

MARS – Overall Architecture Margin / Clearing

March 2023



standard
chartered

Agenda

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MARS – support business types

OTC Derivatives

- Legacy CSA
- Regulatory Variation Margin (VM)
- Regulatory Initial Margin (IM)
- Islamic CSA
- Islamic CSD

REPOs

- GMRA (FI & EQ)
- GMSLA (FI & EQ)
- Non-GMSLA

Prime Services / Other's

- Intermediation (Prime Brokerage)
- CNPA
- Commodity
- Precious Metal

Bespoke

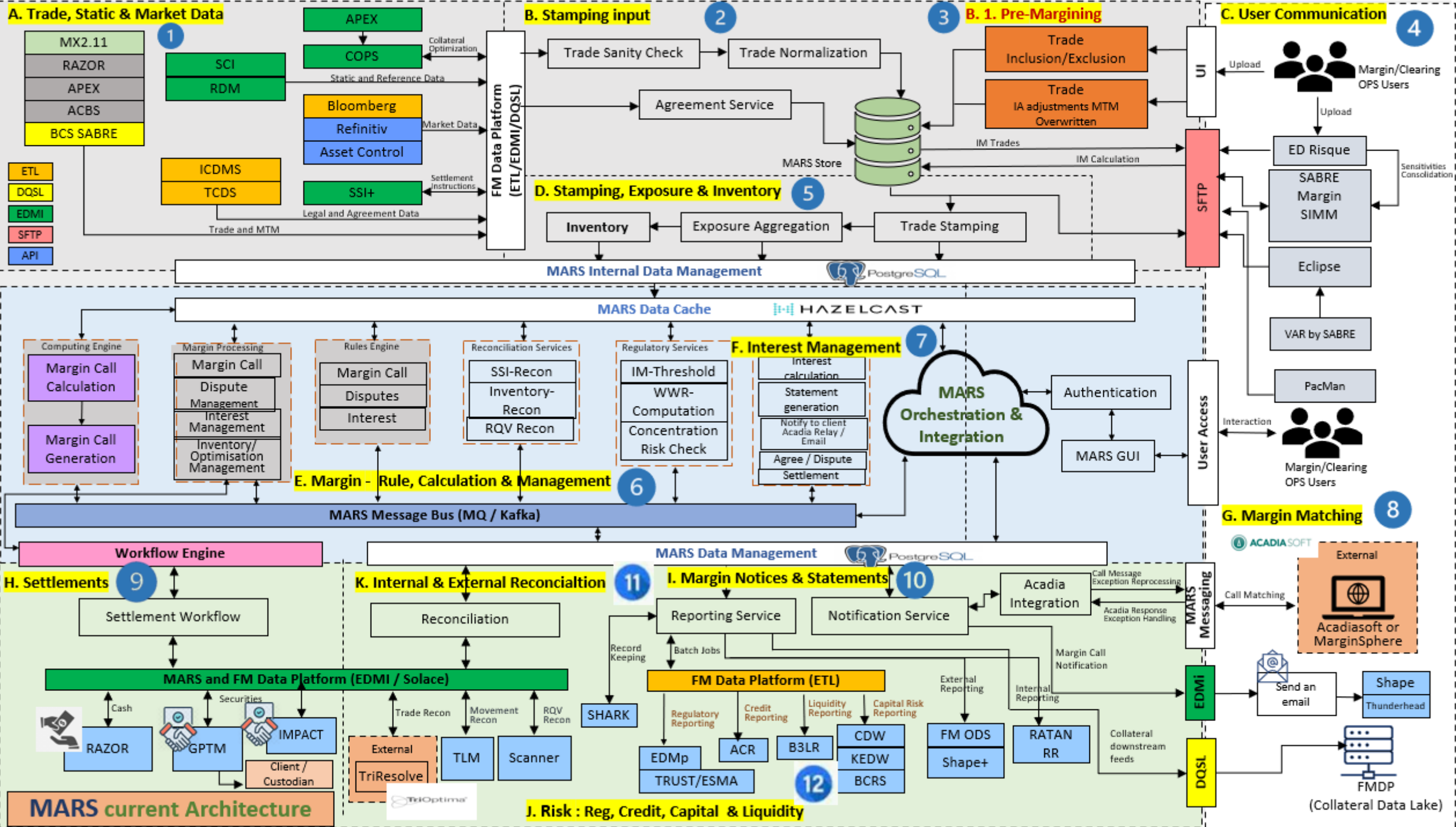
- Deal-Level Collateral (DLC)
- Non-CSA
- Islamic Non-CSA

Clearing

- House Clearing
- Client Clearing
- Exchange Traded Derivatives (ETD)
- Default Fund (DF)

Collateral Business Process





Appendix



Collateral - Improvements & Benefits of The Change

Business Pain Points

- Operational cost reduction**
 - Reduce bespoke business existing manual process
 - Clearing settlement is manual
- End of Day batch re-design / optimization**
MARS can add some automation once there is a Staling notification to process these and pass to Margin Ops without intervention
- Time consumption for Interest Generation**
- Pre-Margin Controls / Dashboard**
- Margining by Regional Timezone**
- Exception Management Workflow**
- Risk Monitoring**
 - Sabre Batch issue – Stale
 - clients especially if the MTM difference is large, Mgn sends manual margin calls.
 - We will also provide the differences to CCR, Prime & Client Experience teams for risk mgmt & client management on the stale margin calls

Required Capabilities

- Seamless** – Streamlined buildout towards strategic systems
- Scalable** – "Replacement for Control-M batch job orchestration / scheduler within MARS. MARS is a margining and collateral management application, which uses complex data pipelines. We currently use over 1600+ Control-M jobs (in MARS) with complex dependencies, which is very difficult management and monitor.
- Seamless** – Streamlined technology stack with buildout towards strategic systems
- Customizable** – Allow tailored, custom-made solutions to be offered to clients, by supporting front to back customization on a legal agreement level and deal level. Margining to be system agnostic
- Accessible** – Expanding eligible/supported collateral, and accessibility of local/onshore markets to collateral and margin capabilities

Supported Outcomes

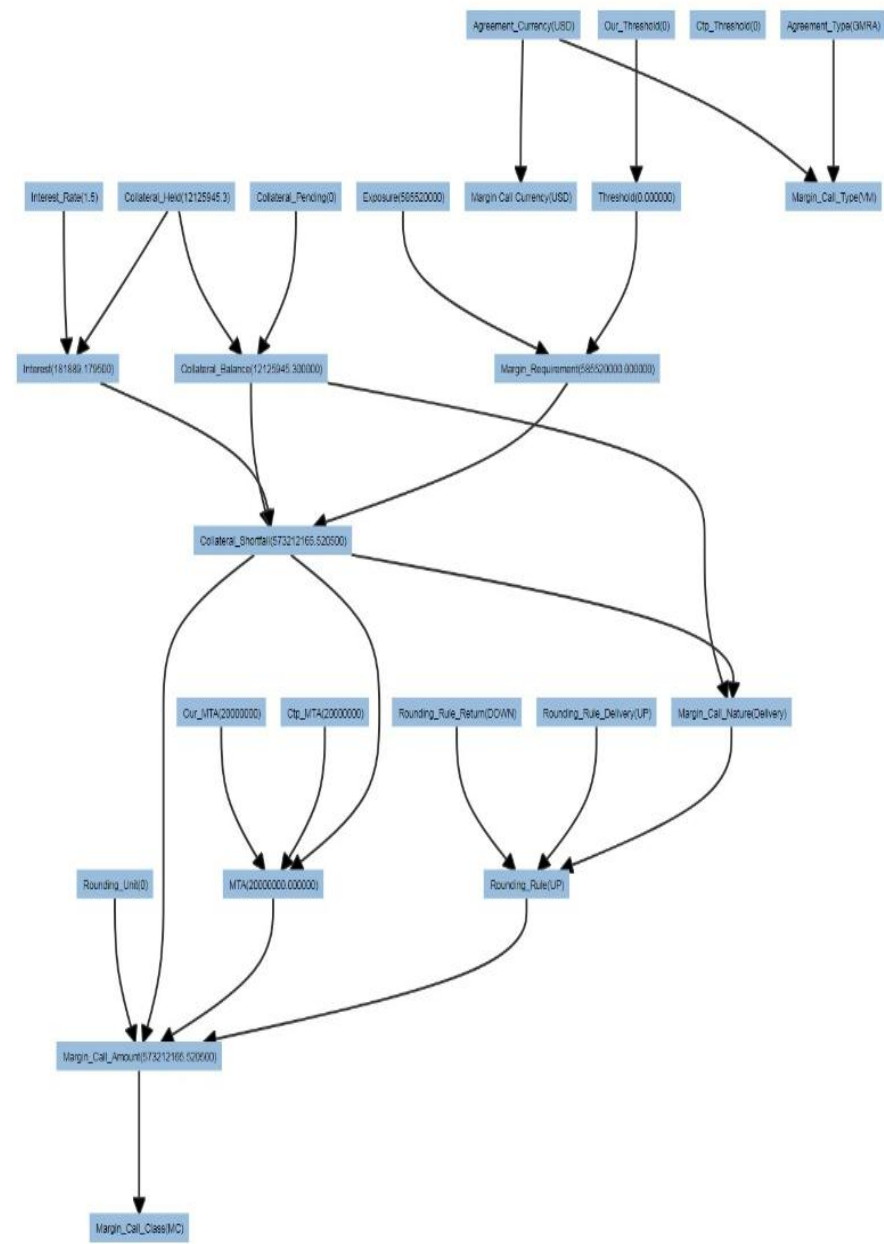
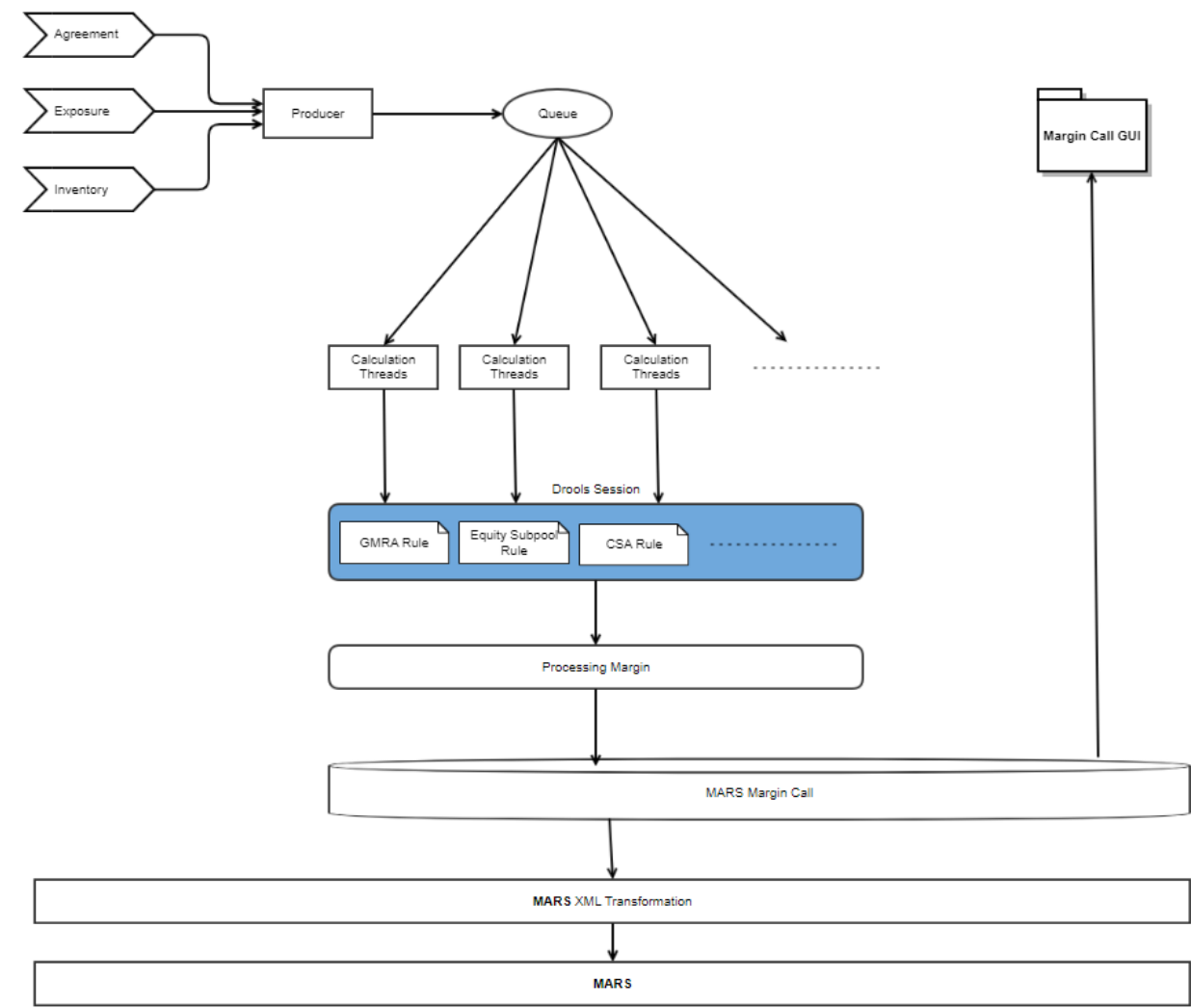
- Existing & New Product : Users can maintain the ISDA taxonomy for all product taxonomy mapping including new product on boarding .Reduce the time spend on change request ..Forecasting future margin calls and align that with cash or collateral ladders
- More efficient use of collateral by having real-time views and comprehensive connectivity volatile market
- Improve reporting time and remove the dependency of batches, allowing clients and internal stakeholders to receive the reports at earlier timing, especially during interest generation (normally reports can only be generated at about 4+ or 5+pm SGT due to the dependency) Improve Client enhancement experience."
- Increase automation across multiple clients while enhancing the client experience
Credit and operational risk with automation

2023 Priorities

Risk	Capital
End of Day batch re-design / optimization Monitoring dashboard	Seamless – Streamlined technology stack with buildout towards strategic systems Liquidity / Capital remediation
Margin	Front Office
Seamless – Streamlined technology stack with buildout towards strategic systems . Improve on collateral optimisation	Automated, pro-active onboarding , controls/ reporting functionality to track inbound data feed receipts Collateral rebalancing / replacment
Reporting	Legal Database
Improve Client enhancement experience.	Seamless – Streamlined technology stack with buildout towards strategic systems

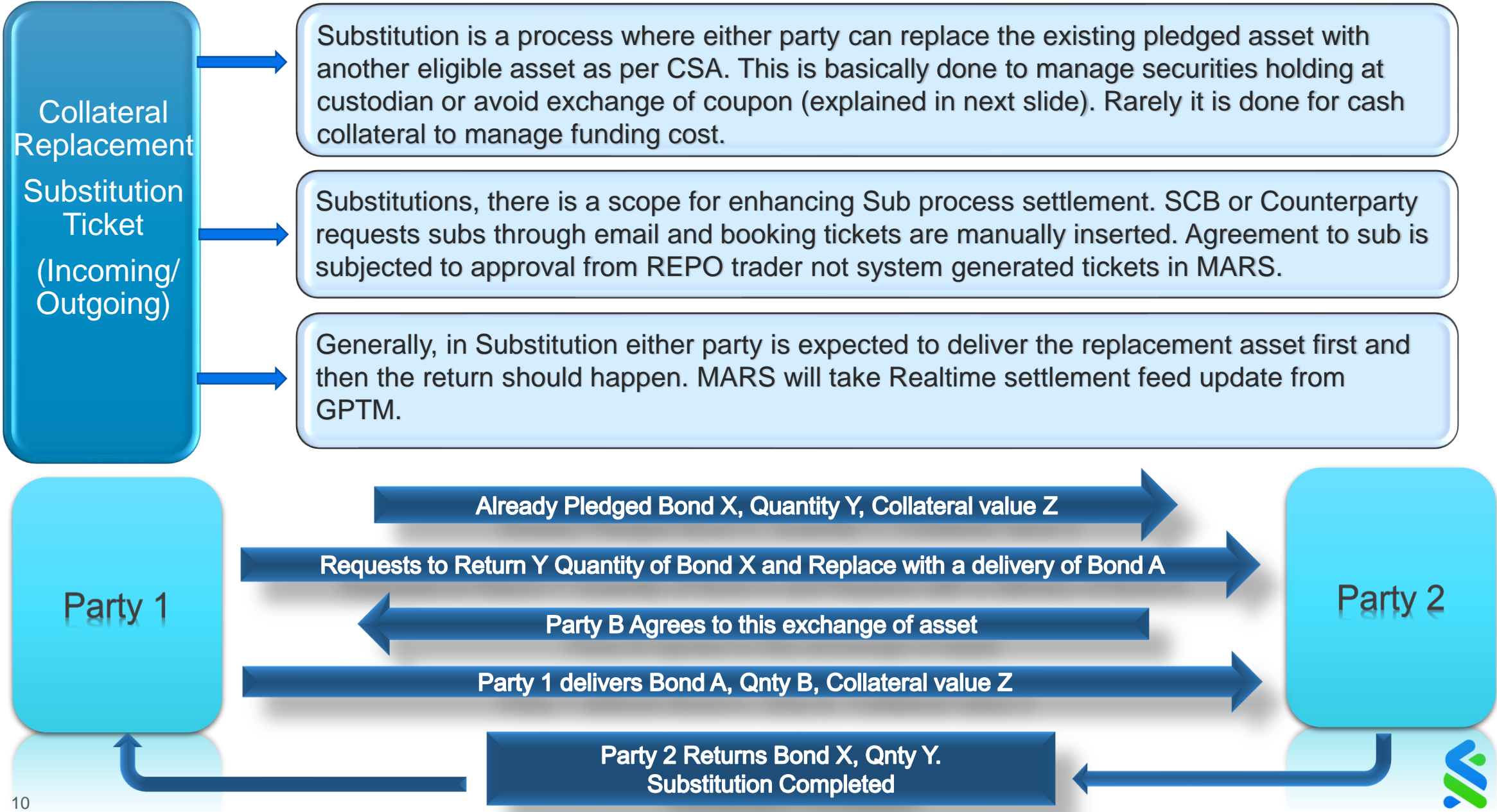


MARS – Margin Rule Engine



MARS – Margin Rule Engine (contd..)

Exposure	Threshold	Collateral Requirement	Collateral Balance	Collateral Shorfall	MTA	Margin Call Type	Margin Call Nature
> 0	Ctpy Threshold	> 0	>= 0	> 0	Ctpy Delivery MTA	MC	Delivery
>= 0	Ctpy Threshold	= 0	> 0	< 0	Ctpy Delivery MTA	MC	Return
> 0	Ctpy Threshold	> 0	< 0	> 0	Ctpy Delivery MTA	1. MC 2. MC	1. Return 2. Deliver
< 0	Our Threshold	< 0	>= 0	< 0	Ctpy Return MTA	1. EMC 2. EMC	1. Return 2. Deliver
< 0	Our Threshold	<= 0	< 0, Balance > Requirement	> 0	Our Return MTA	MC	Return
< 0	Our Threshold	< 0	< 0, Balance < Requirement	< 0	Our Delivery MTA	EMC	Deliver



Stats

annex_type	status	count
CCP	Active	21
VM CSA Eng_5	Active	1
CSA_2	Active	39
CSA	Active	4027
GMSLA	Active	1528
CM	Active	98
SDMAPA	Active	171
IM CSD Eng_3	Active	2
GMRA	Active	4908
VM CSA NY	Active	7150
Islamic CSA	Active	1
CSD_2	Active	1
NONCSA	Active	21
CLEAR	Active	105
DF	Active	2
VM CSA Eng_2	Active	86
PM	Active	3
VM CSA Eng_4	Active	2
IM CSD Eng	Active	218
SDA	Active	49
CSD	Active	3
VM CSA Eng	Active	8099
ETD	Active	6
No Calls	Active	7
Islamic CSD	Active	22
VM CSA Eng_3	Active	11
IM CSA NY	Active	78
VM CSA NY_2	Active	191
DLC	Active	38

m_system	count
Apex(intraday)	1578
Apex(eod)	14287
ACBS	188
Global Murex2	234102
Korea Murex2	27330
Murex3	511300
Others(TPGbIShell)	71
SABRE	5742

