Evolving Technologies Working Group

Meeting Minutes

Bill Hodash, Colin Parry (PMO)

Participants (in attendance in bold):

Ludivine	Chaulier	Banque Internationale à Luxembourg SA
Claudio	Calderon	Deposito Central de Valores (DCV)
Glen	**Fernandes**	**Euroclear**
Charu	Jain	S&P Global
Rok	**Šketa**	**KDD Central Securities Clearing Corporation**
Karine	Taquet	SWIFT SCRL
Giles	Elliott	Tata Group
Steve	**Everett**	**TMX Group Limited**
Juerg	**Unger**	**Swiss Re Ltd**
Sandra	Ro	The Global Blockchain Business Council
Abiko	Ryosuke	MUFG Bank, Ltd
John Andrew	O'Brien	Citi
Richard Simon	Shepherd	MYRIAD Technologies Ltd
Hema	Cederhage	The Mauritius Commercial Bank Ltd.
Shuta	**Okawara**	**MUFG Bank, Ltd**
Thomas	**Small**	**U.S. Bank, N.A.**
Daniel	**Slenders**	**Accenture Plc**
Ian	Pledger	BNY
Gilles	**Papadopoulos**	**Swiss Re Ltd**
Terry	Gibson	Archax Holdings Ltd
Anna	Matson	Northern Trust Corporation
Kelly	**Mathieson**	**Digital Asset Holdings, LLC**
Smratee	**Jain**	**Deutsche Bank AG**
Fergal	**Keavey**	**Northern Trust Corporation**
Pedro	Wajchman Moriyama	B3 Brazilian Exchange and OTC
Juergen	Hofbauer	Taurus
Richard	**Young**	**Bloomberg LP**
Herbert	Barth	NowCM
Vassili	Lavrov	Taurus
Michele	Pitts	Citi
Vic	Arulchandran	Deutsche Börse Group
Louise	Waterhouse	TMX Group Limited
Thomas	Koehler	Hong Kong Exchanges and Clearing Limited
Peter	**Hubli**	**Zürcher Kantonalbank**
Yan	**Lam**	**CMU OmniClear Limited**

Miguel	Espinoza	Montran
Alexandre	**Kech**	**Global Legal Entity Identifier Foundation GLEIF**
Steve	**Briscoe**	**ClearToken Holding Limited**
Svetlana	Javakhyan	State Street Corporation
Cécile	**Kougblenou**	**BNP Paribas S.A.**
Romuald	Morel	BNP Paribas S.A.
Hakim	**Harrach**	**DZ Bank AG**
Marco	Rodrigues	BNP Paribas S.A.
Thomas	Durif	BNP Paribas S.A.
Jaikishan	Kumar	Deutsche Bank AG
Vera	Gligoric	Royal Bank of Canada
Malte	Zellmer	DZ Bank AG
David	Khachidze	Acupay System LLC
Mariano	Graf von Plettenberg	DZ Bank AG
Fabian	Schwiering	DZ Bank AG
Daniel	Le	Deutsche Bank AG
Jerome	**Andrews**	**The Depository Trust & Clearing Corporation**
Qian	**Jiang**	**SWIFT SCRL**
Piyush	Vaishnav	Deutsche Bank AG
Gagan	Arora	S&P Global
Rakesh	Mahajan	S&P Global
Reggie	Clothier	Rand Merchant Bank - Custody Services
Ganesh	Borse	Deutsche Bank AG
Valerie	**Potsch**	**Landesbank Baden-Wurttemberg**
Orla	Aherne	BNY Mellon
Erik	**Veerman**	**ABN Amro**
Satish	**Maramreddy**	**Citi**
Michael	**McPolin**	**Broadridge**
Martin	**Matkins**	**Archax Holding**
Abiko	**Ryosuke**	**MUFG Bank**
Hari	**Chaitanya**	**Standard Bank of South Africa**

Agenda

1. Snowflake Presentation
2. Status of Volunteers for Substreams: Digitization; DLT in the Real World; DLT Use Case – Collateral; Working with Big Tech

1. Snowflake - - Nathan Attrell, Lead for EMEA Financial Services at Snowflake

Key Points Addressed

▪ Glen introduced the speaker from Snowflake - - Nathan Attrell, who set the agenda of his presentation (his slides are available on the WG Members' site) as follows:
  - o Snowflake Overview
  - o Snowflake Data Sharing
  - o Snowflake Service Providers/Securities Services

Snowflake Overview

▪ Snowflake clients were moving to the Cloud and in many cases multiple Clouds and ran into the problem of Sharing Data between divisions and with their clients and partners. How could this be solved?

▪ Often these clients had different best-of-breed technology stacks for Front, Middle and Back Office and needed data interoperability amongst them to replace constantly moving copies of large data sets around, often via old FTP technology, into multiple locations which is problematic and creates many breaks requiring manual intervention and the need for significant reconciliation.

▪ Then add on the problem of sharing data from all those locations with clients and partners.

▪ Snowflake was developed to solve these problems and provide a single Data and AI Platform.

▪ What should a Data Platform in the Cloud Look Like?

▪ One platform, cloud native, automatic scaling, limitless compute, SaaS, supporting SQL, Python, Scala and other languages, pay for what you use, security by design.

▪ Data Sharing between company divisions and with permissioned external entities via a Data Sharing Marketplace organized around the concept of Data Sources and Data Consumers able to query data and run analytics at scale – removing the need to physically move data around, no more copies of data, stale data, data pipeline management and manual intervention.

▪ Clients pay only for what they use.

▪ Works across all leading Clouds including AWS, Azure, Google, via a single platform.

▪ Clients focus on the quality of their data and Snowflake enables all the sharing and analytics and provides Generative AI Tools to enable your data to be read by the various LLMs – all hosted within the same governed data perimeter and platform where your data resides (no external calls, no IP leakage, no need to create separate vector dbs.

Snowflake Data Sharing

- Seamless query ready, entitlement access
- Privacy and robust Data Governance
- Can share data, objects, functions and applications internally and externally
- Share data across all leading Cloud Providers
- Leverage leading data analytics applications in the Cloud as well as build native applications of your own in the Cloud
- $1 billion in quarterly revenue

Snowflake Service Providers/Securities Services

- Ecosystem includes:
    - Data Providers
    - ESG Data Providers
    - Private Assets Data Providers
    - Digital Asset Providers
    - Master Data Management Providers
    - Investment Manager Data Platforms
    - Custody/Securities Services Providers
- Data sharing removes ETL, reduces data engineering needs and has delivered a 90% reduction in TCO for data ingestion.
- Securities Services segment was added at the request of their investment manager clients so they can see all data from all custodians for their institutional investors in one place; Snowflake participation has become a key part of investment manager Custody RFPs.
- Snowflake has advanced through providing Data Sharing, capabilities, then to providing clients with Data Applications and now enabling firms to securely package up their IP / code / business logic (eg data models, risk and quant models) as Native applications that their clients can deploy and run inside the client's own snowflake instance against the client's own internal data as well.
- Snowflake's Data Applications vehicle for firms to builds on client applications on Snowflake enables commercial outcomes in three areas:
    - Transform & Retain: Replace APIs and Exports via Data Sharing
    - Product Enhancement: Monetizing access to data with embedded analytics
    - New Products built in the Cloud and delivered into the Client's Platform
- And now, AI Data Cloud functionality with many Use Cases.
- 80% of Data Shares are private and bilateral/20% of Data Shares are via the marketplace.
- Nathan described how data sharing had reduced data ingestion and data engineering costs from $2.4m to $200k in one specific use-case.
- Nathan provided some featured Client Use Cases including DTCC's provision of fixed income and equity data products through Snowflake's Marketplace, and data sharing between DTCC and participants that has reduced a 2-day round trip and processing time (excel files, pdfs process) to Snowflake data sharing roundtrip and processing to 5 minutes

- The prevalent Use Cases are around:
    - Risk Analytics
    - Regulatory Reporting
    - Financial Crime Compliance
    - ESG
    - Quant/Analytics
    - Valuations
    - Portfolio Construction and Analytics
    - Fraud Prevention
    - Pricing
    - Digital Assets: Snowflake is not a DLT but does share data with DLT Providers

2. **Status of Volunteers for Substreams: Digitization; DLT in the Real World; DLT Use Case – Collateral; Working with Big Tech**

Key points Addressed

Colin, Glen and Steve showed a slide deck with current co-chairs and members of the four substreams. *In red font, we call out for WG members to please volunteer to join these teams.*

Year of the DLT in Real World Survey - - Chaired by Glen Fernandes

- In conjunction with Value Exchange
- Sponsors to be identified (Barney and Colin) – volunteers?
- Longitudinal view – so changes rather than re-write
- Needs to capture new trends in questions but at the margins
- *There are 8 WG members in the Substream.*
- Big group to push within their organisations to complete and increase validity yet further.
- 2025 February – April design, May - June deployment, September publish
- Survey data is completely aggregated/250 firms answered the last survey

- **Digitalisation – Completion - - Co-Chaired by Michael McPolin and Ian Pledger**
    - Outline published - - What is currently not digitised and what of that should be?
    - Data collected in last year's survey
    - HKEX providing a Use Case example
    - *WG Members needed to:*
        - *Complete drafting*
        - *Incorporate additional client service examples particularly C/I and C/X*
    - 2025 Feb – May document creation and revisions, June publish

- **Best Practices for Collaboration with Big Tech - - Chair Glen Fernandes**
    - Presentations have shown:
        - Risk management needed especially ability to avoid lock-in and data security
        - Multiple future models of working possible
        - Ensuring service provision does not fall within regulated activities
        - Value accretion models vary

- o *WG Members needed:*
  - ▪ *Start drafting – including the correct chapters*
  - ▪ *Experts per theme thereafter*
- o 2025 Feb – October document creation and revisions, year-end publish

- ▪ **DLT Use Case #1 – Supporting Securitisation and/or collateral management - - Chair Steve Everett**
  - o Examples of various use cases using DLT for securitisation and collateralisation
  - o Lessons learnt from these use cases (positive and learning experiences)
  - o *WG Members needed:*
    - ▪ *Start drafting – including the correct chapters*
    - ▪ *Experts per theme thereafter*
  - o 2025 Feb – September document creation and revisions, November publish
  - o This would potentially be the first in a number of DLT Value Chain Transformation examples

AOB and Close

Going forward, we will have monthly meetings featuring updates from the four teams and a presentation by an interesting provider.

No other business raised. The meeting was then closed.

Summary of Follow Up Actions

No.	Action Description	Responsibility	Deadline
1.	Join the four teams/topics	WG Members	By 16 April