ASX CHESS replacement
Factsheet for CHESS Participants – July 2020

Who is this factsheet for?
Clearing and settlement participants and product issuer settlement participants.

Why is replacing CHESS important for participants?
CHESS has served the Australian equities market well for 26-years. To ensure the market's needs are served for the next decade and beyond, CHESS will be replaced with a modern application that offers global standard messaging, better performance, improved security and data management, and expanded connectivity options. It will also include new features identified during consultation and design workshops with participants.

Will the role of clearing and settlement participants change?
Participants will continue to provide valuable services to their customers and the core rights, obligations and access to data will remain unchanged. For example, security ownership for broker-sponsored holdings will continue to be stored digitally on the CHESS sub-register. However, replacing CHESS and the introduction of some new features will require some changes to the ASX Clear and ASX Settlement rule books which we are in the process of consulting the market on. These changes are consistent with current legislation and do not make changes to market structure.

How will the new CHESS system benefit participants?

NEW SOFTWARE

The current CHESS system, predominantly coded in COBOL, is being replaced with an application written in the Digital Asset Modelling Language (DAML). DAML is an open sourced, functional programming language designed to build applications for distributed systems. It is a powerful and secure language, purpose built to model business logic including the rights and obligations of parties to financial transactions. It is ideal for services like clearing and settlement, representing asset ownership, and for digitising multi-party workflows.

The new purpose-built CHESS software will provide a foundation that will enable new features for participants.

NEW FEATURES

New CHESS features will improve efficiency and enhance investor protections. For example, participants will be able to settle bilateral transactions that have missed the daily batch process on a delivery versus payment real-time basis. Investors will have a new electronic channel for electing participation in dividend reinvestment plans, bonus share plans and entitlement offers which will speed up processes, reduce paperwork and automate the associated central bank payments. New holding locks will allow securities to be retained in an investor's account until settlement without the need for transfer to the sponsoring participant's account, which will provide greater investor protection.

NEW MESSAGING

Currently, all participants connect to and communicate with CHESS using the EIS proprietary messaging format. This will be replaced with the ISO 20022 messaging standard. ISO 20022 is a finance industry global standard that includes the complete transaction sequence for securities settlement and payments. ISO 20022 is flexible, allowing for data rich message references, globally recognised data definitions and values, and permits extensions. ISO 20022 addresses data integrity issues, such as truncation and misinterpretation of values previously captured in free-format text fields, with the associated delays in processing.
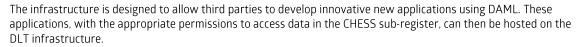
Moving to the global ISO 20022 messaging standard reduces complexity and cost for CHESS participants. It simplifies back office systems for global organisations that have already adopted ISO 20022 offshore and reduces the barriers to entry for new businesses wishing to connect to CHESS in Australia. ISO 20022 is also the same standard used by Australia's NPP (new payments platform) that is being applied to Australia's high value payments system by the Reserve Bank.

NEW ACCESS OPTIONS

Participants can access the new CHESS system using ISO 20022 messaging over ASX's AMQP channel or SWIFT's SWIFTNet channel. A new access method, a Ledger API, will allow CHESS participants to connect to CHESS via ASX's distributed ledger infrastructure (DLT). This access method is entirely optional but participants that choose this will be able to build their own applications and workflows in DAML directly on the ASX's ledger that interact with CHESS and can connect to other participants who are also on the ledger.

ASX is also introducing a new browser-based CHESS UI (user interface) as a service for low volume usage.

NEW INFRASTRUCTURE

The CHESS replacement system will be hosted on new, private permissioned DLT infrastructure across multiple Tier 3 datacentres.

ASX's DLT system design employs global best practice security, cryptographic data integrity methods and data protection technology. The new system has been designed for high availability, resilience and performance, making it suited for production applications of mission critical systems.

INNOVATION

The infrastructure is designed to allow third parties to develop innovative new applications using DAML. These applications, with the appropriate permissions to access data in the CHESS sub-register, can then be hosted on the DLT infrastructure.

By providing a synchronised view of the CHESS sub-register data using DLT, and by enabling Participants and third parties to build their own applications using DAML, innovative new services can be developed. This will unleash innovation across the industry and has the potential, for example, to digitise back office workflows across multiple parties.

What are the key elements of the CHESS replacement project?

BUILD

Seven software drops of the CHESS replacement application are available for testing. This represents 89% of the core clearing and settlement functionality used by customers. All functional specifications and messaging requirements are available on ASX's technical documentation portal, allowing software providers to build to the new system.

TEST

Thirty-four software providers, including third party back office vendors and those CHESS participants who develop and maintain their own in-house systems, are testing their own applications against the latest release for the CHESS replacement system.

ASX will continue to offer software providers functional testing support during 2020. From 2021, CHESS participants will be able conduct both functional and non-functional testing of their systems prior to demonstrating their operational readiness for go-live in 2022.

ACCREDIT AND ATTEST

Each system connected to CHESS will need to be accredited by ASX to ensure it conforms to the new message and connectivity requirements. ASX will work with software providers to assist them with the accreditation process.

As a final step before go-live participants must formally attest to their readiness. This attestation will include undertaking operational readiness on accredited software and having successfully participated in migration dress rehearsals.

GO LIVE

CHESS replacement will go-live in a single weekend cutover event. This has been assessed as the option with least risk and complexity. Comprehensive testing will take place first, along with industry-wide migration dress rehearsals in a full production environment operating on the new CHESS distributed ledger infrastructure.

What is the status of the project?

1. A revised implementation timetable has taken into consideration the impact of COVID-19, functionality changes, and allowed ASX and participants more time.

2. ASX is currently seeking feedback from CHESS participants on their ability to meet a new target go-live date of April 2022, allowing an additional 12 months.

3. All functional specifications and messaging requirements for developing to day 1 features are now available on the CHESS replacement documentation portal.

What will it cost?

1. ASX does not expect to increase fees to participants for like-for-like clearing and settlement services.

2. Replacing the CHESS software will require some changes to the pricing model for clearing and settlement. We plan to talk with participants well before go-live on any required changes. We anticipate that this engagement will commence later in 2020.

3. Pricing guidance for access to CHESS for clearing and settlement participants was provided in September 2019, noting that Ledger API access cost is waived for three-years for a standard connection.

What's next?

CHESS participants are asked to respond to the consultation paper on a revised implementation timetable by 28 July 2020. ASX will provide the new implementation timetable and target go-live as soon as possible, subject to the feedback received.