Why Banks Need to Revisit Payments

The Time to Act is Now

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Rank (1 to 5) the below South East Asian countries where consumers are keen to go cashless (e-payments) for 3 consecutive days

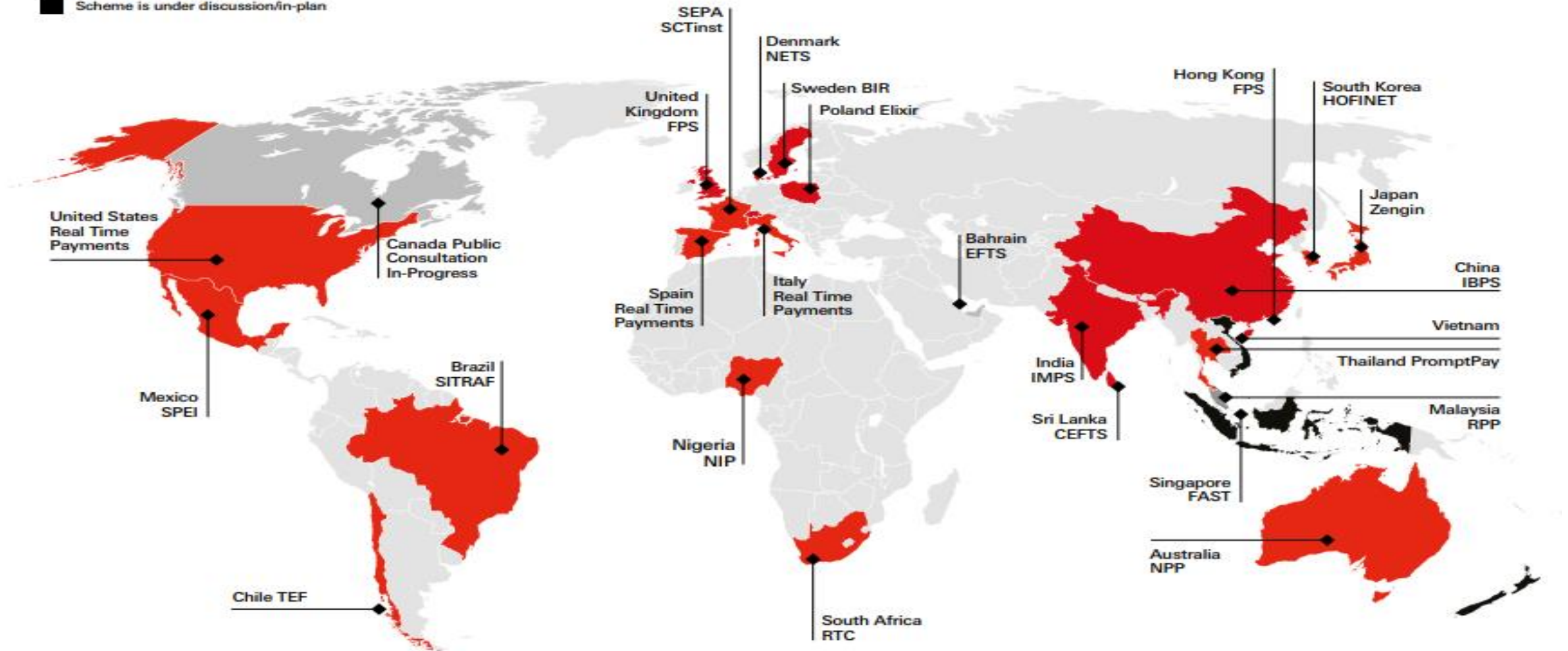| Country		Rank
Singapore	?	5
Malaysia	?	4
Philippines	?	2
Indonesia	?	3
Vietnam	?	1

Visa Consumer Payment Attitudes Survey 2017

Key Data Points for Consideration in Vietnam Payments Context

- Vietnam Inter-bank e-payment turnover hits **$3.2 trillion in 2018 - 13 Times Country's GDP**

- Ratio of cash to total payment instruments to **less than 10 per cent by the end of 2020** – Prime Minister Directive

- **By 2020**, **70%** of Utility service providers must accept non-cash payments of charges, while **50 per cent of individuals** and households in major cities will use cashless payment instruments for their shopping and consumption activities

- At least **70% people in 15+ years age bracket** will hold a bank account by **2020**

- Prime Minister has directed the banking sector to take the lead in the **Fourth Industrial Revolution** by embracing **e-payment in 2019**, a move that would boost the whole economy.

- Potential Gains of Going Cashless

Upside	Hanoi	HCMC
Direct Economic Gains	600 M $	2.3 B $
Increase in Employment	3.5%	3%
Productivity & Wages	0.2%	0.2%
GDP Increase (% BPS)	36.4	33.1

Real-time payment (RTP) schemes are being launched and adopted across 51 countries

Legend:
- Scheme is live
- Scheme under implementation
- Scheme is under discussion/in-plan

Map labels:
- United States Real Time Payments
- Canada Public Consultation In-Progress
- Mexico SPEI
- Brazil SITRAF
- Chile TEF
- United Kingdom FPS
- SEPA SCTinst
- Denmark NETS
- Sweden BIR
- Poland Elixir
- Spain Real Time Payments
- Italy Real Time Payments
- Nigeria NIP
- South Africa RTC
- Bahrain EFTS
- India IMPS
- Sri Lanka CEFTS
- Hong Kong FPS
- South Korea HOFINET
- Japan Zengin
- China IBPS
- Vietnam
- Thailand PromptPay
- Malaysia RPP
- Singapore FAST
- Australia NPP

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Forces Shaping the Payments Industry are Compelling Banks to Review their Payments Businesses Globally

**Real-time payment (RTP)** schemes are being launched and adopted across 51 countries

E-payments and M-payments are forecast to grow at a CAGR of 17.6% and 21.8% from 2015–2019E respectively

Machine learning and robotic process automation are increasingly being adopted by banks for automating cyberattack prevention and improving overall process efficiencies

Payments is the #1 Business Area witnessing **ISO 20022** adoption followed by Securities and Trade Services

Open API adoption will transform the banking payments space. More transactions are expected to flow through fintechs than banks by 2020

Fintechs have built sustainable alternative cross-border payments and settlement infrastructure using **distributed ledger technology.** Mainstream adoption expected to grow further
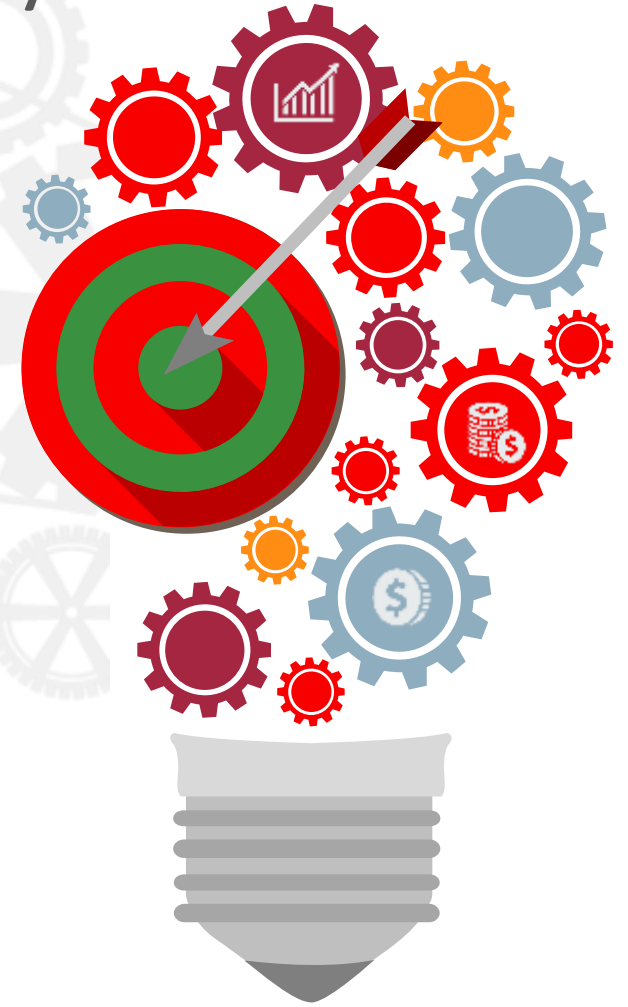
No Bank is Insulated From These Industry Drivers

| Drivers		Late Movers' Disadvantage
Real-time payments	The world added 15 new RTP mandates in the last year	**Inability to service instant access to funds or real-time visibility into cash flows is a threat to customer retention**
ISO 20022	Disaggregated data and standards leading to harmonization initiatives in over 70 countries	**Failure to adopt ISO20022 means patchwork integration with lack of visibility, low interoperability and reduced relevance in payments value chain**
Open Banking	Open Banking momentum is making banks explore leveraging APIs to securely share customer data and innovate with fintechs	**Limited technical ability to collaborate with fintechs and third party apps restricts entry into a lucrative global market worth GBP 7.2bn**
Market Infrastructure Modernization	Modernization of domestic payments infrastructure being undertaken by over 15 countries to address silos in payments settlement	**Internal silos and inability to scale to infrastructure modernization leading to value chain bottlenecks and spiraling costs of meeting processing demands**
Digital Uprising	Consistent, high-quality user experience across channels is being sought by banks	**Disaggregated experiences and no differentiation in offerings leads to becoming irrelevant to the new age digital customer**
Payments Data	Banks are seeking ways to unlock new revenue streams through monetization of customer data and deriving insights	**Inability to derive extra revenue out of data monetization**

Payments Processing Within Core Systems is not the Sweet Spot to Address this Rapidly Evolving Space
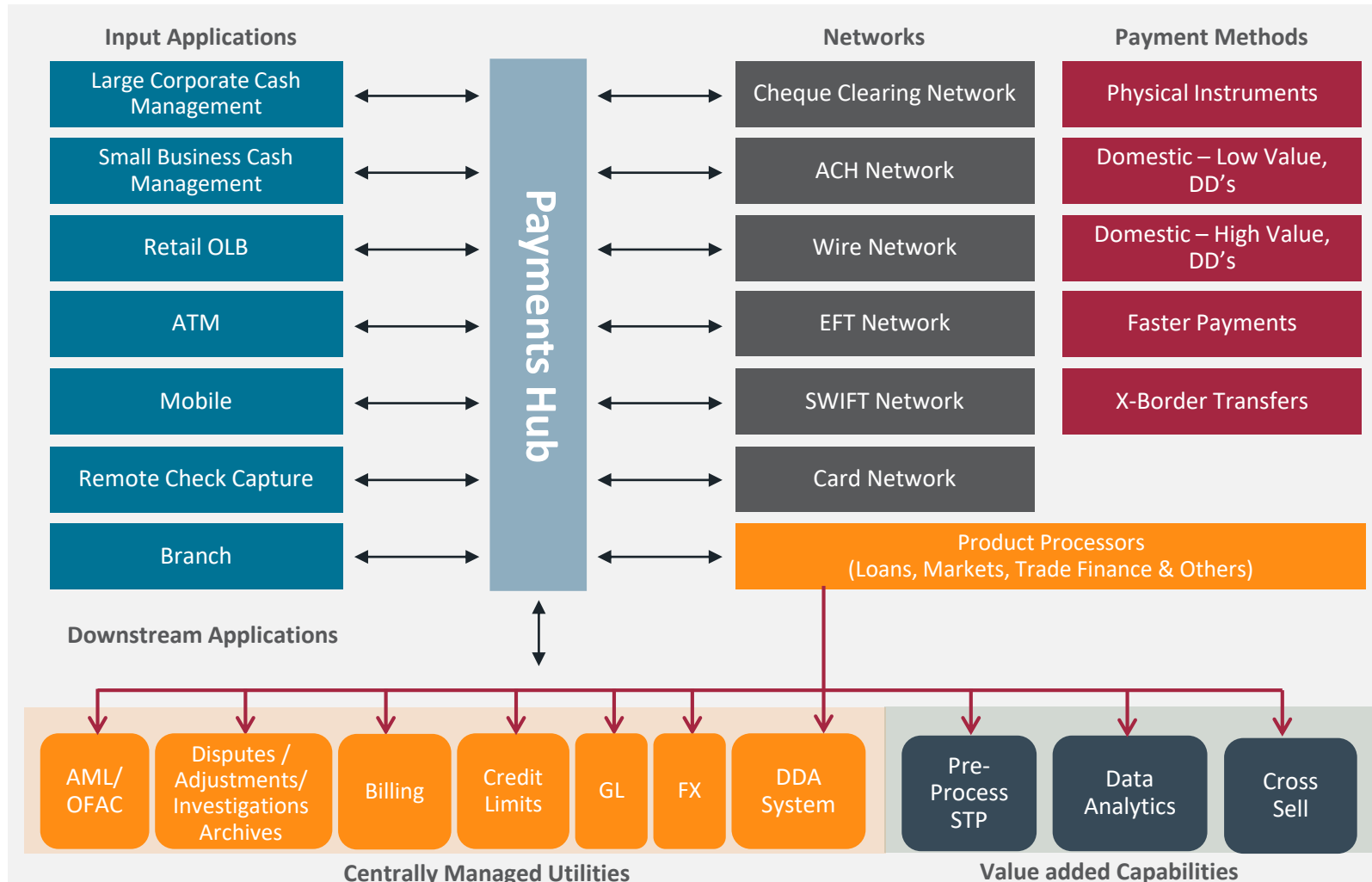
Core Banking Led Payments Processing
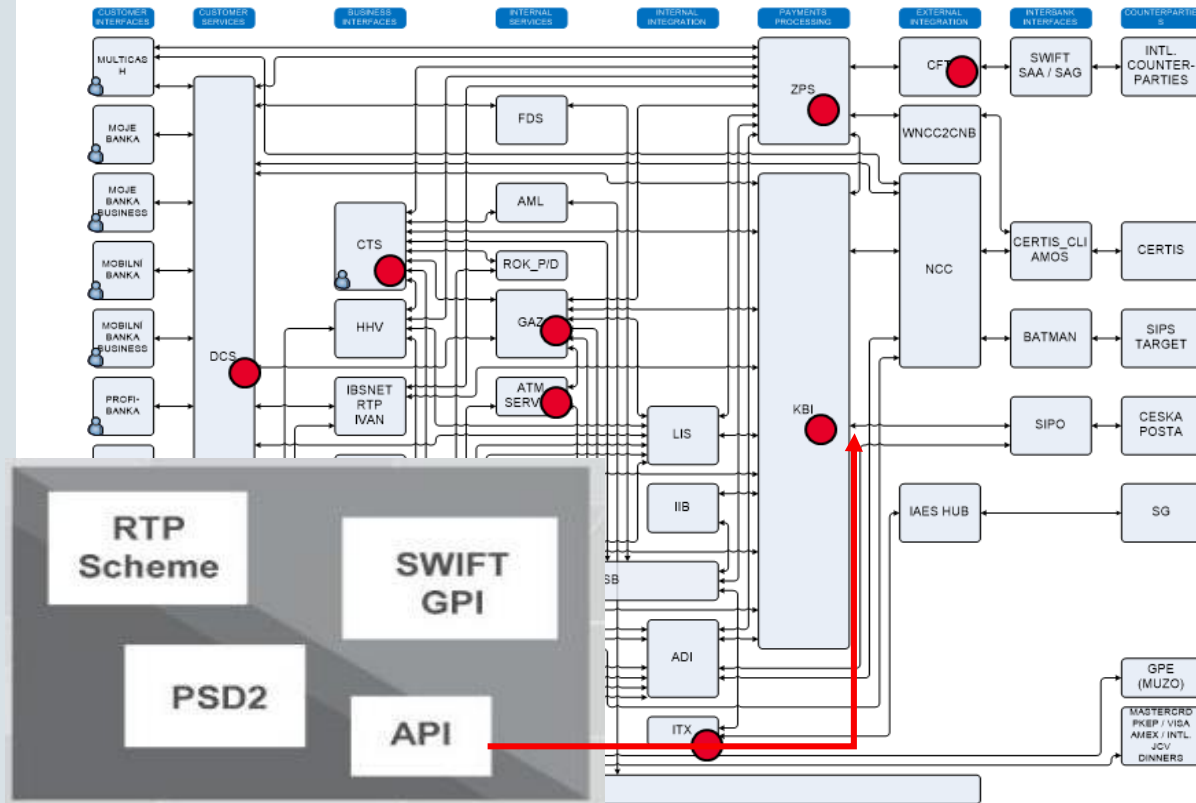
Core System with patchwork of enhancements

What's Sub-Optimal?

01	**Siloed processes that aim to cater to multiple customer and merchant payment types**
02	**Tedious change management with need to ensure point-to-point integrations across disparate systems every time**
03	**Increased cost and product go-to-market time**
04	**Reduced visibility because of existence of transaction legs in multiple systems**
05	**Cumbersome reporting and insights due to heavy data collation effort across multiple systems**

The Ideal Solution is to Centralize Processing on a Unified Payments Hub

Input Applications

- Large Corporate Cash Management
- Small Business Cash Management
- Retail OLB
- ATM
- Mobile
- Remote Check Capture
- Branch

Payments Hub

Networks

- Cheque Clearing Network
- ACH Network
- Wire Network
- EFT Network
- SWIFT Network
- Card Network

Product Processors
(Loans, Markets, Trade Finance & Others)

Payment Methods

- Physical Instruments
- Domestic – Low Value, DD's
- Domestic – High Value, DD's
- Faster Payments
- X-Border Transfers

Downstream Applications

- AML/ OFAC
- Disputes / Adjustments/ Investigations Archives
- Billing
- Credit Limits
- GL
- FX
- DDA System
- Pre-Process STP
- Data Analytics
- Cross Sell

Centrally Managed Utilities

Value added Capabilities

Shield the Core From..

- **Continuous feature upgrades to meet market needs**
- **Managing unprecedented volumes that come with the digital uprising**
- **Data security consideration required from an ultra-modern architecture**

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A Modern Payments Hub Can Catapult the Bank to the Next Level Of..

Efficiency

- Enable complete transaction visibility in the value chain with built–in dashboards
- Bring greater degree of automation
- Provide easier repairs

Innovation

- Enable Open API connectivity
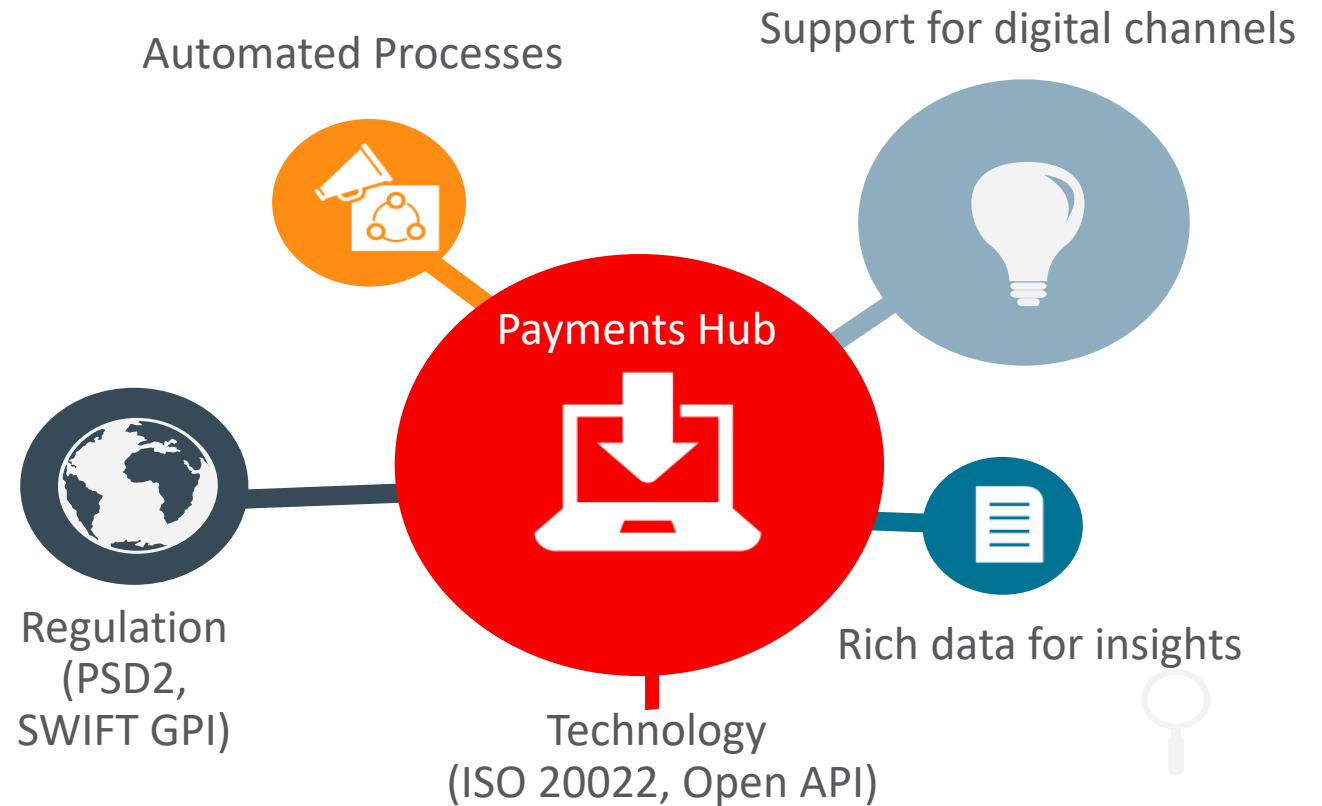- Seamlessly plug into industry DLT ecosystems

Monetization Capability

- Effective leverage existing payments infrastructure data
- Integrate with industry-leading pricing and billing engines

Cost Reduction

- Build an enterprise-wide payments cost share
- Drive down costs with a modular 'use as you go' architecture

Agility

- Effectively manage application change management for new regulation & integrations with internal and external applications

Automated Processes

Support for digital channels

Payments Hub

Regulation (PSD2, SWIFT GPI)

Technology (ISO 20022, Open API)

Rich data for insights

Oracle Banking Payments

Built for the Future

Towards Intelligent & Intuitive Banking – pre-integrated with FLEXCUBE suite of offerings

Designed for Co-Innovation with APIs , Distributed Ledger Technology Adapters and Open Banking

Agile & Progressive – Built on the latest technology stack and flexible architecture.

The Solution is Tailored to Meet Multi-Dimensional Requirements of Banks

Offers a harmonized infrastructure on an ISO 20022 framework

Improved operational control through queues and configuration rules

Real-time Payments Ready with support for 24/7 schemes

Enabled for open banking with stack of JSON and REST APIs

Tailored for Industry Initiatives with blockchain adapters

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Comprehensive Processing Framework: Modular Yet Unified

- **Single Unified Platform** to **Process All Payment Types**

- **De-Coupled Messaging and Processing Layer** to **Simplify Change Management**

- **Flexible Architecture** that lets you '**Enable as You Go**'

Input Layer

Processing Layer

Output Layer

Connectivity

Messaging
Uniform & mixed bulk payloads, single payloads

Channels
User Input | Net bank
C2B File Upload | App integration

Cross-Border | Domestic Low-Value | Domestic High-Value | Real-time (Faster/Instant)

Direct Debits | Direct Credits/Deposits | Clearing & Instruments | Book Transfers

Dedicated Processing Flows

Dashboards | Operations Queues | Pricing | Beneficiary Register

Shared sub-systems

Messaging | Connectivity

Integration APIs / Services

Bank's application environment: Channels, DDA, Accounting/GL, Static Data, Sanctions, FX, …

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Oracle Banking Payments Provides Banks with Unbeatable Advantages Over Payments Processing in Core

Processor for Multiple Payments

- Support for **multiple payment types** like cross border, domestic low value, domestic high value and book transfers
- **Distinct process flows** for each payment type based on industry best practices
- Built-in **new schemes–Real time payments**, SEPA rulebook, regional packs

Superior STP

- **Automatic** message enrichment
- **Configurable built-in rules** engine that helps intelligent processing to resolve payment types , networks
- **Intelligent processing** - automated payment chain building, account derivation

Better C2B Bulk Payments

- High performance **batching and un-batching of payment files** in ISO20022 format
- **Batch booking** for mixed payment files
- **Auto closure** of payments batch on specified time

Ops. Efficiency & Enhanced Usability

- **Context-aware Payments UI** with provision for mixed load initiation
- Specialized **queues for investigations**
- Complete **audit trail of transaction lifecycle** and operations
- **Dashboard** to view transactions in different queues with **drill down** options

Support for Industry Initiatives

- **Built-In SWIFT GPI** Services with complete support for gCCT rulebook
- Support for **PSD2**
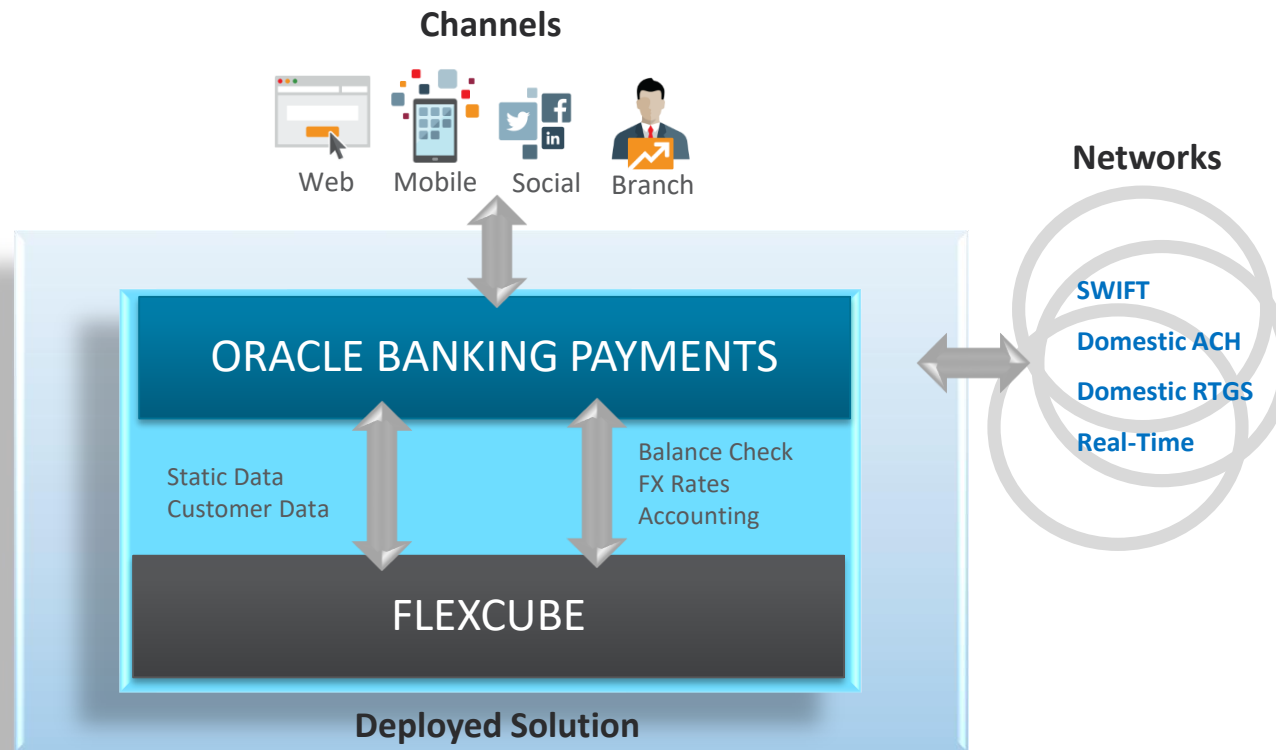- Availability of **blockchain adapters**

Flexible Architecture

- **Flexible Deployment options** that can support enterprise level payments hub strategy
- **Built-in work-flow** stages for sanctions checks, balance checks, FX rate feeds
- Powerful stack of **JSON and ReST APIs** available for 3rd party systems & channel integrations

Deployment Reference Architecture

Reference Architecture - 1
Co-Deployed with FLEXCUBE
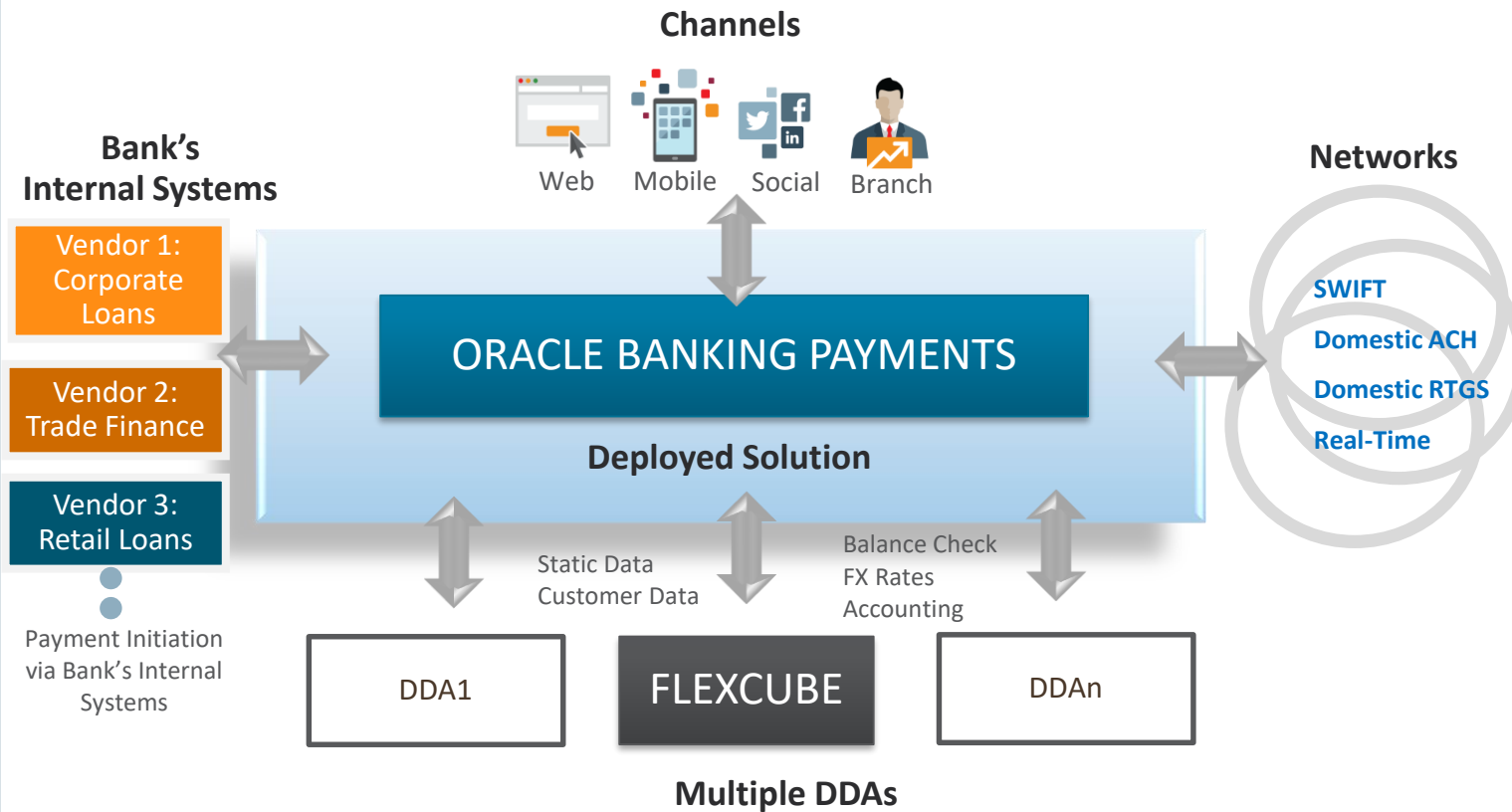
Channels

Web   Mobile   Social   Branch

Networks

SWIFT

Domestic ACH

Domestic RTGS

Real-Time

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Static Data
Customer Data

Balance Check
FX Rates
Accounting

FLEXCUBE

Deployed Solution

Approach

Oracle Banking Payments can be co-deployed with **FLEXCUBE** in a pre-integrated mode and requires integration only for external service calls such as sanctions checks , rates fetch and other such services required for payments processing.

Advantages

1. Saves integration cost and risk,

3. Accelerated time to implement

3. Seamless data flows

4. Cohesive deployment

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Reference Architecture - 2
Centralized Hub for Payments Innovation

Channels

Web Mobile Social Branch

Bank's Internal Systems

Vendor 1: Corporate Loans

Vendor 2: Trade Finance

Vendor 3: Retail Loans

Payment Initiation via Bank's Internal Systems

ORACLE BANKING PAYMENTS

Deployed Solution

Networks

SWIFT
Domestic ACH
Domestic RTGS
Real-Time

Static Data
Customer Data

Balance Check
FX Rates
Accounting

DDA1   FLEXCUBE   DDAn

Multiple DDAs

Approach

Oracle Banking Payments is in standalone mode and can integrate with FLEXCUBE or core banking system with the ability to service multiple DDAs at a time . Interacts through handoffs for static data load, accounting entries and amount block checks

Advantages

1. Designed for enterprise wide rollout
2. Servicing Multiple DDAs at a time
3. Modular Architecture allowing easy upgrades and changes
4. Shared cost centre for payments infrastructure
5. Enterprise wide visibility of payments and liquidity

Banks can Realize Significant Benefits with Oracle Banking Payments

Key Benefits

- Increased Efficiency
- Reduced IT costs
- Increased Capacity to Scale
- Increased Business Value
- Reduced Cost of Compliance
- Increased Growth
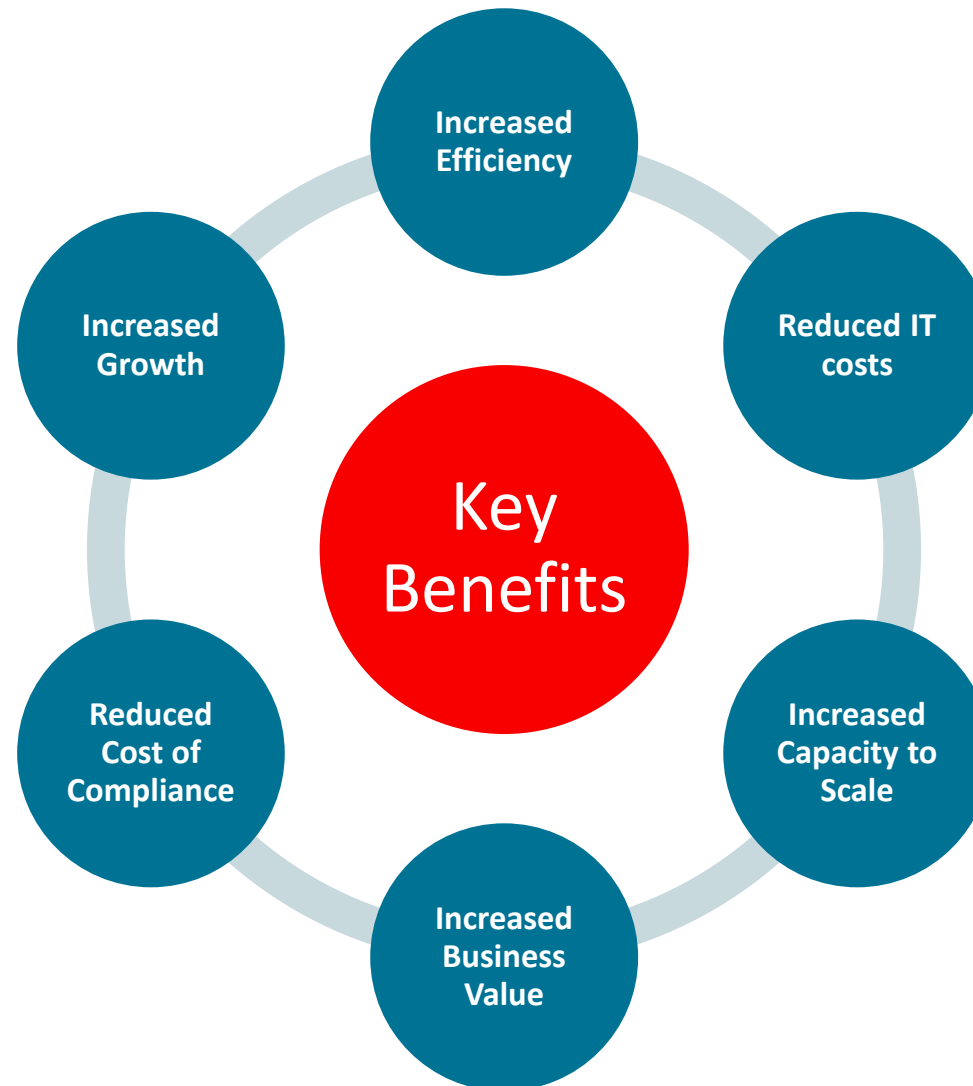
Integrated Cloud
Applications & Platform Services

Superior Straight-through Processing

Enrichment of Incoming Payment Instructions
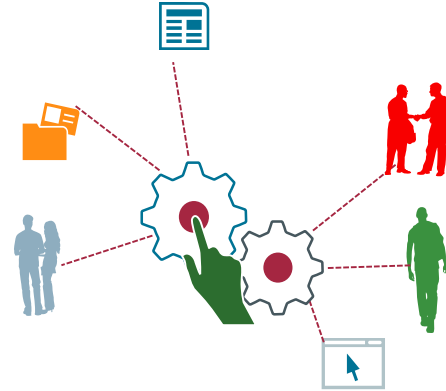
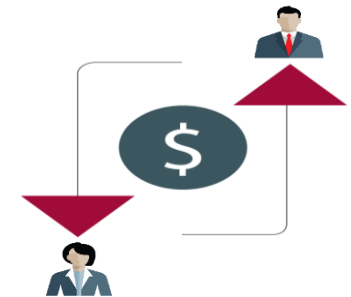**Parametrized Rule-based Network Resolution**

Intelligent Payment chain building (Translation of cross border to local and vice versa)

Automatic queue segregation

Automated processing based on external system responses (eg. Sanctions, FX systems)

Automated cover suppression

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Advanced Corporate Bulk File Management

Accepting Mixed Payment Loads

ISO20022
pain.001

- Book Transfer
- RTGS
- ACH
- X Border

- Parsing and De-Bulking of C2B Files
- Automated Payment Type Resolution
- Batch level de-duplication
- Batch or Itemized Processing depending on urgency
- Automated Confirmations via pain.002

Itemized Processing & Batch Processing

Differentiated for Customer Centricity

- Competitive Rates at Realtime
- Batch Cut offs/Wait for Auto Closure
- Options for Differential Pricing
- Debit and Charge Claim Preferences

Choice of Accounting Methods

Net Accounting

- Parametrized Batch Auto Consolidation of Debits
- Net Debit Accounting for only successful items

Gross Accounting

- Upfront batch amount block
- Itemized reversal of Rejects and consolidated posting

Better Degrees of Operational Control

- Manual Batch Regrouping
- Force Release and Closure
- Cancel and Carry Forward

- File and Batch Summary
- Batch Booking Queue
- Rollover , Sanction Seizure , FX Unwind

File and Batch Consolidation

Payment Warehousing

Effective Queue-based Exception Management

Authorization

Automatic movement of transactions to relevant queues based on status

Parking of transactions in business override queue for manual intervention

Comprehensive status of queue management framework

Mandatory authorization for Queue level manual interventions

Queues

Repair Queue	**Batch Booking Queue**	**Network Cutoff Queue**	**ECA Queue**
Business Override Queue	**Processing Cutoff Queue**	**Sanctions Queue**	**Credit Approval Queue**
Process Exception Queue	**AuthLimit Queue**	**Exchange Rate Queue**	**External Exchange Rate Queue**

Context Aware User Interfaces for Accelerated Data Entry

Dynamic Screen Layout based on Payment Type selected

Contextual Autocomplete and Cross Field Validations

Automated Data Enrichment and Action Button to 'Enrich'

Built-In 'Validate as you go' during Data Entry

Data Entry Accelerators such as Templates

Extensive List of Fields for Transaction Search Criteria

360 Degree Visibility through Centralized Monitoring

Dashboard to Track Pending Transactions and Audit Trails for Tracking

Transaction Count Display, by Payment Type and Drill Down

ACH	RTGS
Book	DD
Cross Border	Faster Pay

End-to-end tracking across payment status

- Track multiple payment types
- Track across various stages of transaction
  - Completed
  - Liquidated
  - Pending

Audit Trail

- Extensive Log of Activities across System and Users
- Modification Tracking
- Authorized ID Tracking

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Industry-Ready with SWIFT gpi

UUID Adherent UETR
(IETF's RFC 4122 v4)

Service Type Identifier

Automated Inbound Payment and Interim Confirmations

End to End support for gCCT , gSRP and gCOV

gpi Directory Upload

Extended Tracking
(Non GPI to GPI)

FIN and API based Tracker Interaction

All Status and Reason Codes Supported