Panoramic Banking and BIAN Adoption

November, 2020

Shanghai Pudong Development Bank

Date of establishment : January 9th, 1993
Total assets : RMB 7.67 trillion (USD 1+ trillion) by the end of September, 2020
Place of the Head Office : Shanghai, China
Employees : 55,000
Customers : 1.46 million Corporate, 76.89 million Retail

Inside Mainland China :
     covering all the provincial regions
     41 tier-one branches, 1,700 Banking outlets
Overseas Branches:
     in Hong Kong SAR, Singapore and London
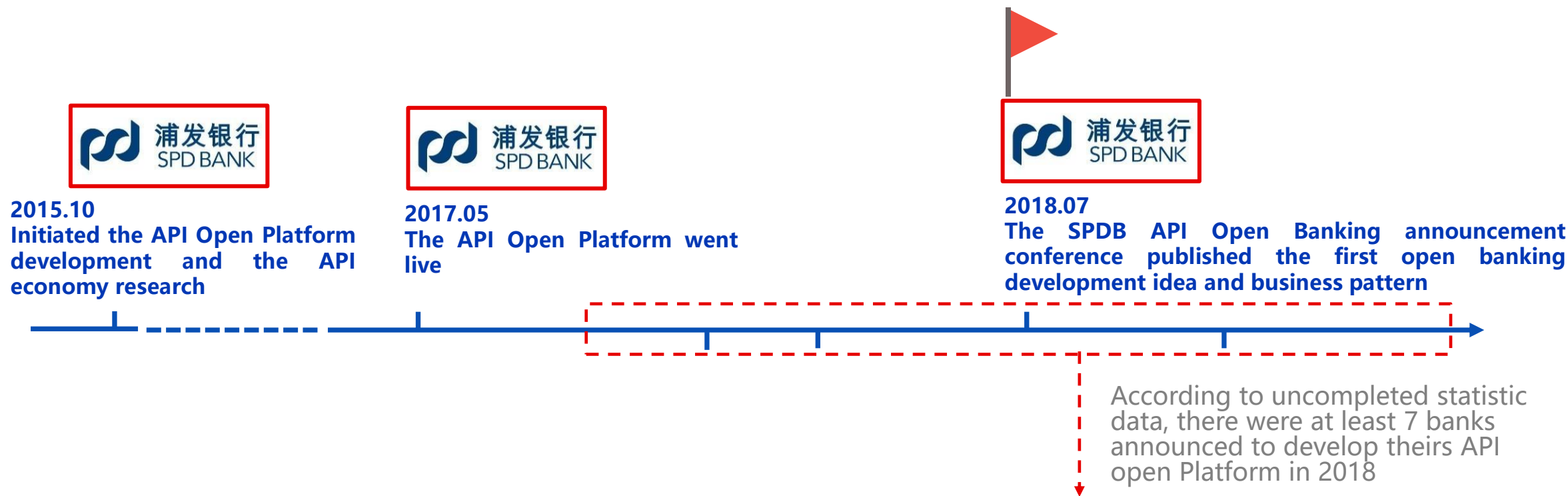
The Panoramic Banking Announcement

SPD Bank released the Open Banking 2.0 – The Panoramic Banking Blue Paper formally in the Open Finance and Future Forum in the 2020INCLUSION. Bund Fintech Conference on September 25th, 2020. The Open Finance Union was announced to establish in the same time.

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The First Year of Open Banking in China

2015.10
Initiated the API Open Platform development and the API economy research

2017.05
The API Open Platform went live

2018.07
The SPDB API Open Banking announcement conference published the first open banking development idea and business pattern

According to uncompleted statistic data, there were at least 7 banks announced to develop theirs API open Platform in 2018
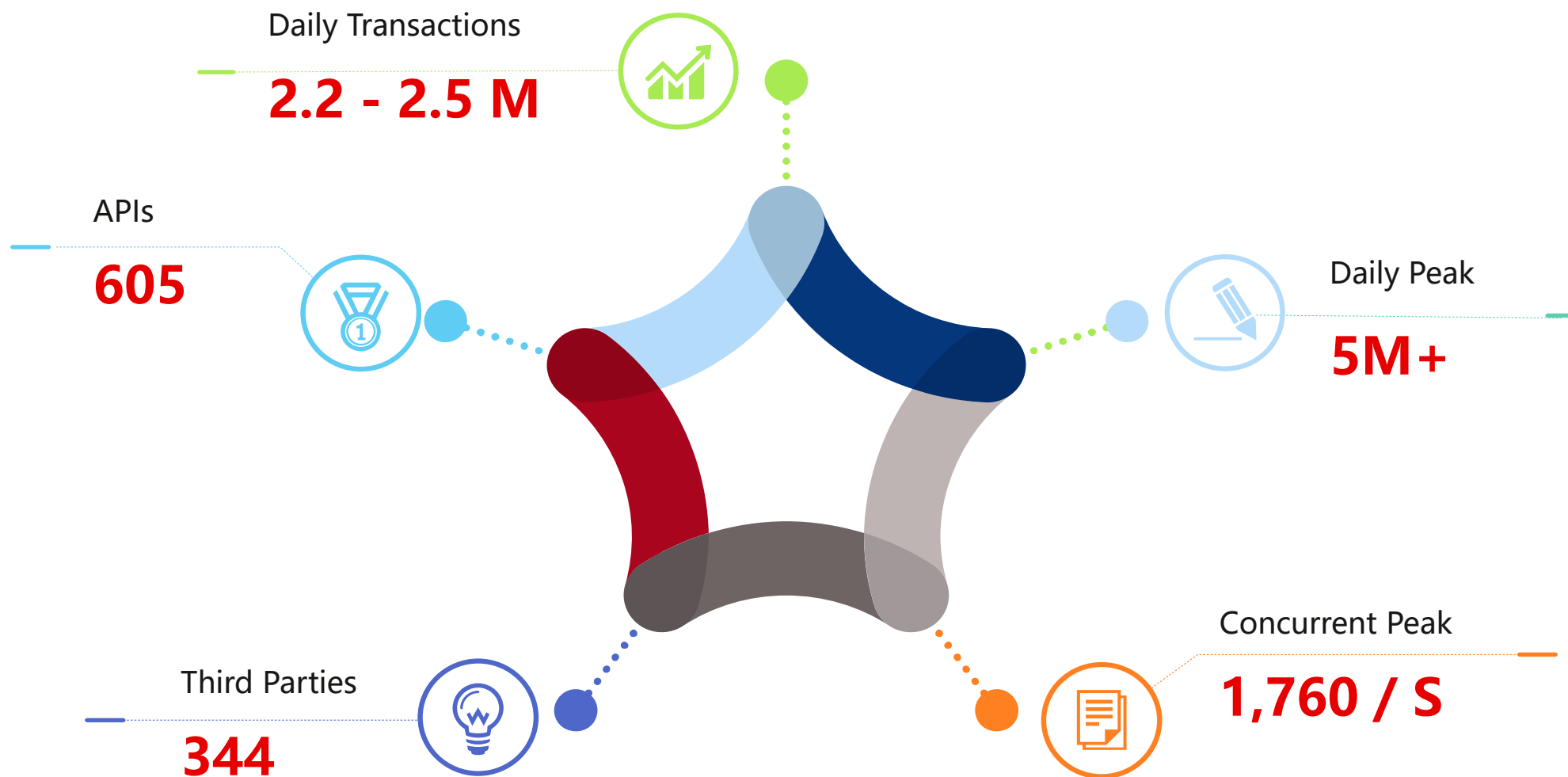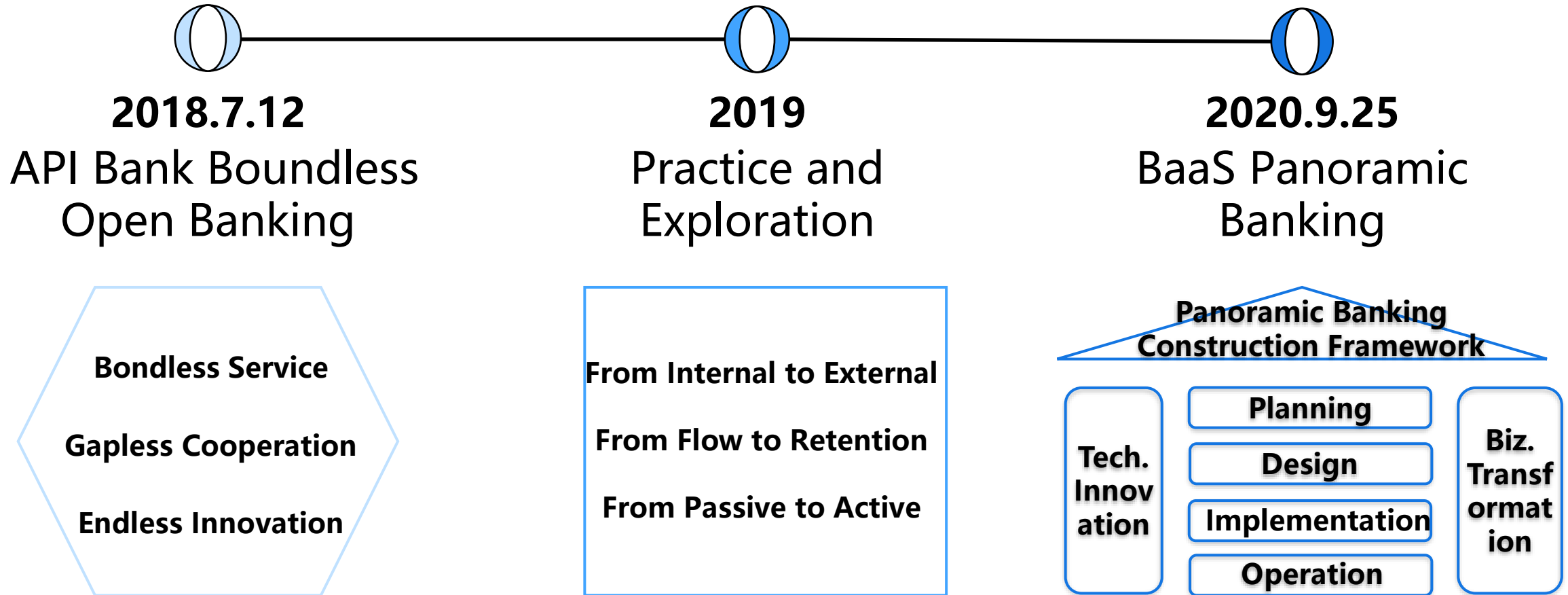
2018 is the first year of Open Banking in China, a lot of open banking platforms have been developed, the business model has been formed gradually since then.

API Bank of SPD Bank has attracted great attention of China's financial industry and was awarded one of the ten major events of *China's financial informatization* in 2018, as well as won the best API platform in *The Asian Banker* and the Best API Bank award in *Think2019*

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API Open Platform Status

Daily Transactions

2.2 - 2.5 M

APIs

605

Daily Peak

5M+

Concurrent Peak

1,760 / S

Third Parties

344

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From Open Banking to Panoramic Banking

2018.7.12
API Bank Boundless
Open Banking

2019
Practice and
Exploration

2020.9.25
BaaS Panoramic
Banking

Bondless Service

Gapless Cooperation

Endless Innovation

From Internal to External

From Flow to Retention

From Passive to Active

**Panoramic Banking
Construction Framework**

Tech. Innovation

Planning

Design

Implementation

Operation

Biz. Transformation

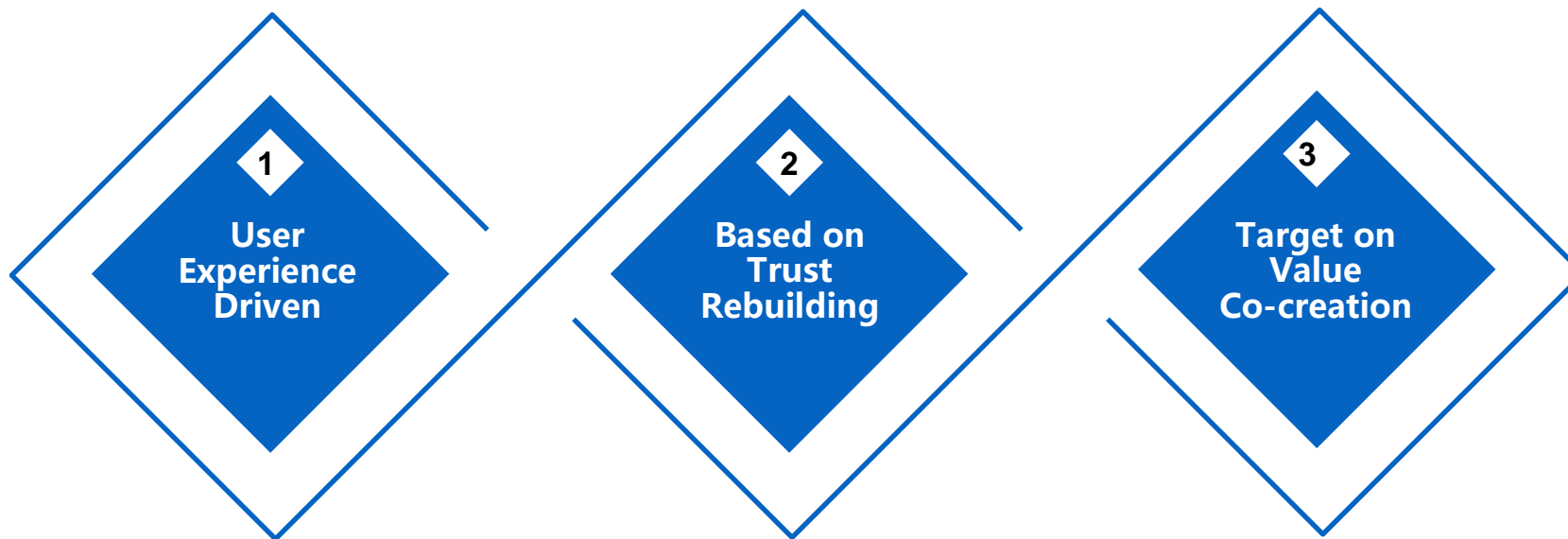浦发银行 SPD BANK

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Panoramic Banking Concept and Vision

Panorama banking means that bank builds platform-based ecosystem around the needs of customer life cycle and production cycle, sharing brand, channel, customer, technology and other resources with business partners, uses data intelligence dynamically perceiving customer requirements, provids integrated financial and non-financial products and services, so as to create value adding and achieve best experience for customers

Facing "all users", running through "all time", providing "all services" and realizing "all links"

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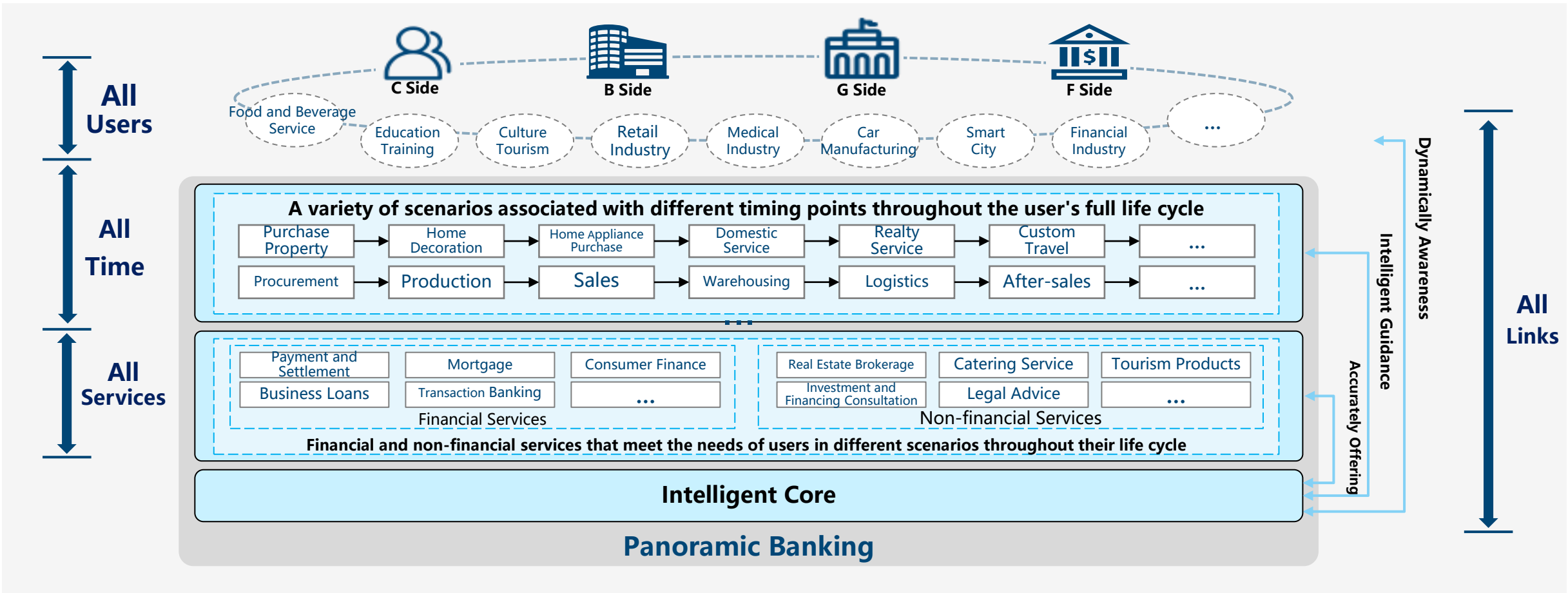
Panoramic Banking Features

1 User Experience Driven

2 Based on Trust Rebuilding

3 Target on Value Co-creation

- Focus on understanding and solving user's pain points
- Integrate internal and external resources to meet user needs, provide quality services and improve user experience

- Improve the overall digital level of related parties
- Build digital credit system, reduce the information asymmetry between customer and financial institution and build trust of them

- Open capabilities, enable ecosystem partners achieve win-win cooperation
- Aims on value adding for users and partners, instead of playing zero-sum game

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Panoramic Banking Basic Value Point

Traditional Banking

- **Realized value: Customers buy financial products or make financial transactions**
- The bank sells products or services to customers as an independent distribution channel. Such banks typically have high cost/revenue ratios and are prone to become infrastructure if lacking scale advantages

Digital Banking

- **Realized value: Customers buy financial products or make financial transactions**
- Most banks are in the process of transforming from traditional banking to digital banking. They use digitalization to upgrade traditional business model and enhance user experience. Banks in this range are still product distribution channels, profits have begun to shrink

Business Remodelling Grid

According to the combination of IQ and EQ, business remodeling grid has four main "value Spaces"
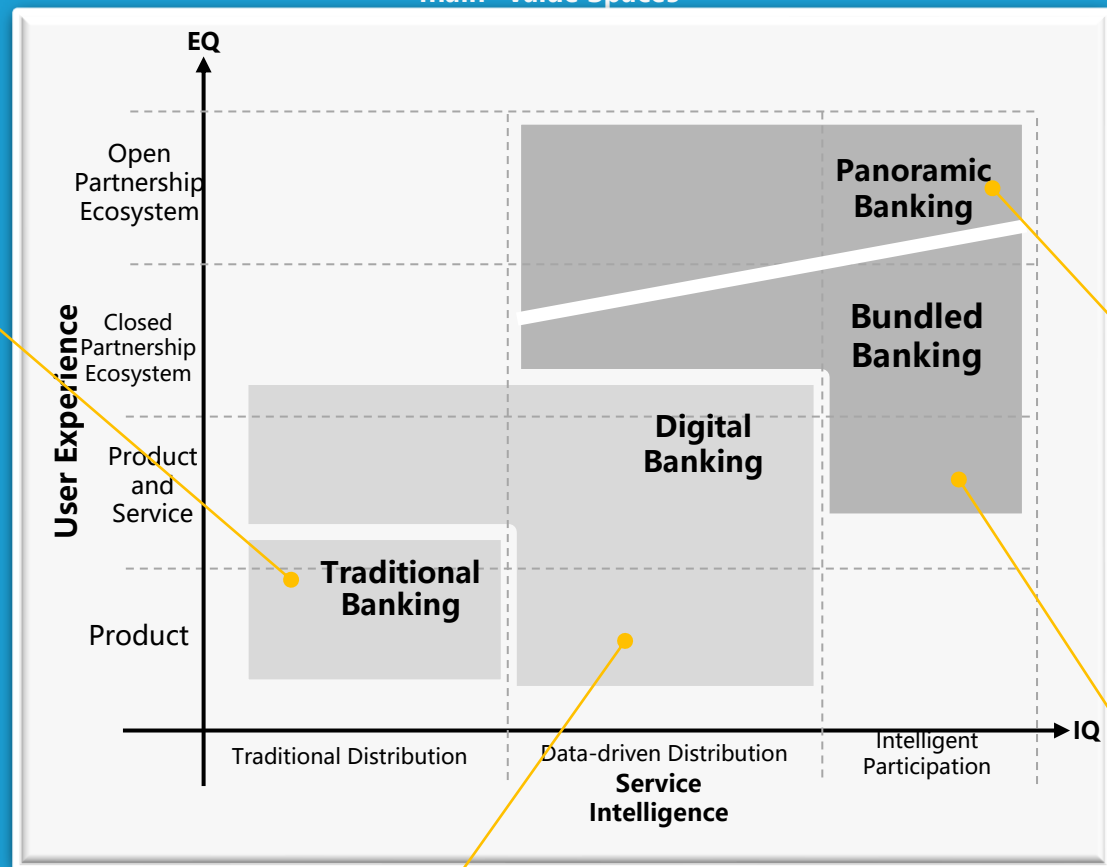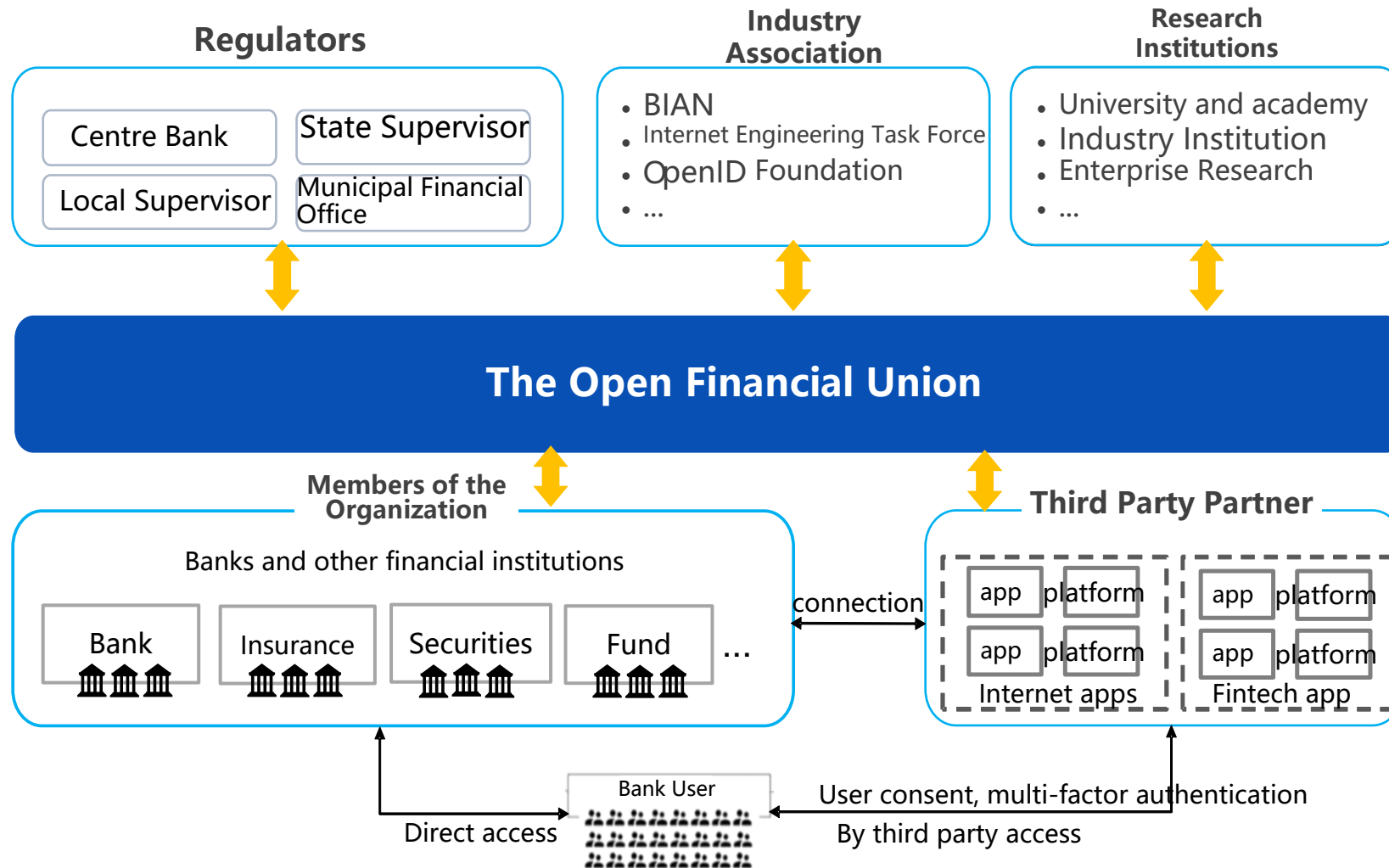

Panoramic Banking

- **Realized value: Customers production and consume life cycle serving**
- Start from customer needs, constructs financial and non-financial scenarios to support ecosystem parties to interact. Reduce the information asymmetry of parties and promote win-win cooperation. Provide intelligent services, enable effic6ient interaction and improves profitability

Bundled Banking

- **Realized value: Customers achieve their financial goals**
- Build open banking capabilities, integrate fintech products, and provide customers with better services. With the progress of technology, the distribution will be transformed from "data-driven" into "intelligent participation"

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Industry Co-constuction and Co-prosperity

Regulators

- Centre Bank
- State Supervisor
- Local Supervisor
- Municipal Financial Office

Industry Association

- BIAN
  Internet Engineering Task Force
- OpenID Foundation
- ...

Research Institutions

- University and academy
- Industry Institution
- Enterprise Research
- ...

The Open Financial Union

Members of the Organization

Banks and other financial institutions

| Bank | Insurance | Securities | Fund | ... |

connection

Third Party Partner

app	platform		app	platform
app	platform		app	platform
Internet apps			Fintech app	

Bank User

Direct access

User consent, multi-factor authentication
By third party access
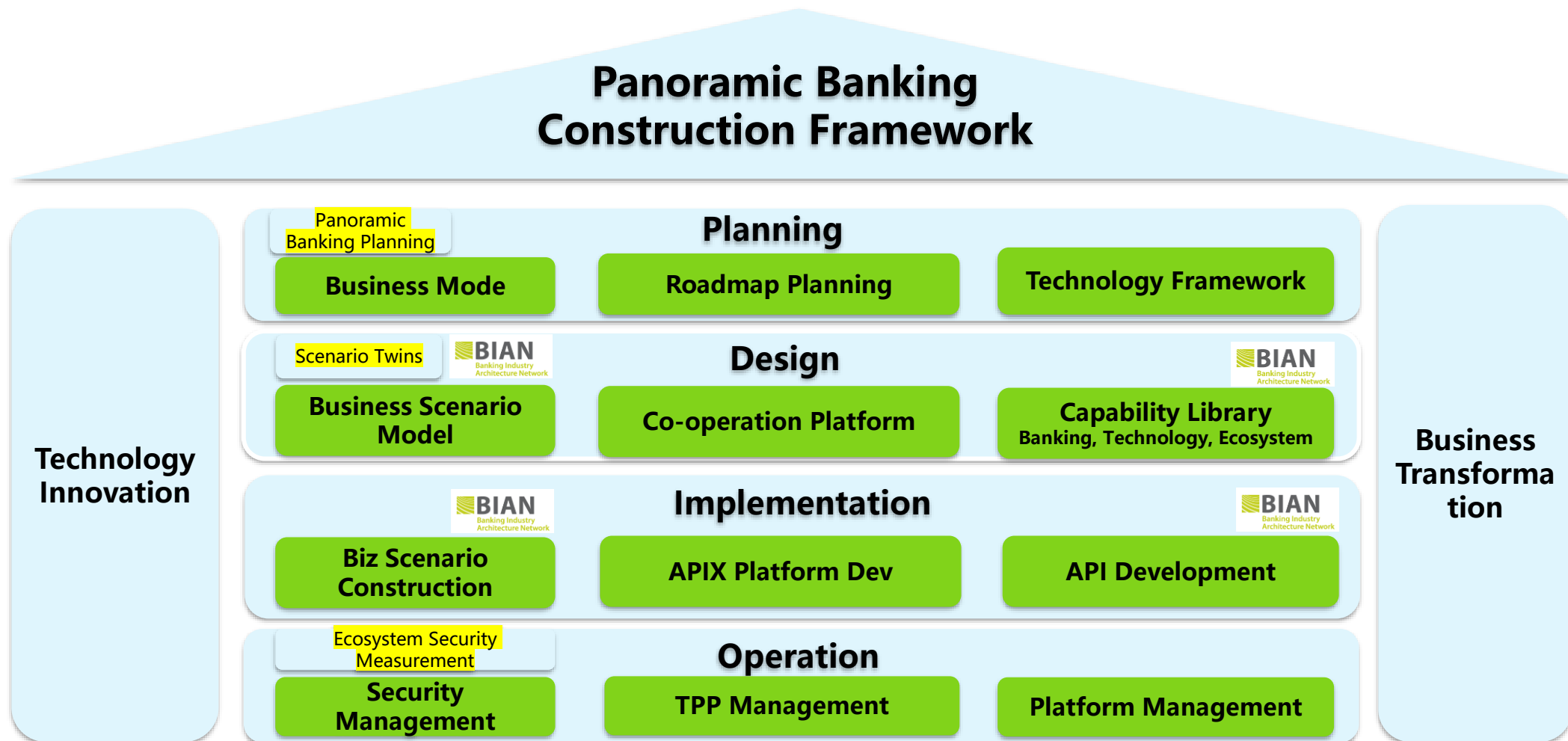
- **The proposition of the Open Financial Union**
  - Pan-financial mutual assistance platform
  - Gather, create and share good resources
  - Create value for users and related parties

- **The main services of the Open Financial Union**
  - **Technology sector:** Promote the sharing of open banking platforms such as API Echange and technical platforms
  - **Business sector:** Promote extensive cooperation among members in various fields of business operation
  - **Ecosystem sector:** Realize the sharing of ecosystem operation capability, enhance ecosystem vitality, and realize scale advantage

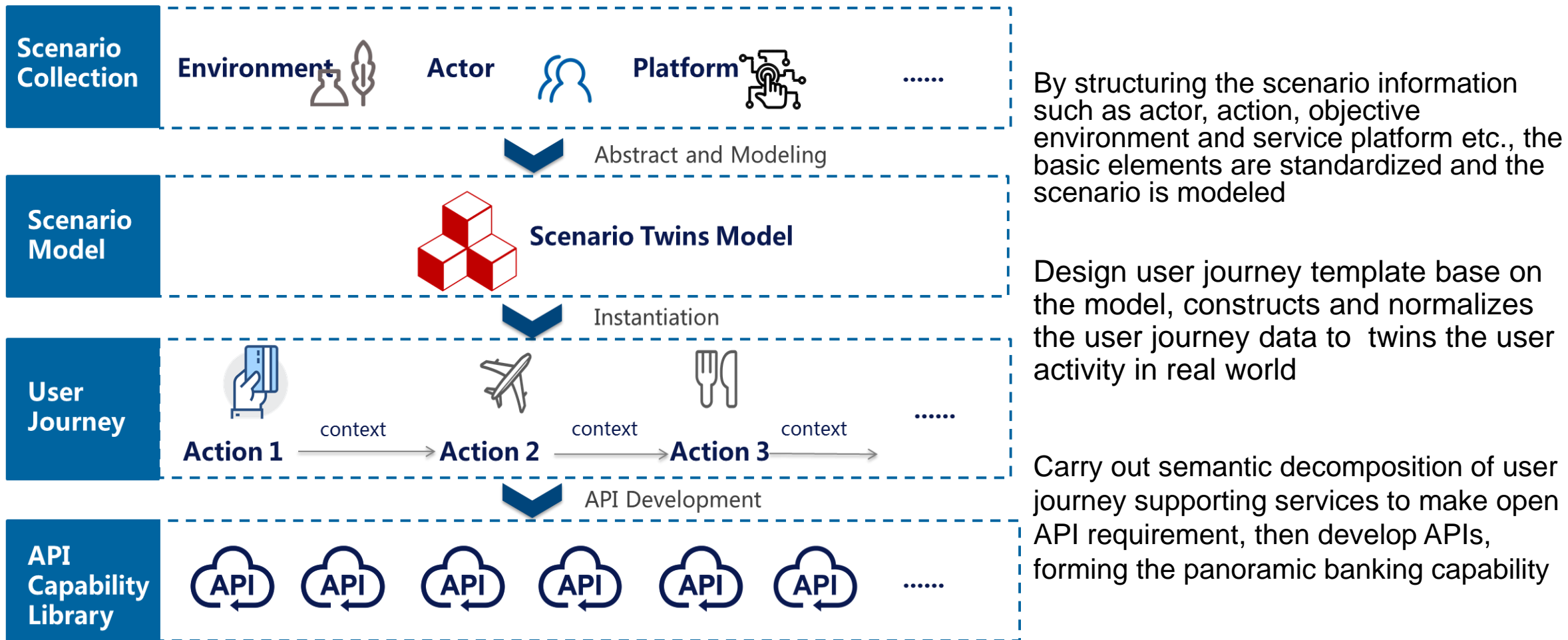浦发银行 SPD BANK

Panoramic Banking Construction Framework

Panoramic Banking Construction Framework

Technology Innovation

Planning
Panoramic Banking Planning

| Business Mode | Roadmap Planning | Technology Framework |

Design
Scenario Twins — BIAN Banking Industry Architecture Network — BIAN Banking Industry Architecture Network

| Business Scenario Model | Co-operation Platform | Capability Library Banking, Technology, Ecosystem |

Implementation
BIAN Banking Industry Architecture Network — BIAN Banking Industry Architecture Network

| Biz Scenario Construction | APIX Platform Dev | API Development |

Operation
Ecosystem Security Measurement

| Security Management | TPP Management | Platform Management |

Business Transformation

"*Adopting a set of completed and standardized methods to enhance panoramic banking core competitive capability.*"
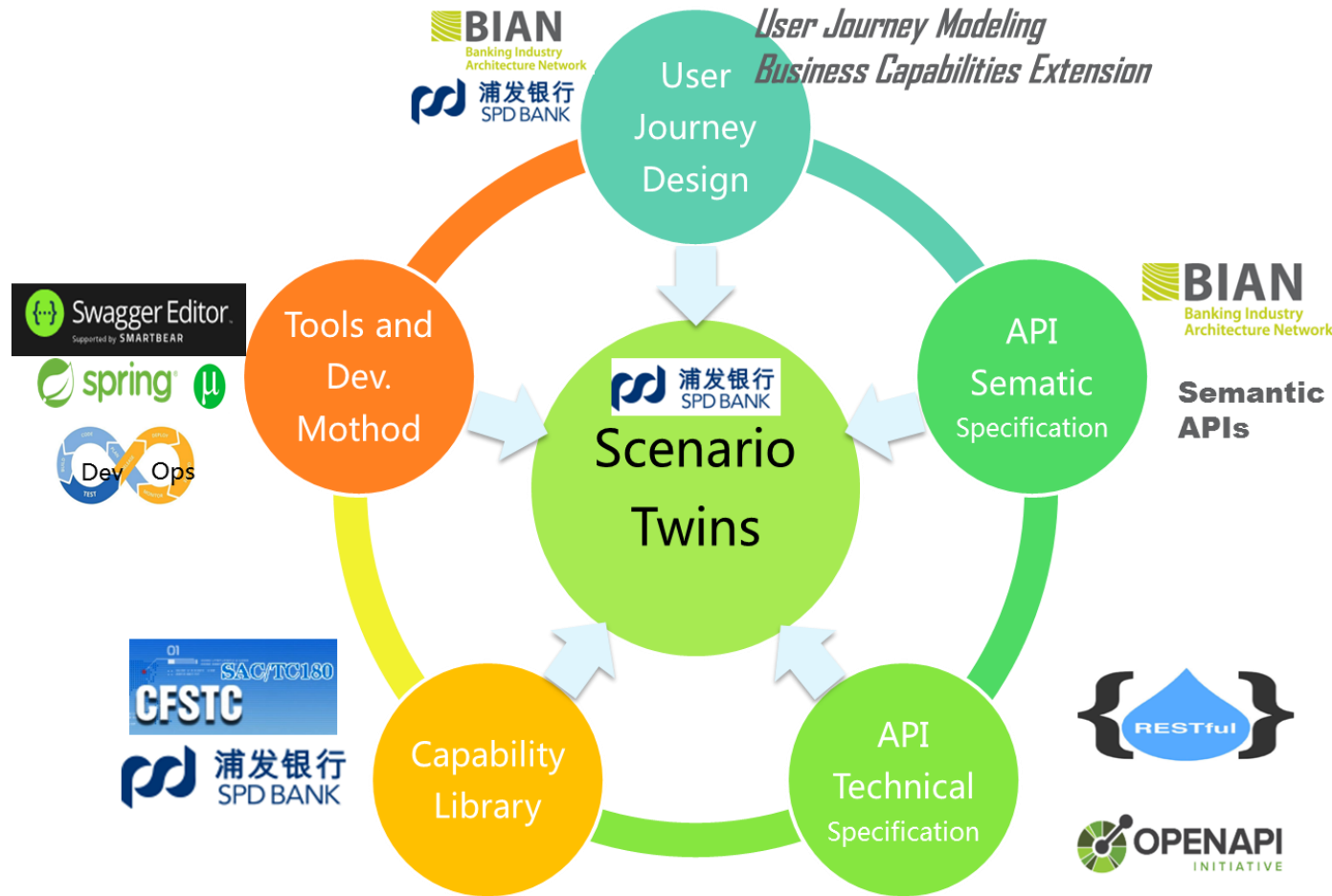
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1. Open Banking Practice

2. Panoramic Banking Planning

3. Scenario Twins

4. Ecosystem Security

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Scenario Twins

Scenario twins implementation includes scenario modeling, user journey design, open API design and capability construction.

Scenario Collection

Environment   Actor   Platform   ......

Abstract and Modeling

Scenario Model

Scenario Twins Model

Instantiation

User Journey

Action 1 → context → Action 2 → context → Action 3 → context → ......

API Development

API Capability Library

API API API API API API ......

By structuring the scenario information such as actor, action, objective environment and service platform etc., the basic elements are standardized and the scenario is modeled

Design user journey template base on the model, constructs and normalizes the user journey data to twins the user activity in real world

Carry out semantic decomposition of user journey supporting services to make open API requirement, then develop APIs, forming the panoramic banking capability

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Panoramic Banking Technic Combination

1 User Journey Design

Based on BIAN standard, introduces the concept of user journey design, expands the service domain and business capability model, describes the scenario twins.

2 API Semantic Specification

With the help of BIAN semantic API specification, adapts to Chinese local requirements and creates the API design specification.

3 API Technical Specification

Using OPENAPI standard and RESTful API best practices, creates API technical specification.

4 Capability Library

Be compatible with the *Commercial Bank Application Program Interface Security Management Specification* issued in 2020, builds panoramic banking capability directory.

5 Tools and Development Method

Swagger Editor tool is used to define API and generate microservice framework code. DevOps pipeline is used to standardize the process of design, development, testing and production.

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User Journey Model
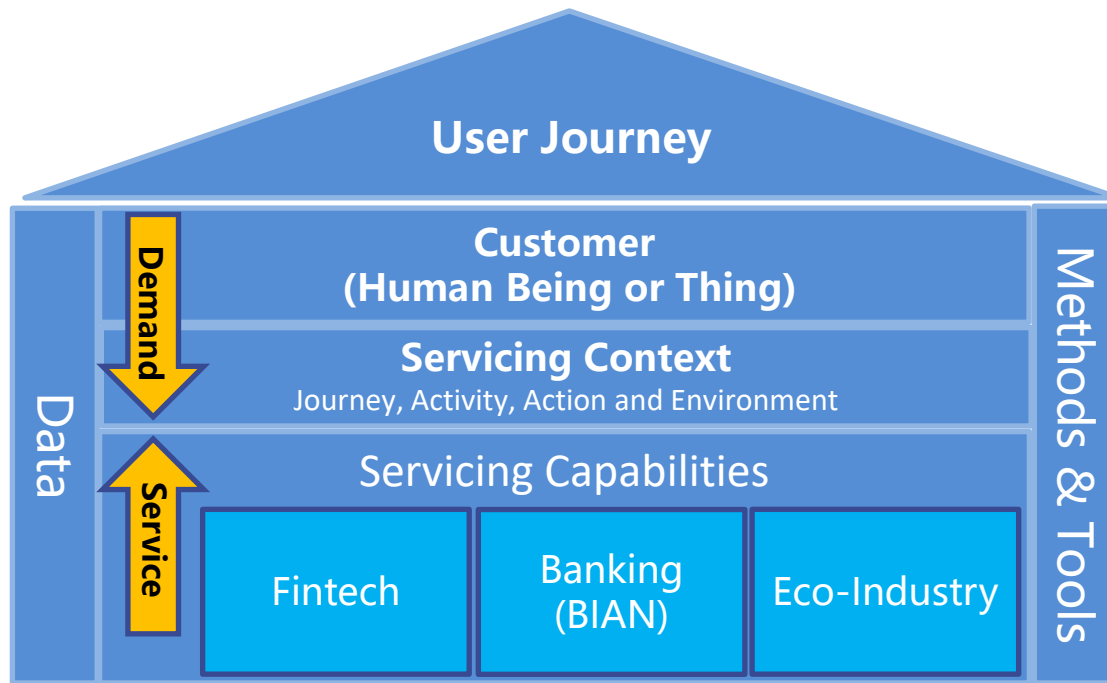
Service demand comes from customer's activities in ecosystem. The activities are not totally alone, some of them are closely related with each other even when they belong to different industries. To make the service more smart and pleasant to customer, the service provider should not care only about the activities themselves, but also the relationship and the environment of the activities

The information of the linked activities to accomplish a goal and their environmental information assembly is user journey.

With user journey information, the bank could get deep insight of customer, then could possibly serve the personalized, contextual demand.

User Journey Model is base on User Journey Map and is enhanced with completed information. It is the structured information mirroring the customer's behavior and its background in real world.

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User Journey Map

Anna

"I want a Seamless Travel and shopping experience abroad"

As a sales of a big firm. Anna travels periodically. She manages work life balance by making the most pleasant experience each stop of the way. Travel should not be stressful experience.

User Persona Expectation

Industry: Travel | Bank | Retail

User Journey: Travel Journey (context: Travel Itinerary, Budget, Social Event)

User Task: Book Travel → Foreign Exchange → Travel → Shopping → Travel → Reverse FX
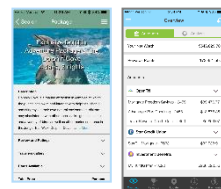
User Action: # 1 → # 2 → # 3 → # 4 → # 5 → # 6

Action Context
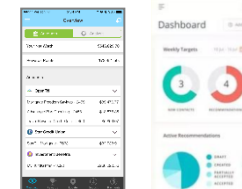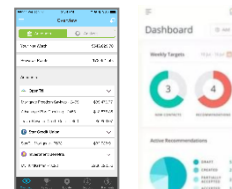
Touch Point:
- Travel agency app
- Travel agency app Or via bank api
- Bank app
- Merchant o2o
- Bank app
- Travel agency app via tax api
- Bank app

User Achievement

User Experience:
- Wow, only spend 15min finish all booking
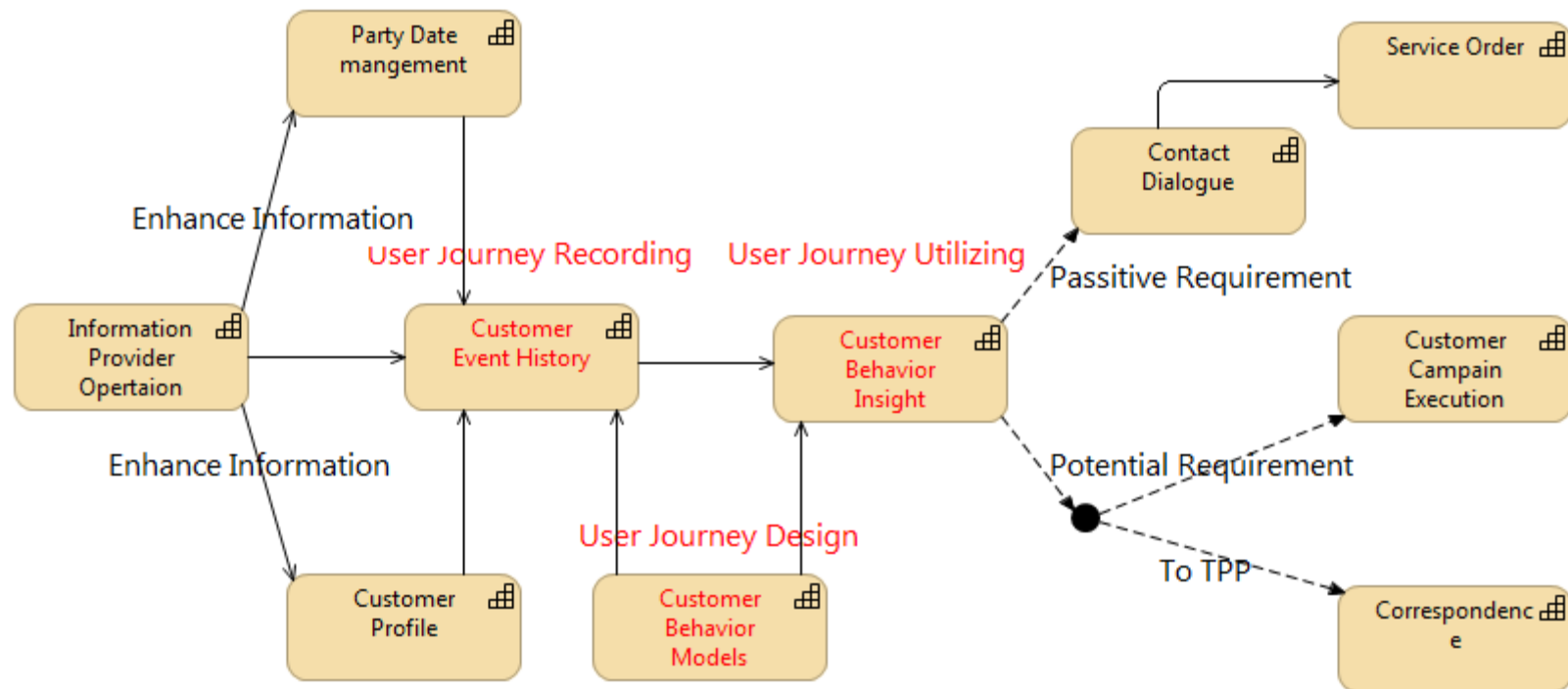- Wow, saved a lot of exchange fee
- Wow, I got my most wanted bag in 50% discount in suggested mall without wasting shopping time.
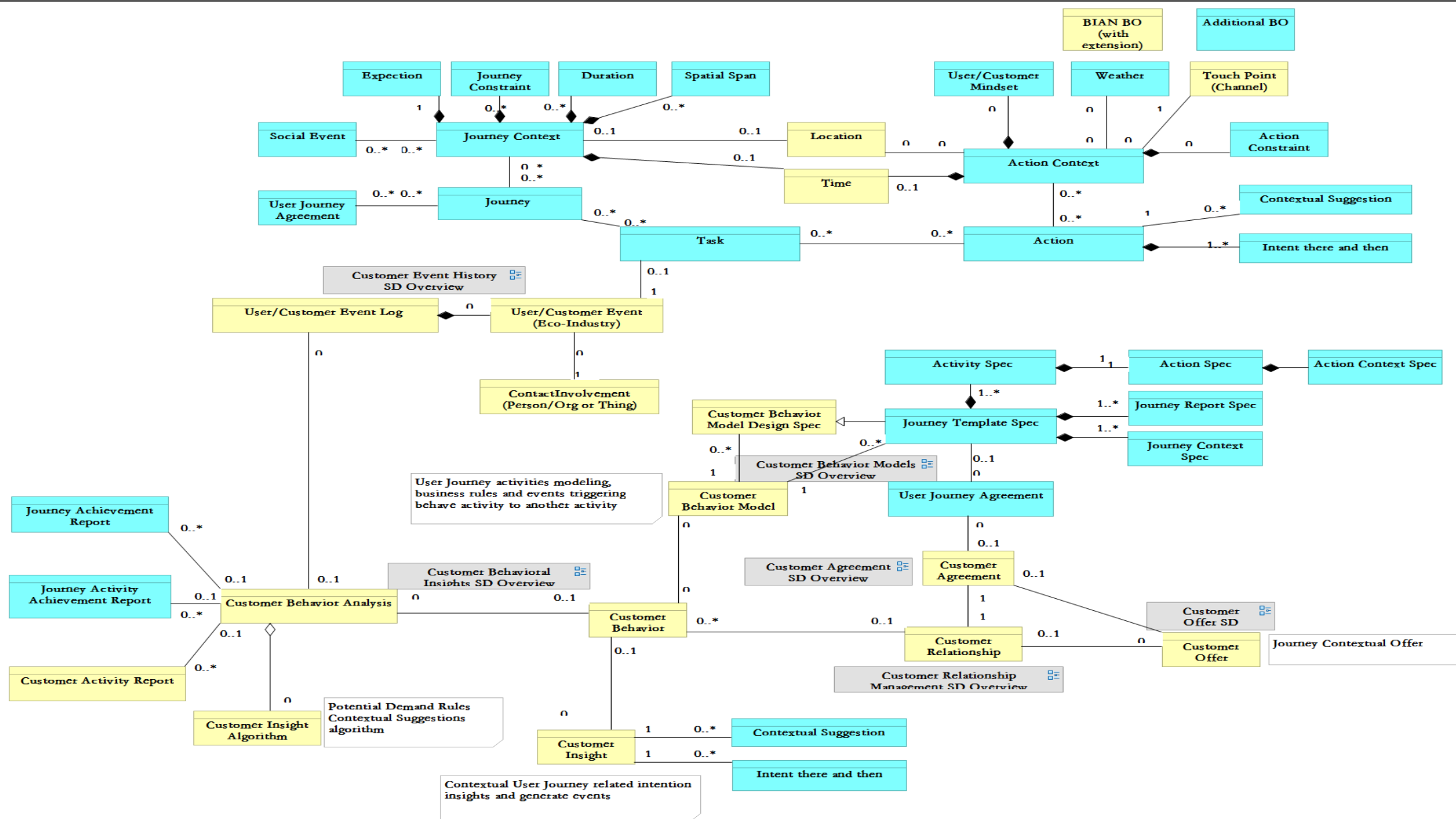- Wow, bank helped on mitigate potential FX risks
- Frustrated, shopping receipts should be paper-less and automated tax refund for me seamlessly
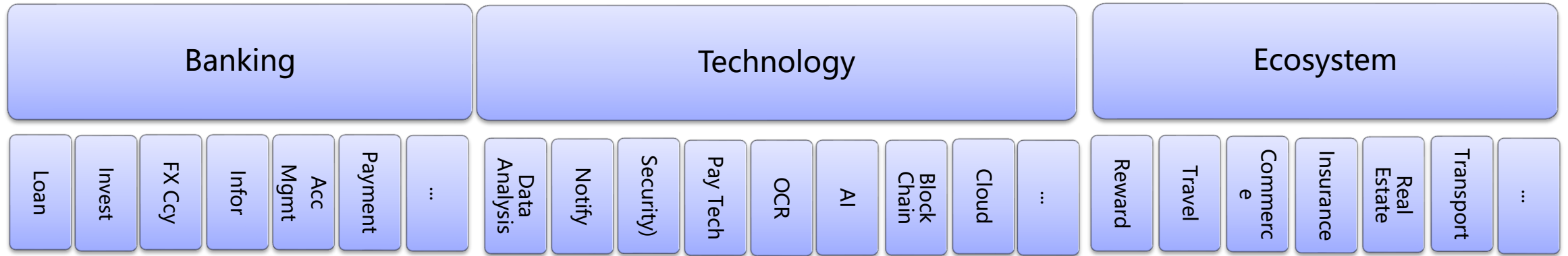- Wow, bank automatically convert excess foreign currency for me at optimal rate

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BIAN SD Extention for User Journey

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API Library

Banking	Technology	Ecosystem

Banking: Loan | Invest | FX Ccy | Infor | Acc Mgmt | Payment | ...

Technology: Data Analysis | Notify | Security) | Pay Tech | OCR | AI | Block Chain | Cloud | ...

Ecosystem: Reward | Travel | Commerce | Insurance | Real Estate | Transport | ...

Banking: Traditional Banking product and Service → Classify align with current business line

Technology: Not relate to banking directly, base on digital technology, aims to improve performance → Focus on new technology, include OCR, Face Recognition, Block Chain, Big Data, Cloud etc.

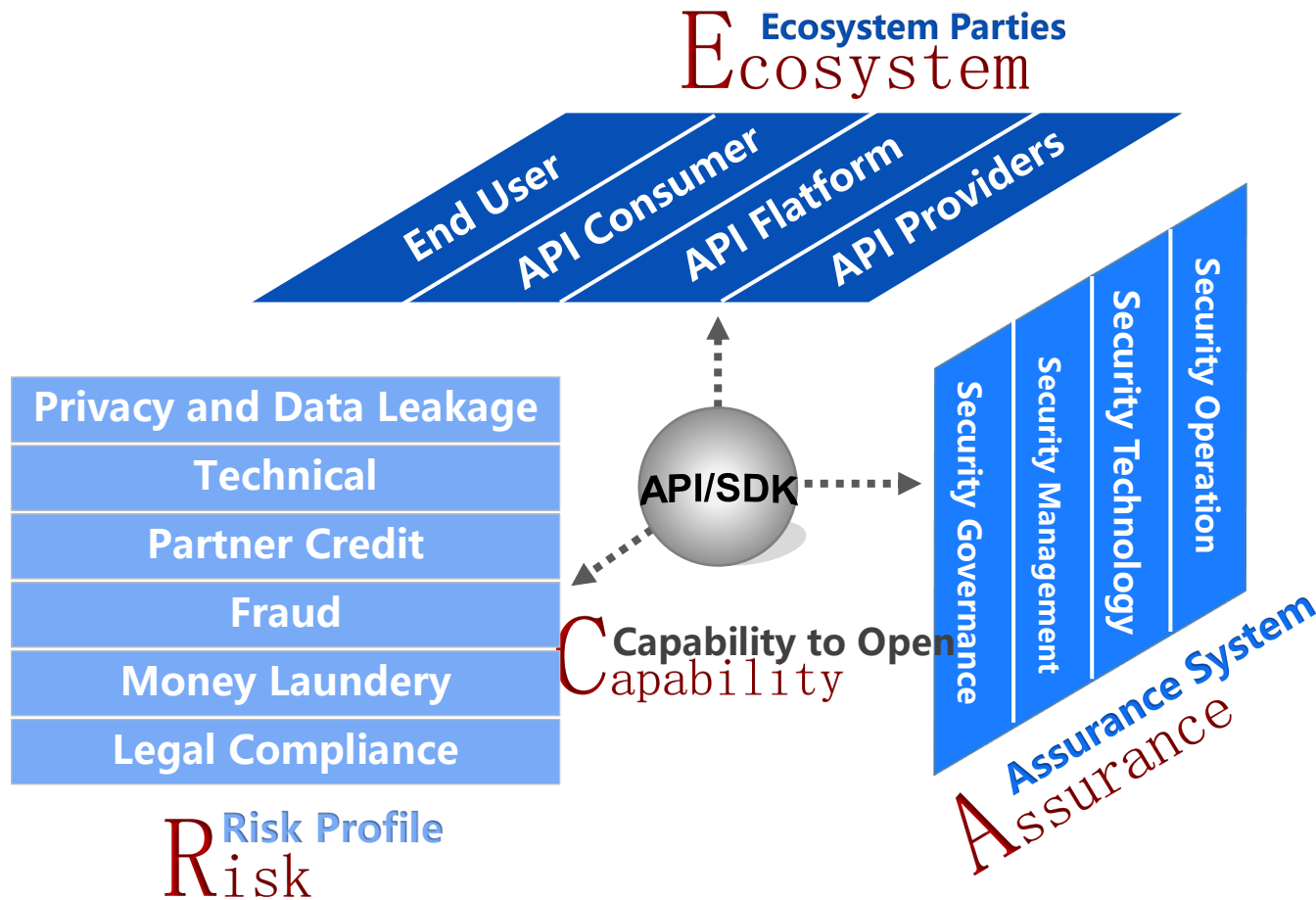Ecosystem: Not belongs to banking and finance serving ecosystem → Eyes on ecosystem, such as Transport, Real Estate, Food, E-commerce, Logistic etc.

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CARE Security Model

By deconstructing the security elements in scenario and taking the open capability as the core, construct the security framework from three dimensions of risk profile, ecosystem parties and assurance system.

Ecosystem Parties
Ecosystem

End User | API Consumer | API Flatform | API Providers

Privacy and Data Leakage
Technical
Partner Credit
Fraud
Money Laundery
Legal Compliance

Risk Profile
Risk

API/SDK

Security Governance | Security Management | Security Technology | Security Operation

Capability to Open
Capability

Assurance System
Assurance

C **Capability to Open(Capability)**
Capability is the core element of the CARE model. The APIs/SDKs and other application interfaces have business values involve information and capital flow, and it is the subject to link risk, assurance and ecossytem participants.

A **Assurance System (Assurance)**
From the perspective of assurance measures, banks should have the security capabilities such as security governance, security management, security technology and security operations.

R **Risk Profile (Risk)**
Define the risk types and levels of dynamic changes in ecosystem of panoramic banking.

E **Ecosystem Party(Ecosystem)**
End user, API consumer (partner), API platform, and API provider each bears the corresponding security responsibility according to the principle of equal rights, and participate in the construction of security defense frontier.

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User Journey Security Design Method
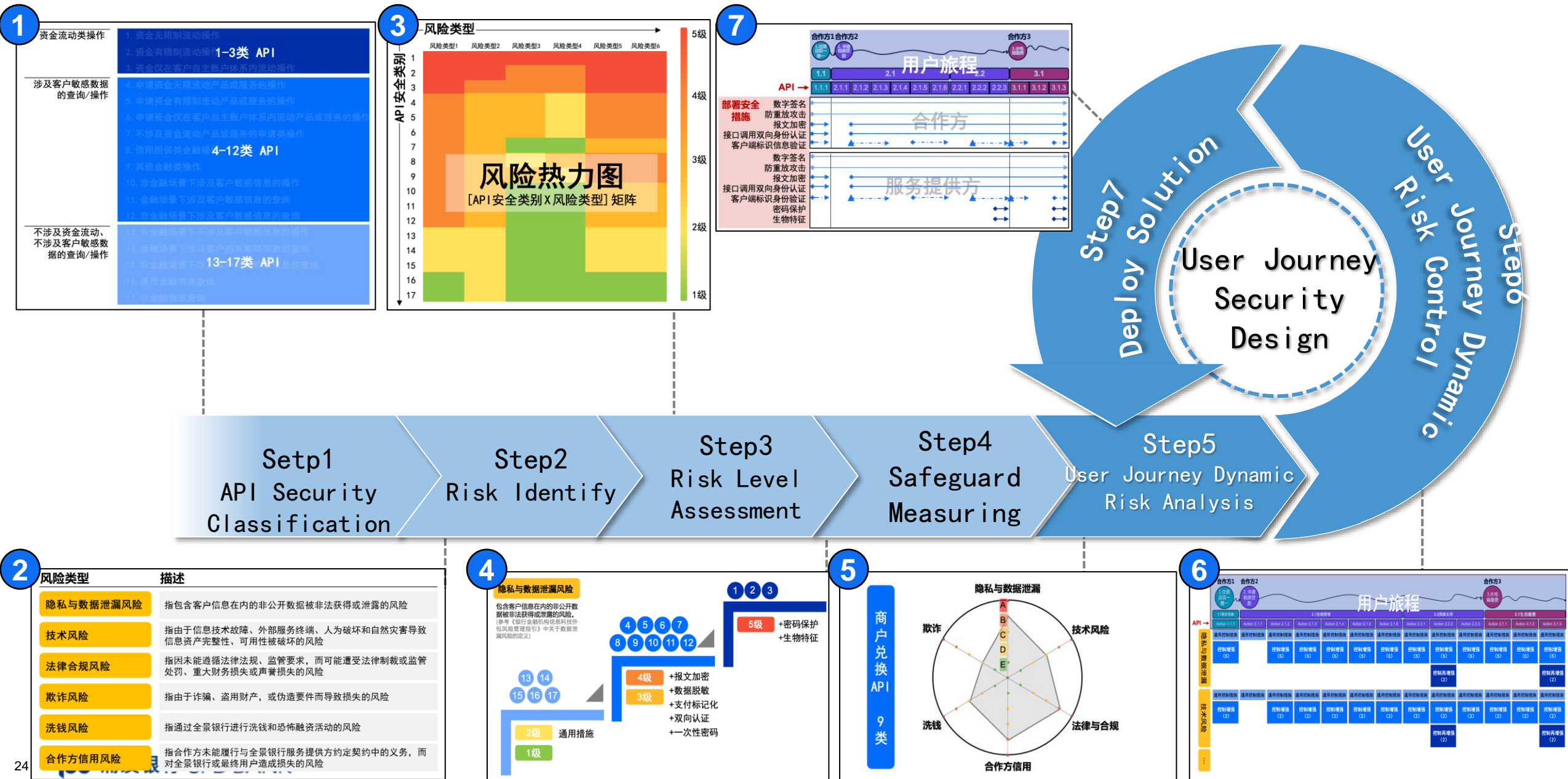
Panoramic Banking Creates Extreme Experience
Open Finance Completes a Better Life

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