

Payment Systems of the Next Decade

-the drive to convergence



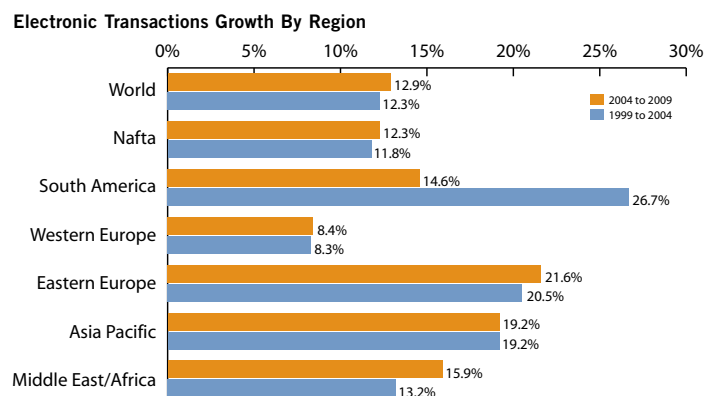
Today's electronic payment systems are modeled on the paper-based systems that have been in place for centuries. But pressures from regulators, corporations, consumers and shareholders, as well as the sheer growth in electronic payments, are forcing banks and other payments processors to rethink these payment systems and the technology that drives them.

This paper identifies some of the pressures on payments systems, reviews strategies that organizations are adopting to address these pressures and explains how ACI Worldwide's product strategy is designed to meet these challenges.

The Growth of Electronic Transactions

Around the world, payment transactions are increasingly evolving from paper (cash, checks or giro) to electronic approaches. In some places, this involves developing electronic payment systems for the first time; elsewhere, it involves finding ways of expanding the electronic footprint to cover new areas.

Growth rates of electronic payments — whether card payments, wire transfers or automated clearing house (ACH) — have been strong for



Source: 2006 ACI Worldwide Payments Market Forecast

the last 25 years. And this trend will continue for coming decades. ACI recently commissioned a study from Global Insights that predicts a global compound growth rate of 13 percent annually for the next five years, and in some regions the rate was as high as 21 percent.

Some countries are well down the route of going paperless. In Scandinavia and the Netherlands, checks have been virtually eliminated. Singapore has experienced a growing adoption of e-money for small-value purchases. In the United States, the use of contactless terminals is allowing cards to be used for more transactions.

Profit Margin Pressure

While volumes of electronic payments are growing, profit margins are being squeezed. Some of this comes from natural competition as more organizations provide these services.

However, regulatory authorities are also intervening in the market to impose changes that impact profits. In Europe, the Single Euro Payments Area (SEPA) requires that pricing for cross-border Eurozone payments should be similar to those for domestic payments. Around the world, EMV is being implemented to improve the security of payments, while card schemes have defined the Payment Card Industry (PCI) standards to secure the storage of payment data. In some markets there is pressure on the interchange fee and on merchant service charges from regulators.

Thus, in order to remain compliant, payment systems operators — banks and processors — are required to implement a steady stream of enhancements while, at the same time, they are under pressure to reduce the fees they charge. Naturally, they are looking at ways to become more efficient in order to continue to satisfy the demands of shareholders to remain a profitable organization.

Payment Systems

Globalization

Globalization is impacting payment systems as consumers and corporations expect more from their banking service providers. A corporate organization purchasing products from around the world uses enterprise resource planning (ERP) technology to monitor, at any time, where those products are in the manufacturing and delivery cycle. Consumers purchasing goods online can receive instant acknowledgement of their orders and track them through the shipping process. Conversely, payments are much more difficult for corporations or consumers to track. Payment systems at times can be somewhat of a “black hole” into which the payment request is submitted, and sometime later the result is revealed.

Migrant workers or retirees are also growing in numbers, creating the need to easily transmit funds across the world. Workers want to send money back home to their families, while retirees expect to receive their pension payments. In both cases, consumers are looking for low-fee solutions with certainty of the date when funds will be received.

Fraud Grows and Moves On

As the number of electronic transactions has grown, this market has become attractive to members of organized crime. Banking organizations have exerted much effort to address the high levels of card fraud. Nevertheless, as one opening is closed, fraudsters find new ways of attacking payment systems or simply move to a new market.

Banking organizations are required to address money laundering. Payment system operators continue to invest in solutions to manage risk, but with so many payment systems across the retail and wholesale bank (sometimes spread across multiple countries), detection and investigations are becoming increasingly difficult to manage.

Moving to Single Message

In the 18th century, the clearing concept was created to make it easier to exchange checks between banks. That end-of-day clearing process persists in many payment systems today. The card industry introduced the authorization step to allow verification of funds availability. And some debit card environments took that step further by enabling the authorization step to also act as the settlement function. This has become known as “single message” in the card industry, and using a single message reduces transaction handling costs, decreases settlement risk and reduces exception processing.

Some transactions have always been single message, such as in special clearings that today are serviced by real time gross settlement (RTGS) systems. However, unlike card or check transactions, these payments are generally payer-initiated and require no authorization step.

As the world gradually demands more real time impact of payment transactions, the single message concept becomes important in allowing banks to achieve these demands. One example of this is the planned implementation of Faster Payments in the U.K.

Faster Payments

In the U.K., many consumers make payments through Internet banking or a call center, often to pay credit card or utility bills. These transactions are currently executed through the national bulk file payment system (BACS) which involves a three-day process. Where consumers require immediate transfer of funds they have to use the CHAPS RTGS system which is much more costly. Recently, the U.K. banking industry body APACS, working with members banks, announced plans to implement a ‘faster payments’ system through a joint venture between the national ATM switch provider (LINK) and the direct debit/credit processor (VOCA). The target is for transactions to be executed within a few hours of the request and the service to be available 24 hours a day, seven days a week. Naturally, the faster execution time also requires more sophisticated handling of the transaction particularly in the areas of fraud and liquidity management.

More Payment Options

Payment products have historically evolved around three key systems: wire transfer, which provides a high-value immediate settlement product; ACH, which provides bulk payment services, such as payroll and direct debit; and card systems, which support credit and debit card products.

Over the years, those basic systems have been used for more products and services — giros, cash concentration, bill payment, purchasing cards, mobile payments, gift cards, payroll cards, check conversion, etc. Each of these products has stretched the basic payment system infrastructures, adding levels of complexity.

Duplication of Functions

Most banking organizations have grown through a series of mergers and acquisitions that occurred over many years. In many cases, there has been little progress in eliminating the duplication of systems that has arisen from that process. Thus, every time regulators require a change or a new payment product is created, a large amount of sustained effort is required to implement the same change across multiple systems. Of course, sometimes these systems are in different countries, and historically it has been difficult to supply banking services across country boundaries. However, the 21st century has seen significant advances in communications capabilities and systems technology, so today it is practical to deliver services from a central location to a different region or continent.

Responding to the Pressures

Banking organizations are making changes to their processes and systems to better respond to these pressures. Consolidating duplicate systems is an obvious response. Efficiency can be increased and costs saved by merging systems that provide the same functionality. In some cases, it is practicable to choose one card settlement system or one wire transfer system and focus all transactions through that single system.

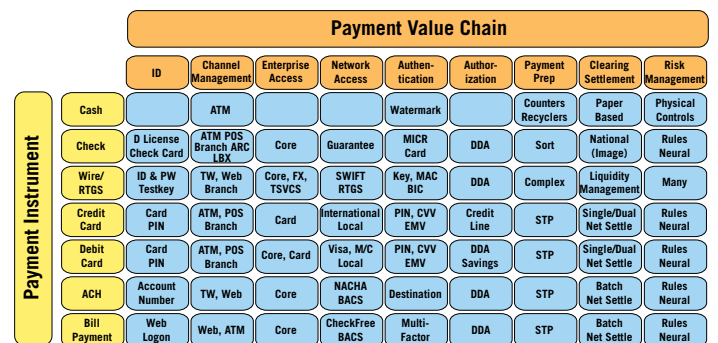
Examples of consolidation:

- A major global banking organization has deployed the ACI Money Transfer System™ for high-value payment services in locations across the world to replace a range of existing systems
- A top-20 global bank has rolled out ACI Proactive Risk Manager™ to provide a consistent platform for fraud detection and anti-money laundering in eight countries
- A major global processor is deploying BASE24-eps™ to create a European-wide hub for ATM and POS traffic
- The Brazilian arm of multinational bank has deployed Proactive Risk Manager™ to provide enterprise fraud detection covering all channels, transactions and products
- CIBC has used BASE24®, BASE24-eps, ACI Payments Manager™ and ACI Proactive Risk Manager to create a centralized payment hub to manage all retail banking payments

More often, to achieve the business aims, the need to deploy the chosen system in multiple locations may still exist, but maintaining the same technology in all locations means that there is only one cost in implementing regulatory or other mandate changes or in supporting new payment products.

Reducing the wide range of connections between systems by deploying “middle-office” technology is another direction taken by some organizations. Most front-office systems must connect to many back-office systems. The number of connections between systems makes it very difficult to make changes to any one system without impacting many others. Implementing a middle-office layer that sits between the front and back offices reduces the complexity of inter-system connectivity, enabling each to move forward with less impact on the overall infrastructure.

Sharing common services becomes more practical with today's Service-Oriented Architectures (SOAs). As the diagram below illustrates, many products require similar processing functions when handling a transaction. So sharing these, either by bringing the systems together at a middle-office layer or by formally exposing the service using SOA techniques, can save costs in maintaining those services.



Finally, some organizations are making the formal step of focusing responsibility for all payment systems into a single organizational role. Sometimes this is a payment czar with a role of ensuring coordination across developments in the payment systems. In other cases, this results in more formally bringing together all the payment services and systems under a single business unit. In a recent survey of business executives across the ACI customer base, it was found that nearly three-quarters of the customers said that they expect their organizations to take steps towards the integration of consumer and wholesale payment systems in the next five years.

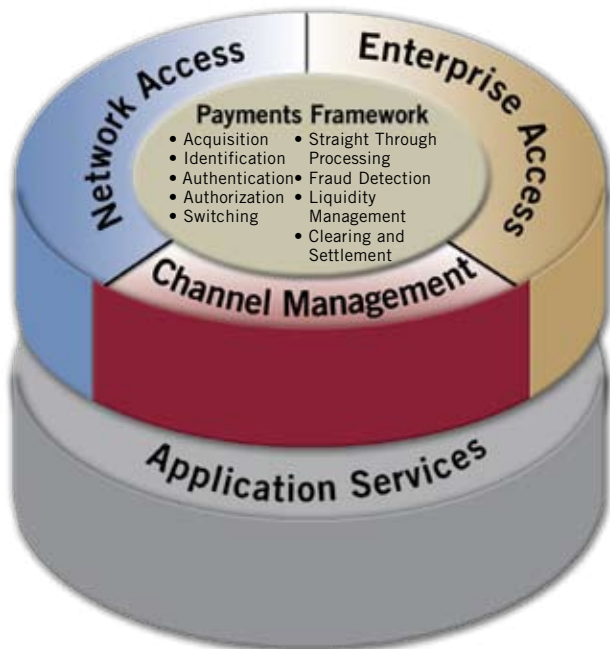
Payment Systems

ACI's Vision for Enterprise Payments

ACI Worldwide has been a leading provider of both consumer and wholesale payments systems over the last 30 years. With solutions addressing the range of payment services from cards to high-value payments, from e-commerce to fraud management, and more than 800 customers worldwide, ACI has explored these payment industry trends and created a vision of how enterprise payment systems should function in the coming years.

The following diagram illustrates the vision with a core set of product services surrounded by specific functions that support access to the transaction acquiring channels (for example ATMs, corporate ERP systems), the inter-bank networks (such as Visa, MasterCard or SWIFT) and the enterprise systems of banking organizations.

The payment framework makes use of standard application services such as communications tools, SOA and middleware from a wide range of open systems suppliers.



— BB&T Corporation (NYSE:BBT) today said it has created a new payment services division and named BB&T veteran Bennett Bradley to lead it.

WINSTON-SALEM, N.C., 12 December 2005/PRNewswire-FirstCall

— Many banks plan to supplement or supplant their product-silo leadership with some form of enterprise governance, or so-called payments czar.

The Economist Intelligence Unit, May 2005

— For many organizations, it makes sense to hire a payments czar who is responsible for developing the big picture and forcing the institution to look at overall profitability.

Patrick K Barron, Chief Operating Officer, Federal Reserve Bank, Atlanta, 5 October 2005

— Banks that respond to regional integration initiatives by designing their payment architectures around payment hubs will become more formidable worldwide competitors.

Payment Hubs Are the First Step in the Evolution of the Banking Payment Business, Gartner, March 2006

Experience, Expertise

Every second of every day, more than 800 customers around the world rely on ACI solutions to process payments, manage risk, automate back-office systems and provide application infrastructure services. More customers use ACI software to manage higher payment volumes, of greater diversity, across more platforms and geographies than any other provider in our field. Since 1975, ACI has provided software solutions to the world's innovators. We welcome the opportunity to do the same for you.

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