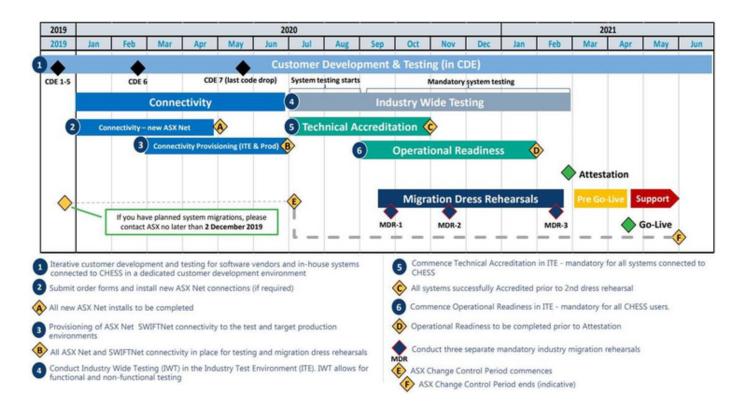
The webinar aimed to provide a re-cap of the timelines, migration and conversion approach relating to accounts as well as an overview of which features in the new system were considered mandatory or optional.

The ASX team:

- Presented an overview of the new account structure
- Described the concept of Holder and it's unique identifier (Holder ID) and how this was important for cut-over to the new system
- Provided an overview of ASX's internal migration approach and proposed conversion approach by CHESS Users
- Outlined what sponsoring participants could do now in terms of account clean up activities
- Provided an outline of which new features would be mandatory from go-live and which features were required to be implemented by the end of December 2021

Presentation slides are available here, and webinar recording available here on the CHESS Replacement website.

The next I&T working group webinar will be on **Wednesday 18 December**, 11am - 12pm, and will focus on updates to the Migration Dress Rehearsal Dates along with answering questions from the two previous webinars. Some implementation & transition questions have been published with this edition of the newsletter.



REMINDER: For your consideration in planning your implementation

CHESS Changes:

• If you have any migrations or other significant changes to your CHESS configuration planned between July 2020 and April 2021 please contact the Participant Transitions team at participant.transitions@asx.com.au

Materials from previous meetings can be accessed here on the CHESS Replacement Stakeholder Engagement website.

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Customer Development Environment Updates



Customer Development Environment Updates

Our fifth release of code (CDE 5) was released on 13 December 2019, which added Change of Controlling Participant, Settlement Locks on HINs, Issuer's Agent Transfer (Warrants) and other capabilities. ASX will publish the next update of the application in CDE by end February 2020 (CDE 6).

CDE - Release 5

ASX recently refreshed CDE with a new code drop, Release 5 on 13 December 2019. New capabilities introduced with this code drop included:

- Change of Controlling Participant July 2019 release notes
- Settlement Locks on HIN Holdings December 2018 and September 2019 release notes
- Issuer's Agent Transfer (Warrants) October 2019 (part II) release notes

With the CDE5 code release notes ASX provided details of minor updates to testing documentation as well as any known issues or observed behaviours in the development environment.

Within the Release Notes for CDE 5, ASX advised that they will refresh environments every two weeks for internal CDE maintenance. ASX will always notify CDE Subscribers prior to any environment refresh.

CDE - Release 6

ASX will publish the penultimate application code release in to CDE by **end February 2020** (CDE 6). Features associated with this code drop were published in our Release 6 notes - November 2019 and January 2020. New capabilities planned to be introduced with this drop will include:

- Collateral Management ETO & CMM
- Batch Settlement Unit Fails
- · Primary Market Facility: Placements
- Payment Facilities for facilitation for the payment or receipt of funds on a RTGS basis

Details of remaining CDE code drops are published on our Forward Release Plan on our Technical Documentation portal.

CDE reminders:

The CDE supports early access development and low volume transaction and functional testing, following iterative development of the technical solutions.

- We have published for users details of CDE constraints and any known limitations.
- ASX may refresh the CDE environment periodically, ASX will always notify the CDE Subscribers prior to any environment refresh
- Details of how to request access to the CDE are available in our Technical Documentation portal.

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ISO 20022 Technical Committee Meetings



ISO 20022 Technical Committee Meetings

ASX has convened two ISO 20022 Technical Committee meetings during the last month. The meeting held on **26 November** provided an overview of the Settlement Focus Group, Demand Reporting Focus Group and Payments Focus Group activities and a focus on the proposed solution for Demand Reporting, and the proposed ('to-be') ISO 20022 messages for the business function of Corporate Actions (code change, diary adjustments) and Settlement Processing for Unit Failure. ASX also provided a summary of member feedback on the previously published draft messages regarding Payment Facilities, Dividend Elections and Levy Notification.

The meeting held on 10 December focused on Corporate Action - Entitlement Elections, and Investor Details.

The next ISO 20022 Technical Committee meeting will be held on **28 January 2020** in Sydney. The agenda for the meeting is expected to cover aspects of mFund and Corporate Actions Entitlements - reversal process. ASX will also provide a summary of member feedback on the previously published draft messages for Corporate Actions (code change, diary adjustments) and Settlement Processing for Unit Failure, and Corporate Action - Entitlement Elections, and Investor Details.

A list of previous meeting topics and materials as well as future ISO 20022 Technical Committee dates can be found here.

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Corporate Actions STP



Corporate Actions STP

Corporate Actions Straight Through Processing Phase 2 project

The first release for the project was successfully delivered on 30 November, effective 1 December 2019.

The scope of this first release focused on enhancements to the existing online forms for the announcement by issuers of dividend/distribution, interest payment, consolidation, split and cash return of capital events, with the resulting production of ISO 20022 format notifications for these events remaining unchanged for this initial release. The release also introduces a set of forms available either by online forms or MS Word format forms to replace the current Appendix 3B – for the announcement of proposed issues or changes to capital (including corporate action events such as bonus, renounceable, non-renounceable, accelerated offers, non-priority offer and security purchase plans). The release was aligned with the effective date for ASX listing rule changes.

The STP project team continues to work with the CHESS Replacement team and industry working group to finalise the specifications for the ISO 20022 notification service for all in scope corporate action events. Draft specifications have now been published for all events. The CHESS Replacement system will consume the ISO 20022 corporate action event notifications. The availability of the ISO 20022 notification service for all corporate action events is expected to be mid-2020.

More information is available on the ASX website here.

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Rule Amendment & Public Consultation Timeline



Rule Amendment & Public Consultation Timeline

On 15 November 2019, ASX released a <u>consultation paper</u> on the first of three tranches of operating rule amendments required to facilitate the implementation of the new system that will replace CHESS in April 2021. These relate to accounts, participants, securities and pre-settlement aspects for Day 1 CHESS replacement system functionality. The consultation paper invites feedback from users and other stakeholders on the operation of the draft tranche 1 rule amendments, including any unintended consequences. Written submissions are requested by **17 January 2020**.

Timeline Overview

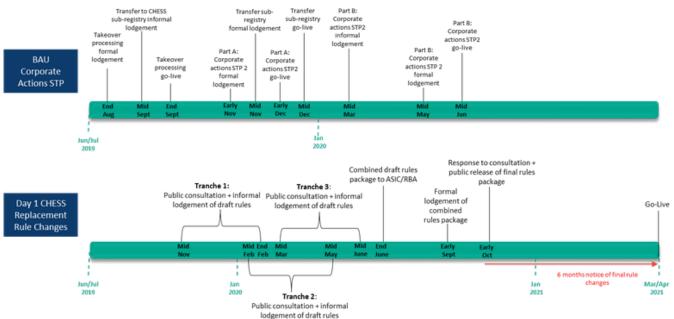
ASX has been engaging with regulators in relation to the rules and other relevant regulatory aspects that need to be addressed to support any new or changed services and functionality, including our indicative timeline.

Included below is a timeline setting out key dates for regulatory and public consultation processes for the rule amendments required for CHESS Replacement.

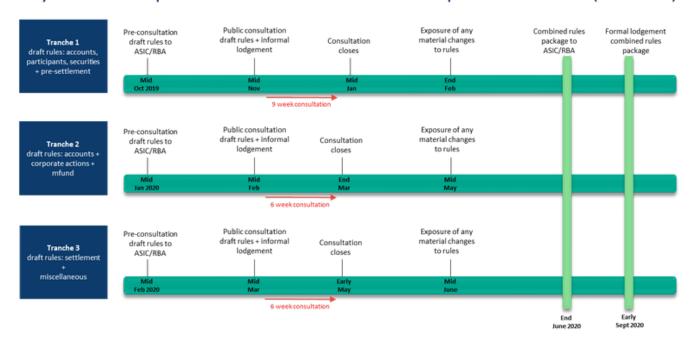
The timeline covers rule amendments required for Day 1 changes in the new system, including new business requirements, re-engineering of solutions for existing CHESS functionality and the decommissioning of existing CHESS functionality.

The timeline also covers rule amendments that address new business requirements generated through industry consultation but which are not dependant on the new system and are being progressed through ASX Business as Usual (BAU) processes or the Corporate Actions STP Phase 2 Project. These will be delivered prior to the replacement system going live.

New Post Trade System Rule Development Timeline: Key Dates (2019-20)



Day 1 CHESS Replacement: Detailed Rule Development Timeline (2019-20)



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Customer Frequently Asked Questions



Customer Frequently Asked Questions

We have established the CHESS Replacement mailbox & CSP Support mailbox as a means of addressing any project related or functional questions. We have highlighted the most recent questions of interest.

▼ Implementation & Transition questions - click for details

What approach is being taken in minimising the data that needs to be migrated over the cut-over weekend?

A key activity to minimising the volume of data will be to reduce the number of dormant HINs in advance of the cut-over weekend.

Outside of that, all active state transactions will be migrated by the ASX. We do not expect any data to be migrated in client's host systems.

Data to be migrated from CHESS over the cut-over weekend includes:

- All client HINs, holdings and sub-positions
- · All open settlement obligations (including underling trade executions)
- · All in-flight transactions pending further analysis on unmatched DVP instructions which may be cancelled

ASX will provide further information to the market on account migration and in-flight transactions as part of the Implementation & Transition working group meetings.

will there be a way of identifying the originating CHESS transaction of a migrated transaction, and if so, what will that be?

ASX plans to migrate the CHESS ID into the new platform in a deterministic way. So if it's X in the old system it'll be a derivative of that in the new system. Attributes such as settlement obligation ID's will be carried forward.

There are some 'corner cases' where a single trade ID in CHESS today will need to be split into two in the new system, but again this will be deterministic, i.e. 000000111 becomes B000000111 or S000000111.

■ When will ASX provide details on account migration & migration of in-flight transactions?

The next Implementation & Transition working group to be held on 29 November 2019 will focus on account migration. A copy of the presentation slides and a recording of the presentation will be available on the CHESS Replacement webpage.

The working premise is all in-flight transactions will be migrated. However for unmatched transactions we may decide to cancel, but further analysis is required to determine if this is the correct approach.

In-flight transactions will be a separate topic for the Implementation & Transition working group in Q1 2020.

when will more details about criteria for Technical Accreditation, Operational Readiness and Attestation be made available?

ASX is targeting to publish details by end Q1 2020, accompanied by any topics discussed in the Implementation & Transition working group meetings in early in 2020.

what are the key dates for start, finish Technical Accreditation, Operational Readiness and Attestation?

Please refer to Implementation & Transition working group page of the Project Newsletter for details of the timetable presented at the 25 October working group meeting.

Will vendors will be required to complete Technical Accreditation?

All vendors and those developing software that interface to CHESS will need to accredit. ASX are looking to automate this phase as

much as possible. There will also be periods where ASX will need to schedule specific testing activities and therefore specific periods may need to be booked in advance via our Customer Readiness team.

ASX will provide more details in Q1 2020.

→ How long will Migration Dress Rehearsals run for each time?

The migration dress rehearsals are planned to mimic the cutover weekend. A detailed run sheet still needs to be prepared, but it is likely that the activities for participants will start Saturday morning and complete by Sunday evening. ASX mentioned in the webinar on 25 October 2019 that we are reviewing day 1 processing requirements for migration dress rehearsals.

Further information on this point will be provided in due course.

It's unclear which environment MDR will be performed in Prod or ITE?

CHESS users will need to be connected to the target production environment for migration dress rehearsals (MDR). This is the only activity that happens in the "target production" environment prior to go live. All other activities will be executed in the Industry Test Environment (ITE). Migration dress rehearsals will happen in parallel to other activities in ITE.

Will production data be used in migration dress rehearsals?

Migration dress rehearsals will run on point in time data, likely to a copy of production data taken one or two weeks prior to the rehearsal weekend.

▼ CDE - What are the details of the security uplift in CDE 4?

Security enhancements were introduced as part of continued development of the Customer Development Environment (CDE). Mutual TLS was introduced with CDE 4 for two aspects - users connecting via AMQP and those using the Trade Ingest API.

For details of the uplift refer to the CDE 4 code release notes. Any questions please contact our CHESS Replacement technical support team.

Mutual TLS for Ledger API connectivity is planned for a subsequent release and will be communicated to users.

Functionality - Locking & Unlocking - click for details

Can you please provide further information around Settlement Locks?

Please find the following detailed description for Settlement Locks:

On Request – Mandatory - is available for "Bilateral Demand Transfer" and the new "Bilateral Demand Settlement Instruction". The lock is mandatory and is applied immediately because ASX considers the nature of these movements is "demand" so units must be locked otherwise when the counterparty submits its message and the units are not in the delivering HIN the movement will fail. This defeats the purpose of the movements being "demand".

On Request – Optional - is available for "Unilateral Settlement Instructions" and "Bilateral Settlement Instruction". The lock is optional and will only be applied if the original message is submitted with the optional lock set to true. ASX considers the nature of these movements to be "scheduled into the future" (not "demand") so the delivering participant is allowed time to receive units in to cover the movement after the original message is submitted. There is an exception to this workflow for a Unilateral Settlement Instruction where the delivering Account (HIN) in the Accumulation Entrepot of the participant and the receiving Account (HIN) is the Settlement Entrepot of the participant. In this case the CSP will apply a lock on request and if insufficient units are unavailable in the delivering Account (HIN) the instruction will be rejected.

On Match - Is available for "Bilateral Settlement Instructions". The lock can be set to "on Match" on the original message so that if the participant does not have sufficient units in the delivering account at the time of the original message but believes that units will arrive prior to the counterparty submitting its matching instruction then on match the units will be locked. The participant can rely on the lock for m o v e m e n t s m a t c h.

Settlement Lock - is available for "Unilateral Settlement Instructions" and "Bilateral Settlement Instructions". This particular feature allows the participant to apply a lock at any time for an instruction that had not already be set to Lock on Request or Lock on Match. The lock can be set regardless of whether the instruction is matched on unmatched and at any time after the original message was sent and before the commencement of Batch Settlement. Settlement Lock

Can you confirm the Account and Holder Locking and Unlocking process?

The Lock and Unlock can happen in the following scenarios:

- 1. Lock a holder in case of Notification of death (NODE) and Notification of bankruptcy (BKRP)
- 2. Unlock a holder which was locked following a notification of death.

Holder update reason:

- Grant of Probate or Letters of Administration (GPLA)
- Small Estate Statement (SEST)
- Transfer Indemnity Bond (TIBD)
- No holdings (NHLD)
- 3. Unlock a holder which was locked following a notification of bankruptcy.

Holder update reason:

- Legal Trustee Request (LTRQ)
- Annulment (ANNT)
- 4. Unlock a holder which was locked in error

Holder update reason:

- Error (ERRO)
- 5. Lock and Unlock an account for a non-specific reason

Account update reason:

- Non-specific (NOSC)
- 6. Lock and Unlock an account following a court order.

Account update reason:

- Subject to Court Order (SNCO)
- 7. Unlock an account which was locked in error.

Account update reason:

- Error (ERRO)

For further information refer to Account and Holding Locking and Unlocking Overview in our Technical Documentation portal.

Ledger API - click for details

→ What is a DAML Party?

CHESS Users are represented as a DAML party in the system. A party is identified in the system by its unique DAML Party Identifier. To connect to the CSP via the Ledger API, CHESS Users undergo a formal on-boarding process which grants them one or more DAML Party Identifier(s) and permits them to access a master ingress contract.

For further details on Ledger API connectivity refer to the CHESS Replacement Technical Documentation - Connectivity.

What is a Master Ingress Contract?

The master ingress contract is a non-consuming DAML contract that allows CHESS Users to issue a command to the CSP to start the associated workflow.

Each DAML party in the system is permissioned to execute specific commands and business workflows as set out in the party's master ingress contract. Each command, is a combination of choice with a parameter, which when exercised, sends an instruction to the CSP. A party can initiate a workflow by exercising a choice on the master ingress contract, which triggers a piece of code, representing a workflow, and results in one or more contracts being created or archived on the ledger.

For further information refer to Identify the Master Ingress Contract.

For further details on Ledger API connectivity refer to the CHESS Replacement Technical Documentation - Connectivity.

✓ How do I view exercised events committed to the Ledger?

When developing a Ledger API client application, events can be viewed using the getTransactionClient.getTransactionsTrees() method.

This will produce not just the committed event but the entire transaction in a tree structure. The Transaction Tree structure contains exercised choices, contracts created, and scenarios run among other events. For further information and a full description of all the attributes visible on a transaction tree, refer to the DAML SDK.

For further details on Ledger API connectivity refer to the CHESS Replacement Technical Documentation - Connectivity.

What will be the most likely replacement for CHESS PC?

CHESS PC and CHESS Access

As part of the CHESS Replacement project ASX will be decommissioning both the CHESS PC and CHESS Access interface products on g o - I i v e .

Users of these products will need to select a new method of how they to connect to CHESS Replacement.

CHESS

CHESS PC supports the manual entry of transactions; additionally it can be used as a message gateway using a scheduled file upload/download mechanism.

С

C H E S S A c c e s s

CHESS Access provides a message gateway allowing host systems to connect directly with CHESS Access to send and receive transactions.

Background

Both products were developed by ASX to support the proprietary nature of CHESS message formats and protocol.

CHESS Replacement adopts global and simplified standards using ISO 20022 XML message formats and introduces new connection channels using Node integration, AMQP and SWIFTNet.

N e w Browser

ASX will be introducing a new secure browser for CHESS Replacement intended for low volume usage allowing users the ability to enter messages in the same way as they can with CHESS PC.

The browser will provide users the ability to upload and download files on an ad-hoc basis but unlike CHESS PC the solution will not support the scheduling of files.

CHESS users who currently use CHESS PC or CHESS Access as a message gateway need to review which of the three new channels to connect to CHESS Replacement.

Please contact CHESSReplacement@asx.com.au if you would like to discuss these options with the ASX.

Details can be found in the CHESS Replacement consultation paper. Refer to our website for details.

Stakeholder Engagement - Can I join any of the Working Groups or Committees?

ASX has given careful consideration on how best to engage with industry to elicit the feedback required from all stakeholder groups to develop and implement the system that will replace CHESS. To date, ASX has adopted an approach involving both formal broad-based public consultation, and a range of committee and working group forums. These stakeholder forums are designed to share with, and take feedback from, a cross-section of the market on particular topics.

- Focus Groups are targeted sessions where membership is by invitation, which will vary depending on the topic at hand and particular expertise required.
- ISO 20022 Technical Committee is by invitation.
- Working Groups are usually presented with online web and teleconference access.

Refer to the Stakeholder Engagement page on the CHESS Replacement website for details of all engagement forums.

Please contact CHESSReplacement@asx.com.au with enquiries about any of the forums.

Additional questions about CHESS Replacement can be found at the following links:

- General CHESS Replacement questions
- Technical Documentation FAQs

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Upcoming Activities



Upcoming Activities

Date	Activity
Wednesday 18 December 2019, 11am -12pm, 2019	Integration & Transition working group (refer here)
Tuesday 28 January 2020, 3pm to 5pm	ISO 20022 Technical Committee (refer here)
Wednesday 29 January 2020, 2pm-3pm, 2020	Integration & Transition working group (refer here)
Wednesday 19 February 2020, 2-3.30pm, 2020	Connectivity & Integration (C&I) working group - CDE 6 (refer here)
Tuesday 25 February 2020, 3pm to 5pm	ISO 20022 Technical Committee (refer here)
Wednesday 26 February 2020, 2pm-3pm, 2020	Integration & Transition working group (refer here)
end February 2020	Technical Documentation publication - release 7 (refer here)
end February 2020	CDE 6 code release (refer here)

Refer to the CHESS Replacement Project Milestones.

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Useful weblinks



Useful weblinks

ASX CHESS Replacement communications (including past newsletters):

ASX CHESS Replacement System Access Pricing

CHESS Replacement - Tranche 1 Rule Amendments

Toronto Centre Podcast: Introducing the Newest Technology to

Capital Markets: The Industry's Perspective

ASX CHESS Replacement website:

ASX Technical Documentation:

Digital Asset – DAML (including requesting the SDK):

ASX Response to consultation feedback:

ASX 2018 Consultation Paper:

Recent ASX Webinars:

https://www.asx.com.au/services/chessreplacement-communications

Pricing Letter - September 2019

Consultation Paper - November 2019

Podcast - July 2019

https://www.asx.com.au/services/chess-replacement.htm

https://asxchessreplacement.atlassian.net/wiki/spaces/CSP/overview

https://daml.com/

https://www.asx.com.au/documents/public-consultations/response-to-chess-replacement-consultation-feedback.pdf

https://www.asx.com.au/documents/public-consultations/chess-repla cement-new-scope-and-implementation-plan.pdf

https://www.asx.com.au/services/webinar-archive.htm

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