



5th Malaysia Statistics Conference

29 November 2017

Sasana Kijang, Bank Negara Malaysia

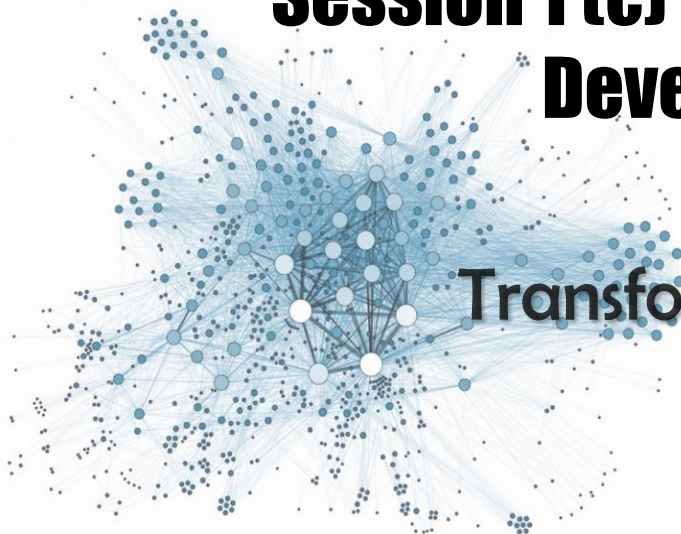
2017



From Data to Knowledge : The Journey

Session 1 (c) : Statistics for Financial Sector Development and Stability

Transforming data into intelligence
Enterprise Analytics Platform



Lim Kok Eng
Securities Commission Malaysia
29th November 2017



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Vision Statement



Be the central leadership for **advanced analytics** at the SC and **empower front line** business with **superior insights** through advanced predictive analytics and be the single point for data warehousing across functions

Market Efficiency & Transparency

- An unified, complete, standard digitalised information disclosure system, integrated with a delivery platform.



ComRep
(XBRL)



i-Publication

Enterprise Intelligence Platform

- A consolidated single source of the truth derived from multiple data sources



Enterprise Data Warehouse



Mi-Cap Portal

Advanced Analytics

- An artificial intelligence engine to provide superior insight to empower front line business



i-Intelligence



Enterprise Analytics Architecture : Our journey forward ...

Data Collection



Exchange



Other
Regulators



Info Vendors



Internet



Industry



Internal Data

Data Source



@SCData



FTP



i-vendor



i-robot
(Mi-Clip
& MiMeto)



ComRep
(XBRL)

Gateway

Enterprise Warehouse & Analytical Platform

Data Lake



mongoDB
(Unstructured)



PostgreSQL
(Structured)



File
System



Internal System

Data Integration



Extract
Transform
Load (ETL)



Data
Cleaning



AI
(Machine
Learning)



Natural
Language
Processing



Elastic
Search



Publication Database

Enterprise Data
Warehouse (EDW)



Physical DB



Logical DB
(Data Model)



Graph DB

Data Distribution

External



i-publication

Internal



Mi-Cap Portal

Power Pivot



Corporate BI



Self-Service BI

Advanced Analytics



R programming

Agile Data Architecture – Data Layering

Data



Physical database

- Data are kept in the original form with time series historical information

Information



Logical Layer

- Data are linked together to provide dynamic permutation for slicing and dicing. E.g. providing analysis on data based on old name and current name.

Analytics



Artificial Intelligence



Rule based modelling



R programming

Analytical Model

- Data are grouped together with business rules to provide the necessary information and insight. E.g. compliance review.

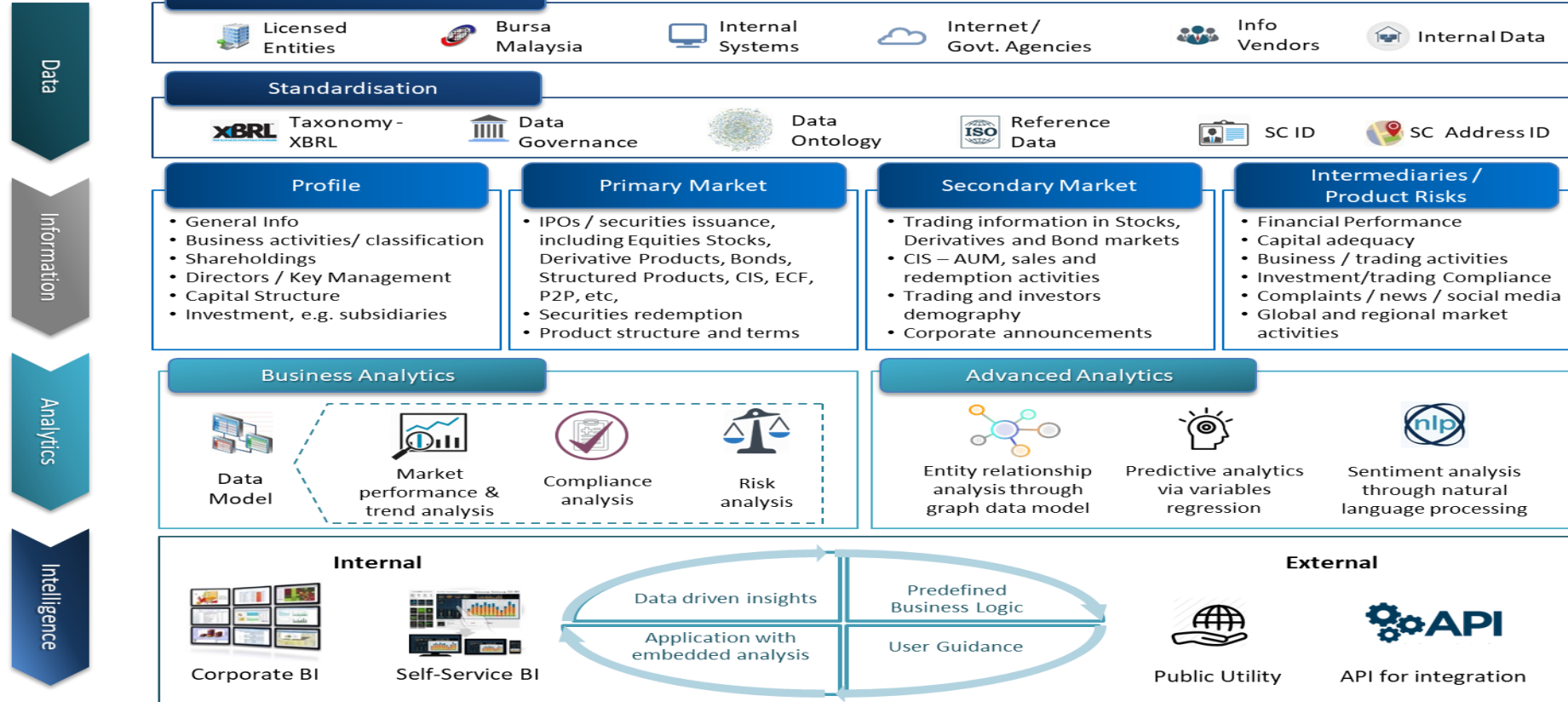
Intelligence



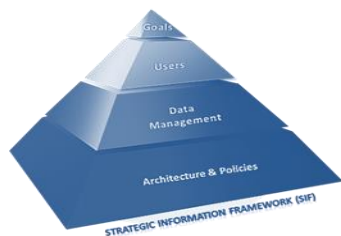
Presentation Layer

- Information are connected to visualisation tools to provide intelligence to users.

Transforming data into intelligence



Pathway to big data & advanced analytics



Strategic Information Framework

- SEED to focus on Strengthening Organisational Efficacy



Strategic Analytics

- Big Data to support better decision and policy making



Straight-through processing

End-to-end processing with accurate data capture at source



Enterprise approach

Organize information by core business clusters and provide a single platform for information linkages and flows



Empowering users

Allow self-service ad hoc data integration and analysis to generate insight



Data Governance

Establish organizational policies, procedures and standards to manage and control data



Advanced Analytics

Creation of data model by Data scientist team to support advanced analytics



Artificial Intelligence

Using machine to power better coverage, effectiveness and efficiency



Information Repository

Implement Data Lake for mass storage with better search capability

Thank You