

The Target State for Payments Infrastructure: Cheaper, Better, Faster, Stronger



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The Current State of Payments

Today's payments market is a rich mix of cash, checks, and electronic instruments used for transactions in the physical, electronic, and online worlds. Payments volumes continue to grow despite recent economic troubles, and new pathways into the payments world emerge daily as the system continues to evolve.

With these payments and pathways also come new demands for information – information almost as valuable as the payments themselves because it can provide insight into buying behaviors and customer relationships, expedite reconciliation within accounting systems, and prevent financial crimes. And with this demand for information comes the opportunity to launch revenue-generating value-added services that can help offset the effects of ongoing revenue pressures.

However, one element of the payments market has not evolved – the payments processing infrastructure itself. Siloed, aging, and overtaxed, the payments processing infrastructures of financial institutions and payments processors have expanded in scope and complexity to the point where leading global banks can have hundreds of disparate payment systems that they have built, installed, or obtained through acquisition. The challenge with these systems is that they were never meant to share resources or information, and were often poorly documented as they morphed to meet changing market needs over the course of many decades. Because of this, these systems are extraordinarily expensive to manage and maintain because of the amount of additional testing needed to ensure that fixing the system in one place won't break it somewhere else. This need for added testing has a negative effect on time to market, limits the bank's ability to take advantages of new market opportunities, and opens the door for a new class of competitors.

Despite this growing complexity, payments organizations have underinvested in payments infrastructure because payments processing was seen as a cost of doing business rather than as a reliable source of income. This underinvestment in payments infrastructure has been exacerbated by the global recession for two key reasons: banks have lacked the funds to upgrade their systems because they have been focused on more pressing issues (like remaining open), and, regulators are demanding greater and more detailed, information in efforts to ensure that the crisis does not repeat itself.

The Drivers of Change in Payments

Changes in the payments market are a combination of usage shifts, legislative activities, market interests, and compliance initiatives geared towards creating a healthier financial services ecosystem. Each of these elements places its own unique demands upon the infrastructure. Adding to this is the threat posed by alternative payments providers able to

disintermediate payments firms from their existing customers. Therefore, banks and payment processors must create strategies for dealing with each of these issues in an ever-changing marketplace in order to remain competitive long-term.

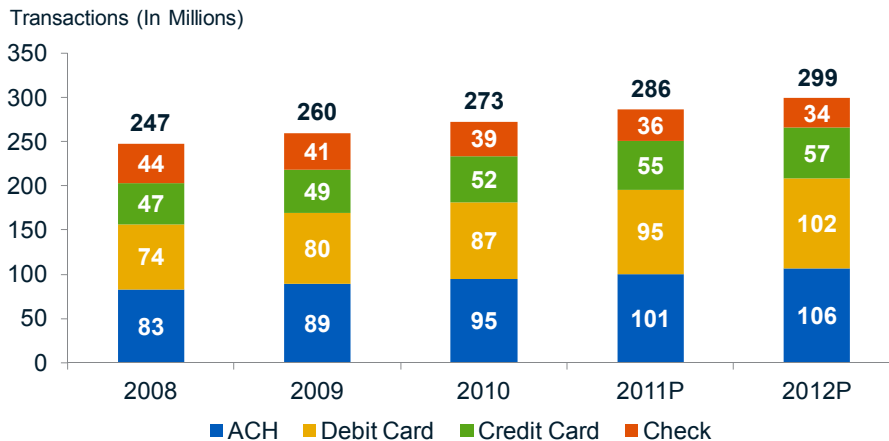
Growing Volumes and Payments Convergence

Global non-cash payment volumes are growing at a rate of approximately 5% per year and are becoming increasingly electronic as countries move to reduce or eliminate paper, and both consumers and businesses seek more efficient ways to make and receive payments. As such, TowerGroup estimates that non-cash payment volume will reach nearly 300 billion items by the end of 2012 as shown in Exhibit 1.

Exhibit 1



Global Non-Cash Payment Volume (2009 – 2012P)



Source: TowerGroup

The effect of this trend is a convergence within the payments market along two major axes:

- *Payment type*, in that payment volumes are shifting away from paper and towards electronic payment formats, and,
- *Payment size*, in that low- and high-value payments are increasingly using the same channels for clearing purposes

SEPA

The effect of this convergence is especially keen within the Single Euro Payments Area (SEPA) where the European Commission's Payment Services Directive (PSD) and proposed Migration Regulation have removed nearly all formal barriers to the migration of banks and corporates to euro-denominated credit transfers and direct debits. Banks, businesses, and public authorities have been investing heavily over the last few years to upgrade software, revise internal procedures, and migrate customers and suppliers from national payment schemes to

SEPA. Though the migration end date is in the process of being finalized; the likely date is Q1 2014 for both SEPA Credit Transfer (SCT) and SEPA Direct Debit (SDD), a full year earlier than expected. This places significant pressure on organizations that got a late start.

Increased Channel Growth and Complexity

With these changes in volume and regulation come a host of new channels, and with them, increased channel complexity. Years ago, the Internet changed the financial services market by allowing customers to access the bank around the clock from anywhere in the world. The recent rise of the smartphone and the tablet computer has expanded this access even further by making these channels accessible on the go, providing users the ability to access the bank multiple times from multiple devices every day.

The popularity of these devices crosses geographic and demographic boundaries, as they are being embraced globally by consumers and corporate users alike. Likewise, the use of these devices is as diverse as their appeal with users employing mobile devices for activities ranging from initiating domestic bill payments to releasing wires bound for overseas. The result: approximately 430 million smartphones and nearly 60 million tablets will be sold in 2011, creating almost one half billion new potential global payments infrastructure access points. This is akin to increasing the number of payments infrastructure access points by the population of North America – every year.

Move towards Real-Time Payments Processing and Information

The proliferation of portable devices is but one element of the overall shift towards real-time payment processing and transaction information. Initiatives like Same-Day ACH in the United States and Faster Payments in the United Kingdom already shorten settlement times from days to hours or even seconds; a vast improvement over the settlement times of the past where it could take days for even electronic payments to clear. For banks and corporations, the move towards real-time is a major benefit because it allows them to collect payments as quickly as possible in order to better manage their liquidity positions.

In addition to access to greater transaction speed, many participants seek richer payment information. For corporates, the receipt of key invoice information within a payment can greatly simplify their back-end accounting by automatically reconciling incoming payments against invoices as they are received. Greater use of these data-rich payment messages can greatly reduce manual investigation and reduce payment costs by taking advantage of more economical payment routes based on the payment due date.

An additional push for real-time payments and payment information comes from the payment cards market where customer loyalty schemes seek to reward customers and influence their buying behaviors. Though card payments authorization is nearly instantaneous, deeper knowledge of the cardholder's buying behavior beyond the most basic information (e.g., food, fuel, clothing) can be very difficult to obtain. This creates a dynamic where retailers and payments card companies often don't learn about a prospective purchase until the customer is completing the transaction at the point of sale (POS), creating an extremely limited opportunity to affect buying patterns.

One potential solution to this problem is carried by the very consumers these companies are trying to reach: the smartphone. Consumers often use their phones to scan product bar codes to compare prices online and obtain product reviews in order to obtain the best product for the lowest price, an approach that strikes fear into the hearts of retailers around the globe.

To combat this (as well as increase in-store sales), retailers, banks, payment card firms, and smartphone application developers are teaming up to create solutions that interact with the consumer while they are still shopping. Vendors also have a vested interest in this approach because it gives them the ability to offer their own coupons during the decision process to redirect a consumer's interest in a competing product into a sale of their own wares.

Yet in order for these solutions to work, the vendors need real-time access to payments information to identify the store the buyer is in and the products they are looking to buy so that the right offer can be delivered at the right time via the mobile device to the person making the purchase. With the demand for real-time access comes the requirement the infrastructure must deliver low-latency performance.

The Changing Face of Risk

Among the other changes to the payments world, the fallout from the recent global financial crisis and the industry's desire not to repeat it have resulted in new liquidity requirements under Basel III, the next generation of the Basel Accords on banking supervision. As outlined in TowerGroup research, the purpose of Basel III is to improve the systemic soundness of the financial system and prevent another scenario where banks are "too big to fail." One of the mechanisms for achieving this goal requires banks to verify that they can meet all cash outflows for as long as the next 30 days.

Although these measures are targeted more at the debt market than the payments business, the potential impact on the payments business is clear: banks and payment processors need to know whether they have sufficient funds to meet their payments obligations on a daily (or even shorter) basis to prevent market disruption. This is especially true in markets like the United Kingdom, where the central bank can force settlement to avert potential mishaps, or The Netherlands, where payments are settled every half hour. Likewise, the interconnectedness of the global payments system may place greater scrutiny on banks and payment processors, especially as the market moves toward real-time payments capabilities.

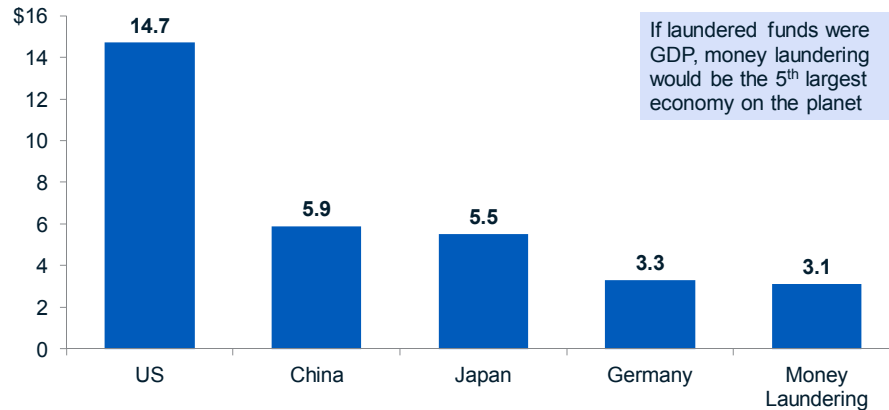
Other risks that banks have to address include fraud and anti-money laundering (AML), topics that have seen increased attention – and increasingly large fines for non-compliance – over the last ten years. The globalization of payments and the move towards real-time settlement only heightens the need for financial institutions to improve payments controls and safeguards to protect themselves and their clients from harm. One of the reasons for this is the scope of the problem: if laundered funds equaled gross domestic product (GDP), AML would be the fifth largest economy in the world as seen in Exhibit 2.

Exhibit 2



Sizing One Element of Risk in Payments

2010 Global Domestic Product (USD in Trillions)



Source: International Monetary Fund, TowerGroup

The Effect of Alternative Payment Methods on Customer Demand

Adding to the challenge are alternative payment providers that are competing with banks and payment processors for a share of the growing electronic payments market. Because they are relative newcomers to the payments market, they are not hindered by the legacy payments infrastructures many organizations are struggling with today.

These firms are able to react to market changes much more quickly than traditional payment providers, bringing new products to market in months instead of years. Additionally, these firms have demonstrated a superior understanding of the consumer, an understanding that banks are just now developing some ten years later. Chief among these is the realization that consumers want to make payments using readily available information like email addresses and mobile phone numbers instead of account and routing numbers. Alternative payment providers also understand that consumers want the ability to fund their payments from whatever source is most convenient for them, be it a transaction account, credit card, debit card, or even prepaid card.

What Banks Should Do for their Clients, and Themselves

In order to meet the current and future demands in the payments world, financial services institutions (FSIs) must move away from the rigid, isolated payment silos of the past to create flexible, enterprise-level payments capabilities to manage rather than merely respond to ever-growing volumes of non-cash payments. These capabilities must include the ability to process all payment types from batch low-value payments to time-critical high-care payments to real-time cards payments.

Today, the use of service-oriented architecture (SOA) means that business logic that resided in the payment silos can be made available as services to multiple applications as needed. This approach provides banks with much greater flexibility in constructing systems because key elements can be reused repeatedly – or be outsourced to third parties – enabling banks to modernize their payments systems step by step rather than having to undertake a wholesale systems replacement. Complementing an SOA architecture is a virtualization architecture that facilitates fast provisioning and provides the ability to adapt to increases in the number and complexity of transactions. Furthermore, using open standards such as ISO 20022, ISO 8583, and Java J2EE helps ensure that payments can be processed within a single system, rather than by hundreds of systems spread around the organization. The benefits of such an approach appear in Exhibit 3.

Exhibit 3



The Benefits of an Enterprise Approach to Payments (2011)

Benefits to the Bank	Benefits to the Customer
<ul style="list-style-type: none">▪ Reduced operating and maintenance costs▪ Ability to deliver key functions as discreet services▪ Greater visibility into liquidity and risk management needs▪ Greater system flexibility and resiliency▪ Heightened understanding of customer information needs▪ Reduced time to market for new products and services in a highly-competitive atmosphere	<ul style="list-style-type: none">▪ Improved customer service interactions▪ Tangible benefits for customer loyalty via relationship-based pricing▪ Access to products that are based on <u>current</u> customer needs▪ Ability to leverage to data-rich payment information for least-cost routing and automated bank-end reconciliation▪ Overall improved customer experience

Source: TowerGroup

Benefits to the Bank

An enterprise approach to payments provides a multitude of benefits to financial services institutions, including reduced operating and maintenance costs, by delivering key functions as services that can be leveraged by the entire payments infrastructure. For many institutions, this change represents a cultural shift in which interactions that used to dwell on mundane topics like development costs and resource allocation turn into spirited conversations about current and future platform capabilities.

This approach also greatly reduces system complexity while helping speed new products to market more quickly because the connections between system components are already known and understood, greatly reducing any testing that needs to take place. System resiliency also increases in an enterprise environment because outages can be more quickly

identified and addressed, allowing the infrastructure to be managed as it was meant to be – as a single entity – instead of as a group of loosely affiliated organizations.

FSIs also benefit from greater visibility into areas that were previously obscured by tangled architecture, allowing them to create actionable insights on such topics as liquidity and risk management needs, and customer usage patterns at the relationship level, not just the product level.

Organizations able to achieve a heightened understanding of their own liquidity needs will be able to forecast much more accurately, enhancing regulators' confidence in the institution without stranding valuable funds in the form of excess reserves. Likewise, the ability to manage and even forecast other types of risk provides an institution greater flexibility in addressing potential problems that can hinder its ability to compete. This is especially true in the payments arena, where neglecting dark corners of the business can result in significant losses, regulatory fines in the hundreds of millions of dollars, and loss of the trust of customers and partners.

Additionally, the ability to better see and understand customer usage patterns enables FSIs to build products that customers actually want, and price them at a level customers are willing to pay, will improve customer retention, giving FSIs access to what they need most in times of economic uncertainty – access to reliable revenue streams.

Benefits to the Customer

While the strategy behind taking an enterprise approach to payments makes it easier to run the organization, it is the FSIs' customers who benefit the most.

Because FSIs will be better able to see entire payments relationships, they will be able to use this information to improve customer service interactions, as well as offer pricing based on the value of the entire relationship rather than on just the individual products. The ability to better monitor and measure customer usage patterns can result in the creation of products that are based on existing customer needs rather than on what the bank perceived customer needs to be at the time current offerings were created.

Taking a service-oriented approach makes it easier to develop new offerings based on current customers needs and interests because offerings can often be using preexisting components rather than requiring a full-scale implementation of a new technology. Though, when such implementations become necessary, FSI's can shorten the implementation timeframe and allow this new functionality to be delivered as a service because they are viewing their payments organization through an enterprise payments lens.

For consumers, this means a greater likelihood that such offerings as person-to-person (P2P) payments, workers' remittances, and mobile payments will become available, making it easier to expedite the shift towards electronic payments. For corporates, this means the opportunity to leverage the information in data-rich payment messages to take advantage of such capabilities as least-cost routing and automated back-end reconciliation. The end result is a greatly-improved customer experience within the payments portion of the FSI.

The Road Ahead

Leading financial institutions understand that the payment systems of the past cannot support the business needs of the future — or even the present. Many banks face similar decisions as they examine whether their past investments position them to compete in a rapidly evolving payments world as increasing global payment volumes and market initiatives like mobile and real-time payments push legacy systems to their limits.

In order to achieve this goal, banks and payment processors need to create a long-term strategy focused on the reusability and scalability of key services and infrastructure. The output of this strategy will consist of three main pillars:

- Rationalization of payments infrastructure by preparing for the future, not the past
- Creation of consistent, flexible, and scalable delivery capabilities across the organization
- Examination of outsourcing alternatives (e.g., cloud)

Taking a step-wise, SOA-based approach allows institutions to proceed at their own pace, giving them the flexibility to address the most important issues first. By following this approach, FSIs can develop agile, efficient, and resilient payments systems capable of supporting current and future client needs while reducing operating costs and minimizing risk.

Conclusion

Opportunities in traditional payments markets still exist as banks struggle to make their legacy infrastructures deliver value for the bank and (more importantly) their consumer and corporate clients. Forward-looking banks will adopt payment and architectural standards in their payments infrastructures to gain flexibility and provide value without having to completely replace legacy systems in the short term.

In this period of increased regulation, banks have a twofold opportunity to gain from investing in payments: They can improve payments capabilities (and operating efficiencies), and, they can provide relief to parts of the bank that face reduced fee income or increased capital requirements.

Investing in a flexible, service-oriented and virtualization architecture enables financial services institutions to meet these challenges head on by simplifying integration, maintenance, and new product development while reducing ongoing maintenance costs.



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