



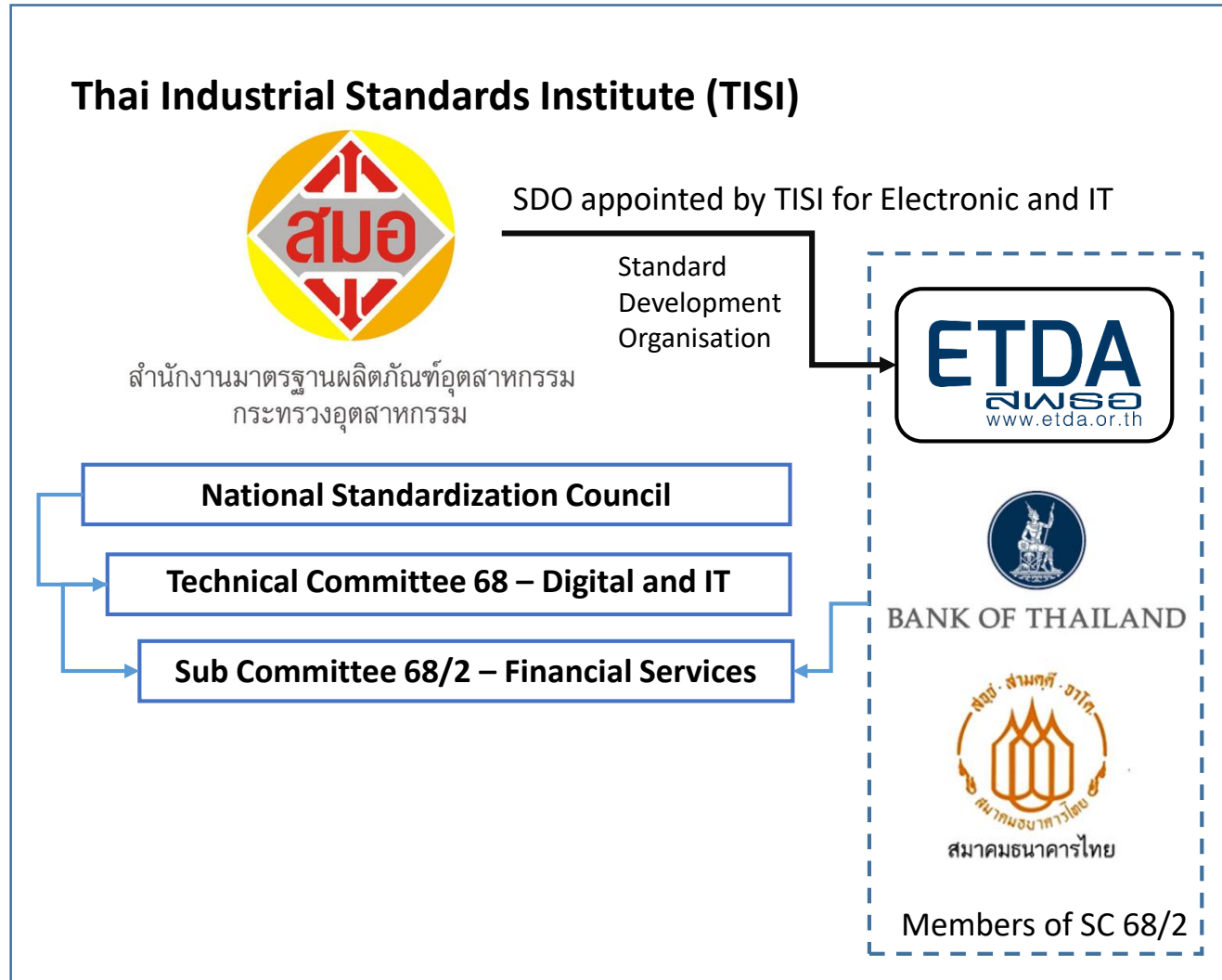
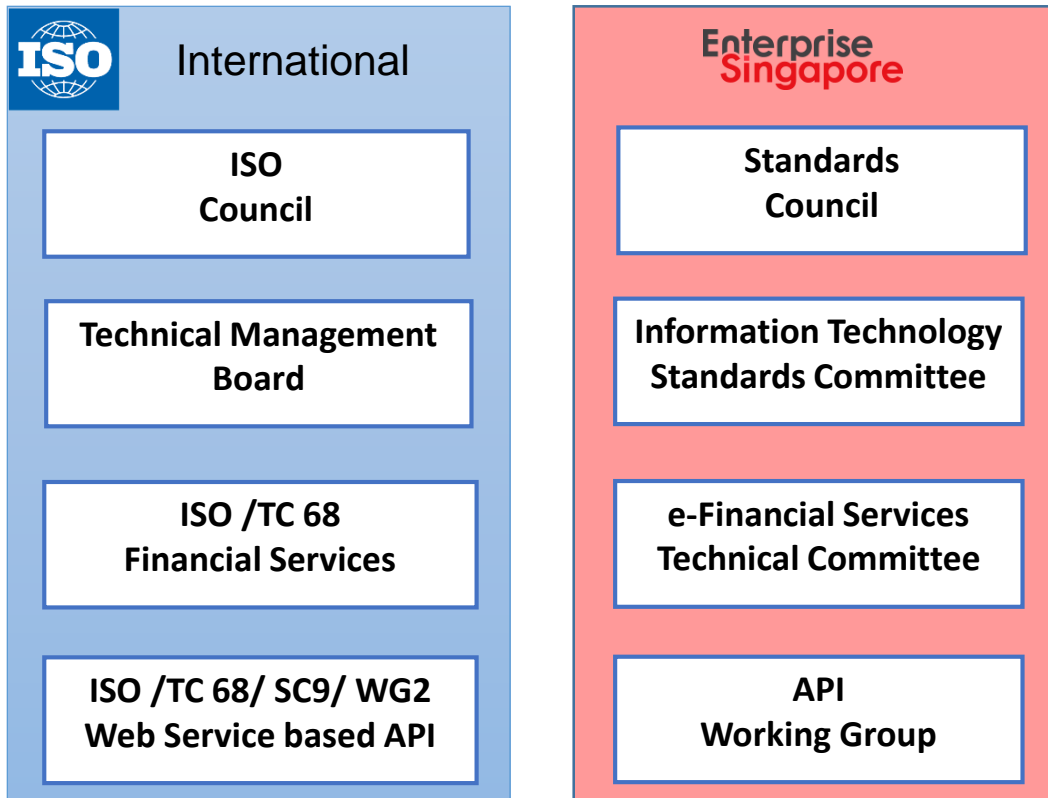
ISO/TC68/SC9/WG2 Web Services based API in Financial Services

Building a bridge Between
Financial Services and Fintech

24 Jul 2018



Overview of Standardization Programme



For more information on ISO works:
<https://www.youtube.com/channel/UC6FEdxQrSmhxe0XMWbjBjWA>



What is API

APIs are sets of protocols that define how one application interacts with another, usually to facilitate an information exchange.

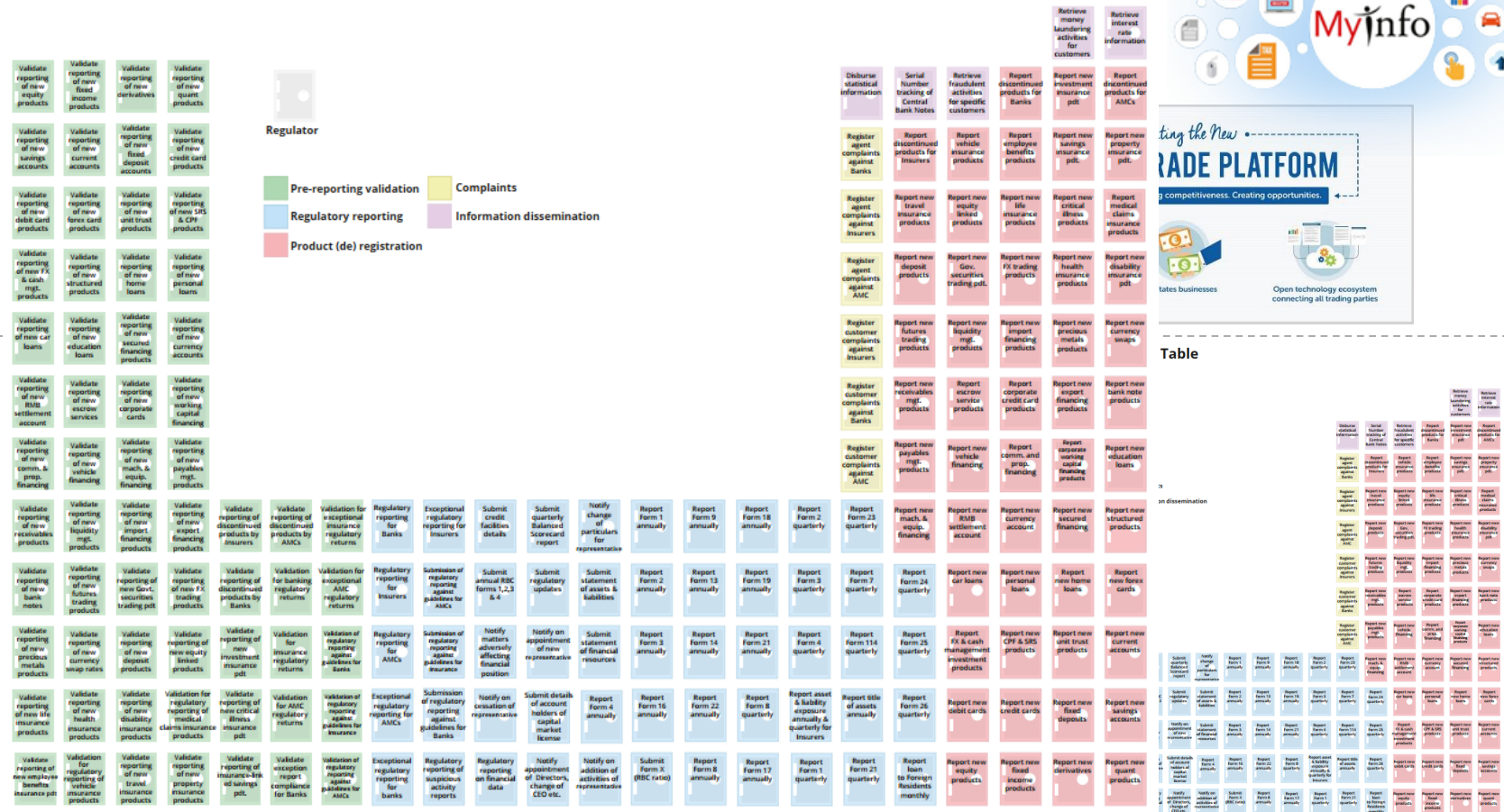


Plugging into partner's ecosystem



"socket" for partners to plug into

ABS-MAS Financial World API Periodic Table



Developments in API Adoption



Open Banking

The Open Banking Implementation Entity was created by the UK's Competition and Markets Authority to create software standards and industry guidelines that drive competition and innovation in UK retail banking

- **Design the specifications** for the Application Programme Interfaces (APIs) that banks and building societies use to securely provide Open Banking
- Support **regulated third party providers** and banks and building societies to use the Open Banking standards
- Create **security and messaging standards**
- Manage the **Open Banking Directory** which allows regulated participants like banks, building societies and third party providers to enrol in Open Banking
- Produce **guidelines** for participants in the Open Banking ecosystem
- Set out the **process for managing disputes and complaints**



European Union

THE *Berlin* GROUP

A EUROPEAN STANDARDS INITIATIVE



The 'Berlin Group' is a pan-European payments interoperability standards and harmonisation initiative with the primary objective of defining open and common scheme- and processor-independent standards in the interbanking domain between Creditor Bank (Acquirer) and Debtor Bank (Issuer), complementing the work carried out by e.g. the European Payments Council

PSD2 Access to Bank Accounts

- **The NextGenPSD2 Framework Version 1.0** offers a modern, open, harmonised and interoperable set of Application Programming Interfaces (APIs) as the safest and most efficient way to provide data securely.
- **The NextGenPSD2 Framework** reduces XS2A complexity and costs, addresses the problem of multiple competing standards in Europe and, aligned with the goals of the Euro Retail Payments Board, enables European banking customers to benefit from innovative products and services ('Banking as a Service') by granting TPPs safe and secure (authenticated and authorised) **access to their bank accounts and financial data.**



HONG KONG MONETARY AUTHORITY
香港金融管理局

Launch of Open API website on 23 Jul 2018. Open API can help to ensure the competitiveness of the banking sector, encourage more parties to provide innovative and integrated services that improve customer experience, and keep up with worldwide development on the delivery of banking services.

Open API Framework

- **API Functions and Deployment timeframe**
- **Technical Standards on architecture, security and data**
- **Third Party Service Provider (TSP) Governance Model**
- **Facilitation Measures**
- **Ongoing Development**

API Categorisation

- **Product & Service Information (Read-only)**
- **Subscription and new Application for Product/Service**
- **Account Information**
- **Transactions**



Singapore API Landscape



- Launched on 17 May 2016
- 22 APIs (as at Apr 2017)
- Marketing and Public information
 - Accounts
 - Calculators
 - Cards
 - Financials
 - Insurances
 - Locator



- Launched on 10 Nov 2016
- Reference: HonestBee, Lazada [Card]
- Beta Access to 7 API Categories
 - Accounts
 - Customer
 - Onboarding
 - Authorize
 - Money Movement
 - Pay with Points
 - Cards



- Launched on 10 Feb 2017
- Beta Access to 2 API Categories
 - Account Balance
 - Transaction Details
 - Bank Code List
 - Holiday List

Summary

- Only API are non-transactional
- Most of transactional API are in beta stage for Financial Services Industry



Documentation Approach

WG Circulated Draft in Jun 2018

Technical Reference

- ❑ Overview of Web Application Interface
- ❑ WAPI Basic Terminology
 - Terms and Definition
 - Communication Protocol
 - HTTP/ HTTPS
 - Web Socket
 - Web Hook
 - JSON
 - Data Structure
 - JSON
 - XML
 - HTML
 - Security Authentication
 - Infrastructure Layer
 - Transportation
 - Application Layer
 - OAuth 2.0
 - Server
 - Public Client
 - Confidential Client

WG Consolidating Feedback

Implementation Guide

- ❑ Overview of Web Application Integration
- ❑ Design Principles
 - Communication (tabulate pros and cons of each approach. i.e. HTTP, Webhook, JSON)
- ❑ WAPI Rule
 - Name Convention
 - Data Payload
- ❑ Security and Authentication
 - Authorization Profile
 - Data Access
 - Threat Model & Security Considerations
 - Data Integrity, Authentication & Non-repudiation
- ❑ Version Control

ISO 2022 TSG Published Mapping Rule

Use Case – Example ISO 2022

- ❑ Metamodel
- ❑ Business Transaction
 - Actors
 - Transaction Flow
- ❑ API Call Design
 - Recommendation for each Communication Protocol
- ❑ Modelling Guideline
 - Mapping Rule





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Draft on govt data framework ready for Cabinet nod by October

Economy July 23, 2018 01:00
By JIRAPAN BOONNOON
THE NATION

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THE DATA framework draft, which sets guidelines for all state agencies when they collect and record business data, is expected to be sent to the Cabinet for approval in October this year.

Right building block for Nation-wide API adoption



ISO/IEC 18004 – QR Code Bar Code Symbology Specification



Line QR Code
Web URL



vCard QR Code
IETF – RFC 6868



Key Takeaway

- ❑ Financial Service, especially banking, has become a regional and global business
- ❑ Participate in the global standardization to protect your IT investment and open to new market
- ❑ Form the Thai Working Group and get expert to participate ISO/TC 68/SC 9/WG 2 - Web Services based API in Financial Services





Thank You

