

# *Payments Newsletter*

Payments Hub –  
Redefining Payments  
Infrastructure

January 2018



---

# *F* **Foreword**

Dear Readers,

In an environment of rapidly growing transactions, changing customer expectations and fast evolving technology; banks and financial institutions across the world are heading back to the drawing table to re-think their payment processing systems. The challenges associated with traditional siloed IT architecture coupled with a need for data integration, is leading these institutions to investigate a consolidated Payments Hub as a possible solution.

It is my pleasure to bring to you the latest edition of our Payments newsletter, where we take a closer look at what payments hub technology entails along with analysing the benefits it brings. We also throw light on key considerations that would help set the foundation for the successful implementation of such technology.

I hope you will find this to be a good and insightful read.

For details or feedback, please write to

[vivek.belgavi@in.pwc.com](mailto:vivek.belgavi@in.pwc.com) or [mihir.gandhi@in.pwc.com](mailto:mihir.gandhi@in.pwc.com)



***Vivek Belgavi***

*Partner*

*Financial Services Technology  
Consulting Leader, PwC*



---

# *I* *In this issue*

**Foreword**

**Introduction**

**Addressing a need**

**Technology**

**Conclusion**

**Case Studies**

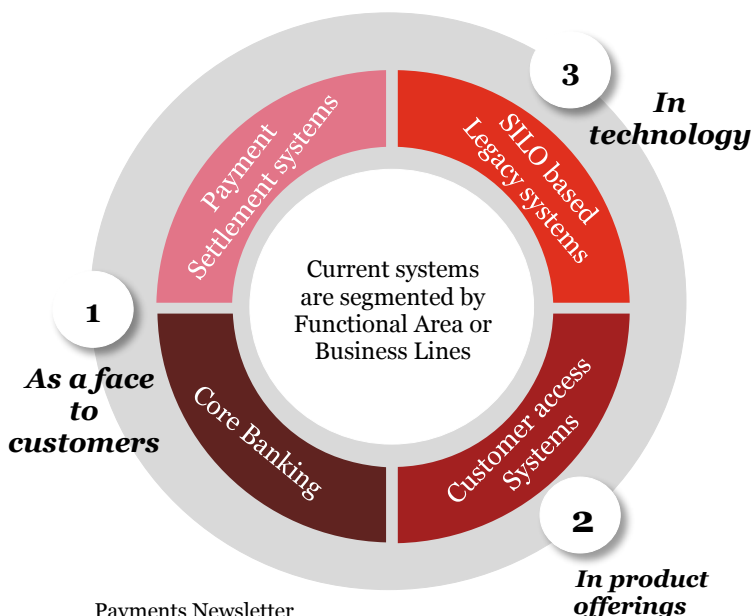
# I Introduction

The payments industry has grown increasingly complex and fragmented over the last decade or so, with wide scale adoption of various payment innovation initiatives. Financial institutions across the board are feeling the pressures of rising payment volumes and tougher customer demands, a challenge made even greater with outdated legacy systems that work in isolation from each other.

Currently, core payment systems are designed according to functional area or line of business requirements. Projects are being developed in separate parts of the organization with each technology managed by different back-office systems – a segmented ‘Silo Approach’ to transaction management. This approach has led to the creation of architecture that is inflexible, increasingly expensive to maintain and difficult to integrate with proliferating banking channels. This inefficiency has led many to debate the viability of the current technology ecosystem and its feasibility to support future business growth.

None can deny the ever pressing need for banks to replace and consolidate the multiple payment engines and systems they operate.

***There is a need for uniformity among payment channels and modes***



While the initiatives undertaken to achieve this have been dubbed by various names, the solution, more often than not has been called a Payments Hub. The term is more of a concept centered on the consolidation of disparate

***A payment service hub helps in achieving a fully unified banking platform***

payments systems, rather than a concretely defined product.

One of the more commonly agreed upon definitions of a payments hub is - a centralized system that actively supports payment transactions across channels and businesses creating a fully unified banking platform.

It enables banks to move away from the silo approach in a controlled manner to significantly reduce time-to-market, migration risk and maintenance costs whilst establishing a base architecture platform that maximizes agility and efficiency.

With a payments hub, the bank has the ability to manage on a single platform...

***Any instrument type*** (Cards, DD, transfers)

***Any scheme/standard*** (SWIFT, ISO, SEPA, Visa, MasterCard)

***Any channel*** (ATM, Branch, Online)

***Any customer type*** (Corporate, Retail)

***Any transaction type***  
(outgoing/incoming payments, RTGS, refund, rejection)

...along with the ability to deliver core payments functionality.

# A Addressing a need

While the concept of Payments Hub is not a new one and has been around for quite some time, there has never been as compelling a need for the solution as there is today. Banks are revamping their payments infrastructure and investing heavily in upgrading their legacy systems as the cost of not doing so, both monetary and non-financial, is critically high.

## **Key challenges faced by banks...**

- Fragmented payment processes and lack of flexibility to deal with rapidly changing payments landscape
- Frequent outages leading to slow performance and bottlenecks due to soaring transaction volumes
- Lack of bank-wide visibility across various payment processes
- Increasing operational and IT costs in managing the legacy systems

## **...and the relief a Payments Hub brings**

- 1 Reduced operational inefficiencies:**

The underlying principle of a payments hub being Service Oriented Architecture (SOA), multiple payment applications can use the common set of services deployed by banks, as opposed to traditional architecture wherein a dedicated functionality is needed for each application. This reduces cycle-time and manual processing efforts of banking personnel by enabling STP (Straight-Through-Processing). Along with improving the operational productivity and efficiency, it also cuts down the operational and technology costs involved in developing & maintaining duplicate applications.

- 2 Improved client servicing capabilities:**

A payments hub acts as a repository of comprehensive data on products opted for by clients. This data can better position a bank to provide customized payment offerings to its clients, along with various value added services and targeted cross selling opportunities. Additionally, banks can offer a single interface irrespective of payment type, value or underlying clearing infrastructure, leading to better satisfaction, especially for corporate clients presently struggling with issues like different file formats, multiple integration points or lack of a consolidated view.

- 3 Enhanced fraud and risk management capabilities:**

Having comprehensive information about client payment activities can help banks spot potential fraudulent transactions more effectively. Data from various front end systems can be aggregated by the hub and fed into the back end processes for better management of risk and compliance activities.

- 4 Strengthened reporting and decision making capabilities:**

The enhanced dash boarding capabilities that accompany most payments hubs can provide senior management with a bird's eye view of past and current payment related trends in a consolidated manner. This allows banks to make various decisions pertaining to day-to-day activities as well as mission critical projects, in an informed and efficient manner.

- 5 Additional competitive advantage:**

Enhanced flexibility shortens the time to market for new products and enable banks to gain competitive advantage in the rapidly evolving Indian payments landscape, by enabling banks to reach customers with new and improved services in shorter span of time.

---

# T Technology

A typical financial institution (FI) has presence across multiple business segments including retail, commercial, SME, corporate, financial inclusion, agriculture banking, etc., which are all supported by dedicated technology teams and centers of excellence (CoE). Over time, the technology architecture comprises multiple applications to support the entire transaction lifecycle of the corresponding business function. With ever increasing transaction volumes across payment channels such as NEFT, RTGS, as well as new age payment instruments such as UPI and Bharat QR over multiple channels such as internet banking, mobile apps, business correspondent (BC) portal; financial institutions have witnessed their transaction processing architecture become complex and fragmented.

Let's consider a financial institution with three principal lines of business: *Retail, corporate and mass banking*. The typical payment transaction processing architecture for such an institution is depicted below in *figure 1*.

It is evident from the architecture that, as businesses grow, their corresponding technology teams enhance transaction processing capabilities by adding new applications or enhancing the existing ones. As a result, applications supporting a particular business tend to operate in isolation with only minimum interaction with other systems.

This would make the simple task of adding a new channel a cumbersome and time-consuming one, due to fragmented workflows. There is hence a need to design an integrated solution to have a standardized platform for processing of all payment transactions.

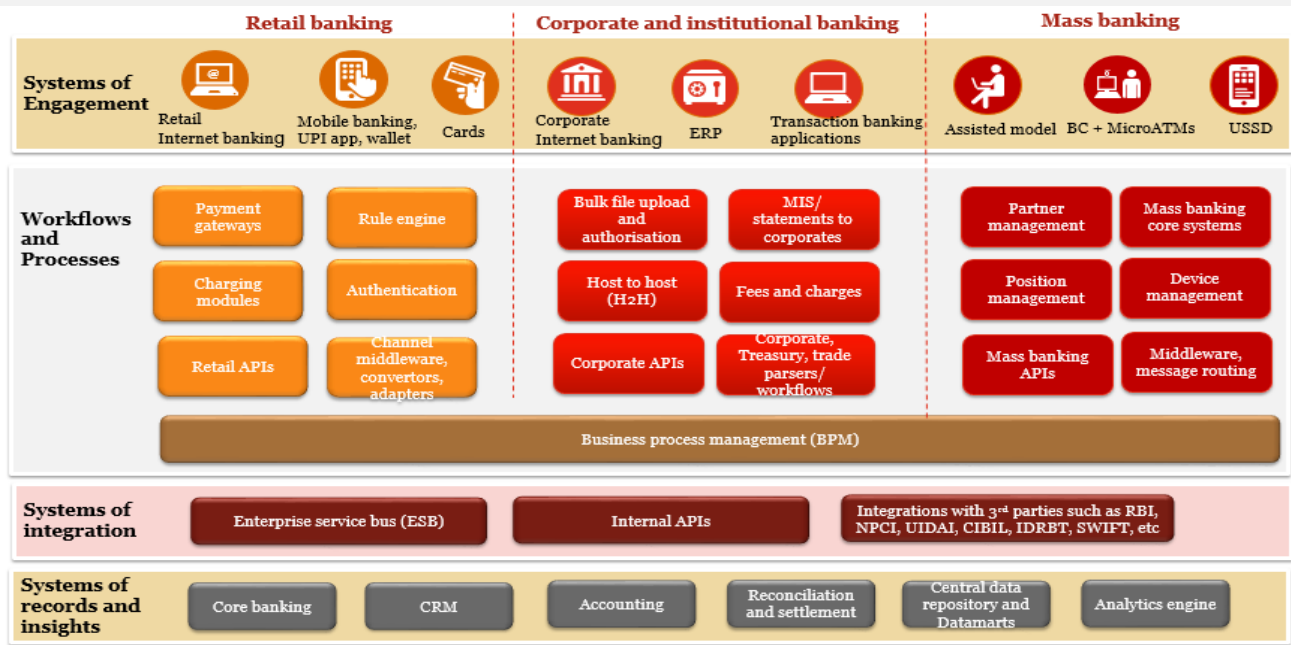
## **The approach**

Financial institutions, evaluating the possibility of payments hub may aim to integrate various non-customer facing applications and develop a unified payment processing platform similar to the one depicted below in *figure 2*.

Through this, multiple modules and applications performing similar functions across business segments would be replaced by channel and business segment agnostic modules. This will help businesses remove duplication and redundancy in transaction processing, security management while benefiting from synergies achieved through standardised processing. In addition, a payments hub may offer specialised functions such as virtual account management and future dated payments to help financial institutions to offer customised services to its users. In such a scenario, a critical component that would contribute to the success of a payments hub would be the ability to easily integrate additional payments channels and the ability to customise them to suit the requirements of the users, simply through front end configurations.

Most of the payments hub service providers offer a modular platform, with loosely coupled functions. Depending upon the current 'as-is' architecture and underlying needs, a financial institution may evaluate the modules of a payments hub to be incorporated to seamlessly support current and future payment transactions.

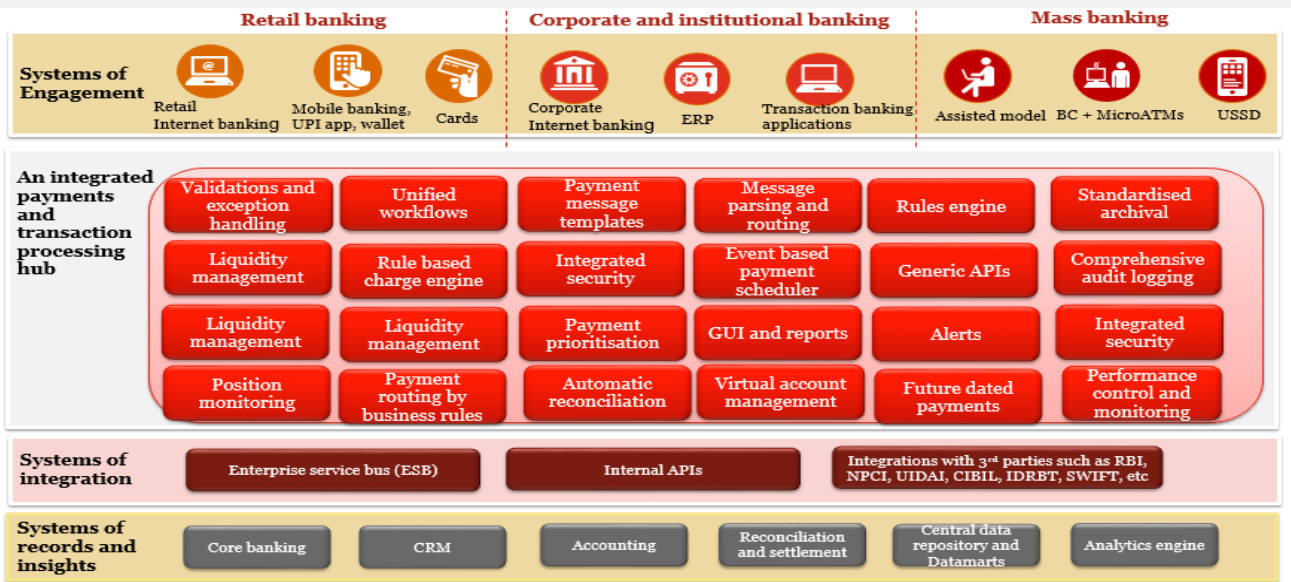
**Figure 1: Architecture before payments hub implementation**



*A typical payment processing architecture, leading to business wide fragmentation over time*



**Figure 2: Architecture after payments hub implementation**



*A consolidated payments hub architecture, integrating multiple business applications*

One of the greatest barriers to enterprise payments strategies has been a perceived lack of quantifiable gains that can be achieved through implementation. This is in addition to many business risks and implementation challenges that arise from the complexity of the task at hand. The more complex the degree of integration, the higher the risks and costs associated with it.

Even so, inaction on the part of banks will all but guarantee a competitive disadvantage where operating, maintenance, and development costs will exceed those of their more proactive competitors. Therefore, developing a proper understanding of the challenges involved and creating workarounds or a mitigation plan is critical to ensure successful implementation of a payments hub. There is no single best option and while choosing an implementation approach, banks should consider the benefits they hope to achieve through implementation while being mindful of their starting position.

# Conclusion

While cost reduction and efficiency gains are common goals to almost any technology upgrade, income growth is a major differentiator that few technologies can impart. Payment hubs represent one such technology. As banks invest in payments to create competitive advantage, the pursuit of an enterprise approach will enable them to deliver payment services in a consistent, scalable, and cost-effective way. Done well, a payments hub can help banks move towards their individual growth objectives by providing true business agility while making payment services more customer centric.

Clearly then, a congregated payments hub is the end goal of payment systems across the bank. However, there are two common misconceptions surrounding payment hubs.

## *Every bank needs one*

Typically, only banks that have a mix of infrastructure complexity, broad geographic reach, and high payment volumes pursue a payments hub strategy. In addition to seeking greater control and flexibility, these banks are looking to improve their ability to respond to changing market conditions, and a payments hub can help with these predicaments.

## *All payment hubs are the same*

The implementation of a payments hub is a long term strategic project involving various business units and processes, the disruption of which would impact the entire organisation at large. Given so, there is no 'one-size-fits-all' solution that would cater to needs of banks across the board. Organizations considering a payments hub need to keep in mind their long-term goals and tread down this path in the way

that best balances their immediate and long-term priorities alongside their unique needs, legacy systems and budgets. Payment hubs are more of an evolutionary concept rather than revolutionary. As such banks should identify specific pain points that have relevance to the rest of their payments business, whether in a specific line of business or in a function that spans across various lines of business. Once the pain point has been identified, the bank must define the boundaries and goals for the project, monitoring progress over time and making necessary adjustments along the way. This step-by-step process will provide valuable information that can be rolled into the delivery of subsequent phases, shortening the project length and payback period of each successive installation.

## *4 steps towards the successful implementation of a payments hub*

- 1** Banks need to consider their long-term needs and goals in choosing the approach that is best for them
- 2** A readymade solution may not be the right approach, rather a customized one based on its specific needs and goals should be explored
- 3** Banks should not adopt the "big bang" approach, but instead, use an incremental path to implementing a payments hub and migrate in stages, building scalability and extensibility
- 4** Banks should develop a retirement plan for legacy payments applications, to ensure smooth transition from old to new architecture



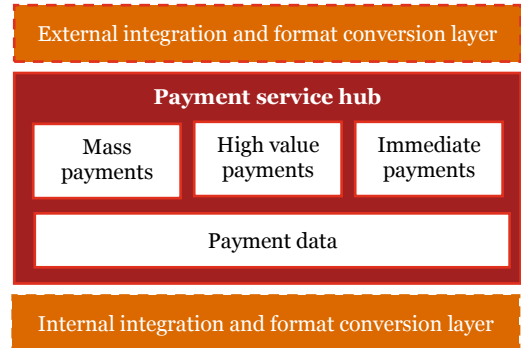


# Case Study

1

## Global case study:

A leading commercial bank in China whose operations span across various countries, undertook an extensive initiative to unify all global payments and clearing systems and integrate various systems and processes bank wide. Like most banks, its growing size resulted in operational complexities and to overcome these challenges, the bank initiated a search to find a competent vendor to implement a payments hub. Given the banks demands, product functionalities and required supplier capabilities, vendor evaluation and finalization took up to a year. Once finalized, project implementation, lasting for about 4 years, was carried out in phases with each phase concentrating on certain geographies. The solution broadly consisted of two elements: the payments hub solution and the payment integration platform with the former consisting of an extensive set of payment services built on ISO compliant 20022 SOA principle and the latter facilitating the format conversion and integration between internal and external systems using a payments hub.



Apart from the obvious benefits of improved operational efficiencies, reduced costs and shared global payments information, this initiative led to various additional business benefits. The system could automatically repair message formats and content, hence improving the Straight-Through-Processing (STP) function for the bank. For a few of the overseas branches, STP exceeded 97% leading to a notable improvement in customer experience. Additionally, the centralized management of data led to more efficient go-to-market timelines. Before implementation, payment projects were implemented on a country-by-country basis with timelines ranging between 6 to 15 months depending upon project complexity. Post implementation these timelines reduced drastically.

Source: Celent research

2

## Indian scenario:

While the concept of an enterprise wide payments hub is still in its nascent stage in India, it is one that is gaining increasing popularity. A fore runner in this space is one of India's largest private sector banks, who implemented a payments hub targeted towards its corporate payments. With its help, the bank was able to empower its sales teams to design and deliver highly customised solutions across various segments including corporate, government, financial institutions and SMEs. It also enabled the bank to execute customer transactions much closer to cut-off timings leading to increased profits. Within a year, the platform successfully scaled to support payment transaction volume growth of more than 30%.

Over the last 2 – 3 years, similar initiatives from leading public sector banks have come up with their respective response-for-proposals (RFPs) for implementation of an enterprise payments hub or middleware solution for payments systems. While the RFP covers a comprehensive gamut of payments channels and instruments, in the first phase of implementation, these banks are focusing on the integration of crucial instruments such as NEFT, RTGS and IMPS, before heading on to others.

Various other Indian banks are also giving serious consideration towards the readiness of their core payments systems and the need for migration to an enterprise wide payment solution. Given the rapidly changing Indian payments landscape with exponential rise in transaction volume and new channels/ instruments being implemented at a rapid pace, banks are faced with multiple challenges including frequent CBS outages due to inefficiencies in payment processes and legacy infrastructure. With this background, an enterprise wide payments hub seems an idea which is likely to witness major traction in the coming years in India.

# *P* **Please contact**

*For more information, please contact:*

**Vivek Belgavi**

*Partner & Leader – Financial Services Technology*

Tel: +91 9820280199

Email: [vivek.belgavi@in.pwc.com](mailto:vivek.belgavi@in.pwc.com)

**Mihir Gandhi**

*Director & Leader – Payments Transformation*

Tel: +91 9930944573

Email: [mihir.gandhi@in.pwc.com](mailto:mihir.gandhi@in.pwc.com)

*(With inputs from Mihir Gandhi, Neha Jaeel, Shekhar Lele, Pallvi Goyal and Namrata Kacholia)*