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# Preparing Wholesale Payments for the Post-Financial Crisis World

Can an SOA approach help to drive both efficiency and innovation?

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## DATAMONITOR VIEW

### CATALYST

The global financial crisis has increased the need for banks to provide their corporate customers with liquidity and risk management solutions. In addition, while regulatory measures such as the Single Euro Payments Area (SEPA) and anti-money laundering (AML) legislation demand continued transformation and investment in wholesale payments, the economic downturn means that cost management is now a necessity. As a result, the industry is beginning to question whether managing these conflicting requirements implies the need for a new approach to wholesale payments technology.

This Datamonitor report, sponsored by ACI Worldwide and IBM, looks at business and technology responses in wholesale payments to the post-financial crisis landscape, and assesses whether a service-oriented architecture (SOA) approach could help to meet these challenges.

### SUMMARY

- Despite the global financial crisis, increasing compliance and customer requirements will continue to drive the need to transform wholesale payments.
- Delivering both efficiency and innovation will require the convergence of siloed payments operations and processes.
- The underlying IT platforms need to support process standardization and simplification while achieving efficiency.
- Moving to an SOA approach can enable transformation by facilitating extensibility and providing operational leverage while controlling costs.



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## ANALYSIS

The global financial crisis exposed fundamental weaknesses in wholesale banking and has provoked a major change in the market landscape. It has resulted in changes in priorities, as well as a range of new demands from regulators, customers and stakeholders.

The processing of wholesale payments in particular has come into prominence as an activity, the crisis having raised its profile from a rather mundane back-office function to that of a critical component of banking, controlling the very lifeblood of the sector.

As a result of the impact of the crisis, banks have had to reassess a number of assumptions in wholesale payments, including risk management, particularly with regard to counterparty settlement and liquidity management. Thus, despite cost pressures arising from the crisis, banks need to invest in enhancing their payment systems.

### ***Despite the global financial crisis, increasing compliance and customer requirements will continue to drive the need to transform wholesale payments***

The breakdown of confidence in the wholesale banking market has created a significant customer funding gap in many countries, particularly the US and the UK, although other Western European markets are also affected. Although governments and central banks have taken remedial action to stabilize the situation, this will drive further contractions in lending in 2009 and, with severely weakening economic performances, lead to a significant decline in banks' operating income. With increased loan provisioning expected in both retail and corporate banking, overall profitability will also weaken.

While Central Europe was removed from the initial sub-prime crisis, the effects of the latest financial crisis have now moved into the region, with the prevalence of non-domestic denominated lending likely to hurt banking profitability this year. Similarly, most Asian markets initially seemed immune to the crisis, but the region's banking sector will also suffer later this year and in 2010 due to lower economic growth, as exports decline and trade finance and credit insurance issues disrupt trade supply chains and working capital financing.

### **Banks face the challenge of balancing cost control with investment in transformation**

In essence, the crisis has shifted baseline operating income for banks, which, in turn, has introduced the need for a structural, rather than a temporary, change in their cost base. In other words, banks have to face a longer-term decline in profitability, leading them to seek a similarly permanent reduction in costs.

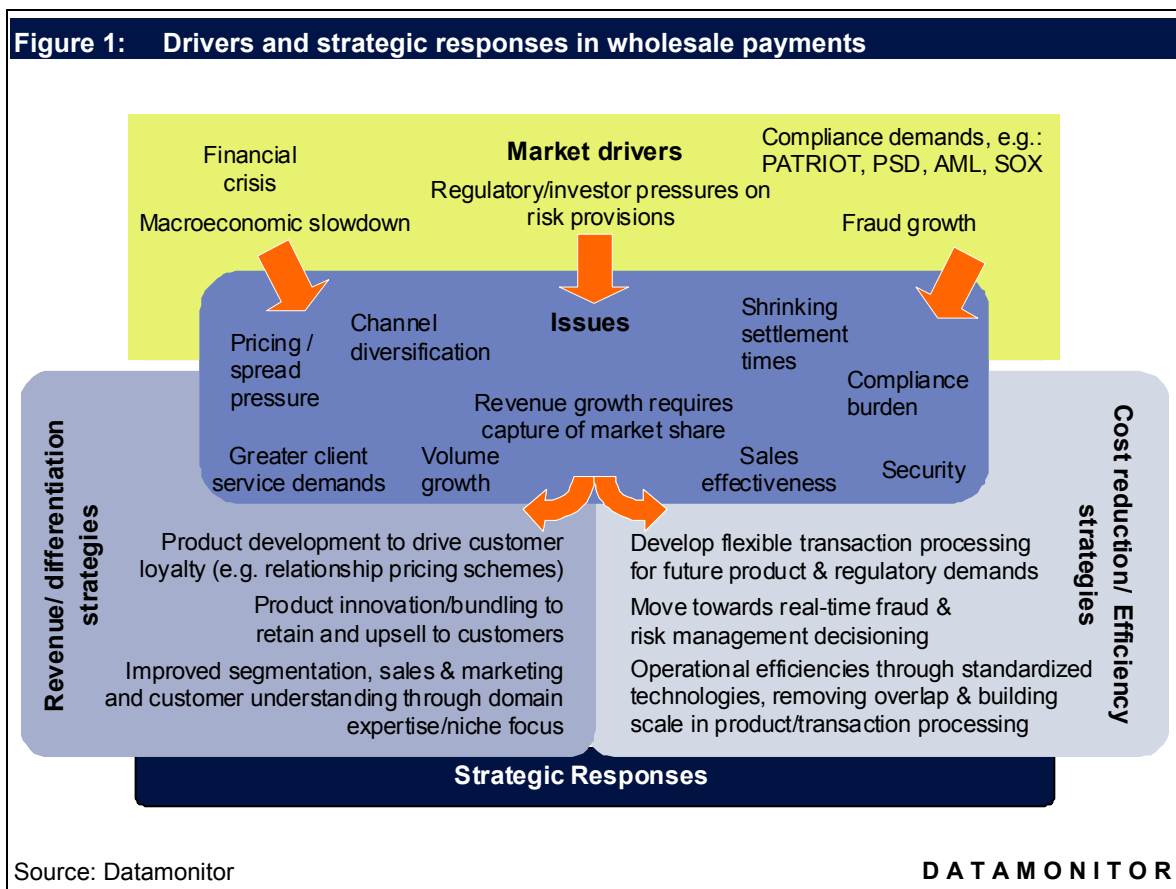
While banks look to lower costs, their corporate customers have also been impacted by the global slowdown, and thus want their banking partners to enable better, more up-to-date information and reporting for intra-day liquidity management. The banks themselves also feel the need to improve their risk management capabilities in order to avoid some of the pitfalls that led them into the current crisis in the first place, while continuing to offer credit.

Equally, the crisis has sparked a flurry of merger and acquisition (M&A) activity across the banking sector, particularly in the major English-speaking markets, Germany and Benelux. This means that

a number of financial institutions now face the challenge of consolidating not only their payments processes but also entire departments as they merge organizations.

The opportunity presented by these mergers and acquisitions is economy of scale, enabling larger entities to lower per-unit processing costs by leveraging existing infrastructures for an expanded customer base. Indeed all of the banks involved in M&A are now engaging in cost cutting exercises of one form or another.

However, despite the need to cut costs, banks need to invest in processes that enable them to face the emerging challenges in wholesale payments, as shown in Figure 1.



**Regulatory compliance is a major driver for convergence across payments and requires continued investment**

AML legislation, such as the USA PATRIOT Act and the EU’s Third Money Laundering Directive, requires an enterprise-wide view of activity and, as such, drives convergence, not only of different payment systems, but ultimately with the other areas of a bank so that it can report accurately on customers’ financial operations.

AML legislation makes transaction monitoring a requirement of payment systems, as it allows banks to meet their legal obligations in terms of reporting suspicious activity to the relevant

authorities. Evolving and increasing regulatory demands mean that transaction monitoring and reporting must be implemented across all payment and transaction types, with the ability to consult databases containing the relevant information in real time, carrying out checks on blacklists and Know Your Customer (KYC) information prior to filing a report.

Meanwhile, the Payment Services Directive (PSD), which provides the legal foundation for the creation of a single market for payments across the entire EU and, in particular, SEPA (one of its key planks), introduces a new level of continent-wide competition for wholesale payments in Europe. At the same time, the directive eliminates a significant source of income for banks due to the abolition of cross-border transfer fees. The directive, therefore, tends to drive the convergence of payment systems as a means of achieving greater efficiency and thus the ability to offer more competitive fees. This convergence will further enable global cash and liquidity management across entire corporations. There is clearly more of this kind of legislation to come from national and supranational regulators across the world.

Equally, the Basel Committee on Banking Supervision plans to issue proposals on a number of topics, including strengthening counterparty credit risk capital, risk management and disclosure at banks, for public consultation in 2009. Furthermore, in some countries, such as the UK, the financial regulator plans to mandate better liquidity management, so that there will also be a compliance dimension to investment in enhanced capabilities in this area.

### **Liquidity management and cash management across payment types will be essential requirements**

While budgets tighten, there is an ongoing need to invest to meet banks' compliance requirements and, just as the banks need to boost risk management for their own internal purposes, their corporate customers are also demanding this as a value-add for their wholesale payments services. Corporates need to get a complete picture of their exposure in order to be able to manage their overall risk and, in the event of there being a problem with a specific payment or account, they want to have it fixed centrally, rather than engage in separate processes for each payment type.

Corporate treasurers are themselves calling for better liquidity management services to be offered by the banks from which they receive wholesale payments services. They need, at the end of each business day, to decide what high-value payments must be made immediately, what accounts payable and payroll matters must be reviewed and resolved, and how any excess cash should then be invested. Once these allocations have been made, reports need to be generated and settlements and confirmations reviewed.

Another growing customer requirement, particularly in the export-based economies in the Asia Pacific region, is the convergence of trade finance and cash management services, in order to support a supply chain that can often span multiple countries and currencies.

Such customer demands are thus increasing, requiring an expansion in banks' offerings and services, and driving the need to innovate while simultaneously keeping costs under control. Banks are presently coping with this situation by targeting their proposition and going for niche

customer bases, but there is a growing realization that this also requires a transformation in the operating model itself.

***Delivering both efficiency and innovation will require the convergence of siloed payments operations and processes***

A lot of the difficulty in meeting the challenges of efficiency and innovation is due to the nature of the payments function's operating model(s), which is often inefficient because:

- it is characterized by silos, organized by payment type, replicated by channel and even by customer segment;
- many business processes which are effectively common across types and channels are thus duplicated and subscale;
- manual involvement in many processes tends to compound the cost of these subscale operations.

The current operating models that banks have for wholesale payments are thus revealed to be inadequate for meeting such requirements. They are expensive, inflexible and siloed, which impedes management and makes it more difficult to comply with regulation.

Furthermore, delivering the services that are being demanded by corporate customers is clearly impossible without centralized data.

**Efficiency and compliance will require process standardization and simplification across payment types**

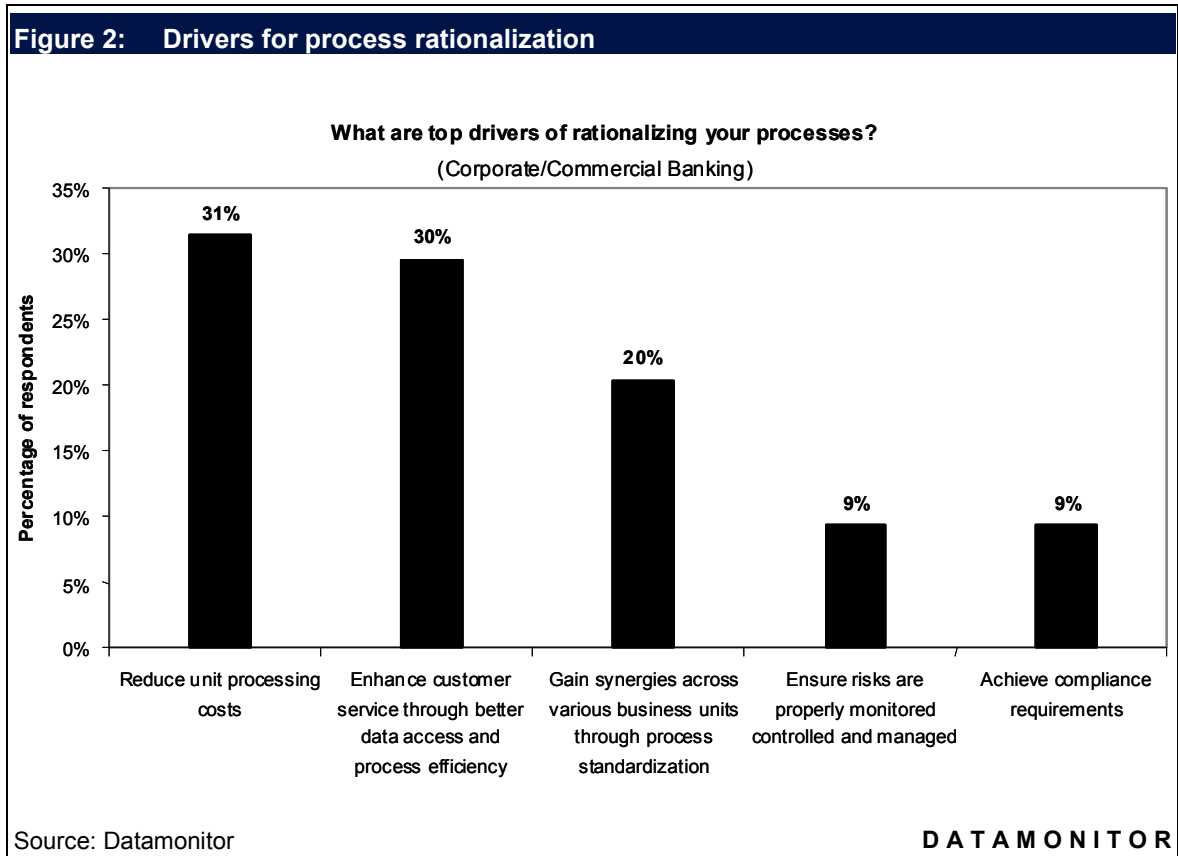
The implications of this scenario are that implementing change is expensive and often inconsistent, with ramifications for compliance and control. Every payment type and customer group requires a KYC check, and current structure means that a bank may use multiple independent KYC procedures, varying by product type, channel or customer group, meaning that updates need to be carried out multiple times rather than once.

Banks need to drive process standardization and repeatability. However, this has often been hindered until now by both business structure and underlying IT system architectures. To address this issue, many banks are centralizing their payments operations, providing a shared service to the entire banking group. This is designed to facilitate the previous governance challenges around driving process standardization and improving overall operational leverage.

Additionally, banks want to streamline payments services, a strategy which implies simplifying the steps within each process. There is also a desire for greater automation so that manual involvement can move from day-to-day operation into handling exceptions and the more value-added services within payments.

As well as driving efficiency, standardization will also have compliance benefits, as controls will be centralized and common across the different payment types, channels and customer groups. This should lead to reporting, management and change control becoming simpler.

Figure 2, which comes from Datamonitor’s most recent Financial Markets Technology Business Trends study (carried out in the third quarter of 2008), is revealing, in that it indicates that banks rank the reduction of unit processing costs as their primary motivation for process rationalization, with enhanced customer service through improved access to data a close second.



**A consolidated operating model across payment types will be a requirement**

A standardized operating model that covers all wholesale payment types, possibly even extending into retail payments, is advocated as the direction in which such services should evolve. A single underlying architecture supporting multiple payment types, channels and customers promotes efficiency and tends to keep costs down. Meanwhile, a move away from today’s siloed approach should make it easier to detect the duplication of both systems and processes, promote more connected processes and data, and comply with multiple regulatory requirements, provided that the “single source of truth” at the back-end can be guaranteed to remain auditable.

Such a model can also enable banks to meet their corporate customers’ needs for enhanced services on top of their wholesale payments, as it makes it easier to integrate with other areas within the bank to access the information required to underscore such additional capabilities.

***The underlying IT platforms need to support process standardization and simplification while achieving efficiency*****IT needs to align with process as well as payment type**

At present, each payment type is mapped to a specific process, as well as to a specific, usually standalone, IT system. While this approach may work from the perspective of IT efficiency (i.e. of processing transactions), banks now need to support overall business efficiency, as well as both customer and regulatory requirements. As a result, it would clearly be better for such systems to be shared. With the payment types themselves converging to work within a single, coherent architecture across the entire enterprise, it makes sense for the IT systems underpinning them to do the same, moving away from the more traditional siloed approach that has characterized wholesale payments until now.

A consistent architecture for IT can support the convergence of payment types and the necessary extensibility of wholesale payments, making it possible for any individual product to provide information to systems for monitoring and measurement, reporting and control.

Corporate treasurers are increasingly asking their banking partners for features in their payments services such as data consolidation, standardization and integration with their general ledger and ERP systems, as well as the provision of analytical tools to help them understand their end-of-day options more quickly. For instance, if they are using the zero-balance accounting technique, they need accurate and timely data across all of their payment types and accounts so that they can determine where best to pool their accounts for maximum return on positive credit balances and minimum debit rate on their negative ones.

A consistent payments architecture within the bank can facilitate the provision of such value-adds, aiding with data and application integration, as well as promoting the use of common services. For instance, data from multiple payment types can reside in a central repository, making it easier to report back to a general ledger or an ERP system, as well as providing simpler, faster information to the corporate treasurer at the end of the business day. Meanwhile, the new, value-added functions can draw on common services, making it faster to formulate them and get them into production.

**Reusability of software will drive IT efficiency through shorter development cycles and reduced maintenance**

IT systems need to support common business processes, and where those processes can be reused, so too should the software components that make up the systems.

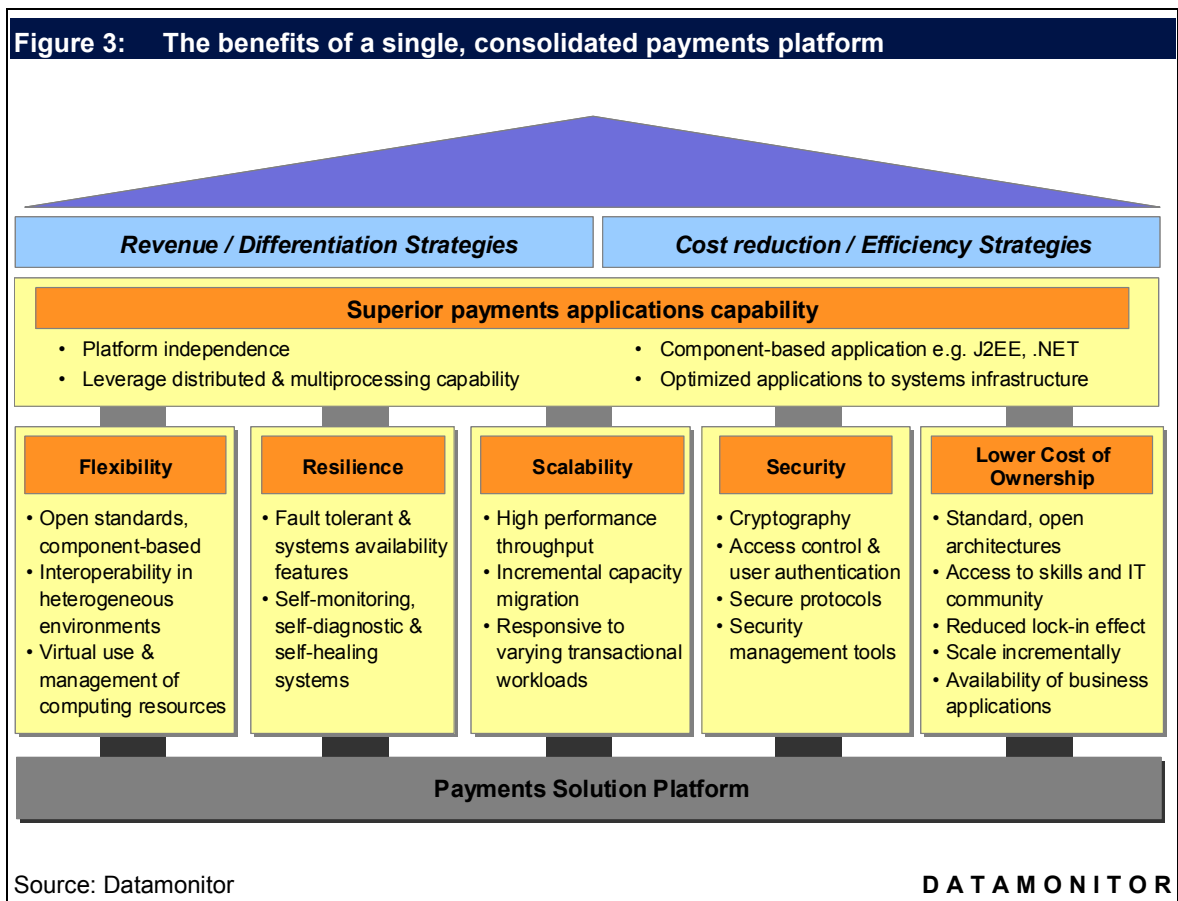
A software strategy that has reusable componentry at its heart is a good way to promote IT efficiency, flexibility and agility, enabling faster development of new applications and lower maintenance costs. By moving to the use of standard building bricks to provide common functions within specific applications, enterprises can develop new products more quickly and thus respond more rapidly to changes in market conditions.

To be more exact, optimal reusability should include entire packages of functionality, or a combination of services, within a process. For instance, there could be a package called 'Customer' that contains the functionality to create, read, update and delete a customer's account,

providing them with a login, registering their preferences and so on. Thus, any software application that requires all or any of these functions can call upon that package, regardless of what the specific application does. Other such packages could provide a credit check, print and send an invoice, and so on.

The advantages of such an approach include lower cost of future development, as functionality is reused rather than recreated, and lower cost of maintenance, as there is a single package. Reusability also promotes consistency, control and compliance.

Figure 3 looks at the advantages that banks can see from moving to a single, consolidated platform for wholesale payments. Clearly the adoption, in this context of a reusable software strategy, makes sense: since the underlying system infrastructure is a common one, reusing componentry is a logical extension and one that tends to drive flexibility and agility, not to mention cost efficiency, in application development.



**Leveraging existing hardware infrastructure such as a mainframe will help to keep costs down**

Another strategy banks are looking at for cost containment and rationalization is server consolidation. This not only holds the promise of lower maintenance by reducing the amount of

hardware in use, but also lowers running costs, as fewer servers consume less energy and require less cooling.

The majority of banks already have mainframes running in their infrastructure, so the ability to leverage this existing hardware in a new context represents a distinct operational advantage, in terms of both cost efficiency and the fact that the IT department already has the skills required to operate such machines.

Mainframes are a suitable candidate platform for a consolidation project undertaken by anyone moving to a single underlying architecture for wholesale payments. Their capabilities in processor virtualization mean that they can offer an agile, flexible hardware platform for dynamically changing business processes.

***Moving to an SOA approach can enable transformation by facilitating extensibility and providing operational leverage while controlling costs***

The IT strategy of a bank providing wholesale payments services needs to focus on:

- **Flexibility and agility** – so that the bank can quickly develop new product offerings as market conditions change.
- **Extensibility** – to allow the bank to enhance its services by adding value, providing integration with customers' back-end systems and offering a single source of accurate, timely data to their treasurers.
- **Reusability** – of standardized software components, for the purposes of both rapid product development and cost reduction.

The SOA approach provides methods for systems development and integration where systems group functionality around business processes and package these as “interoperable services” (i.e. the packages referred to above). SOA also describes an IT infrastructure that allows different applications to exchange data as they participate in business processes.

To enable services to be reused in multiple instances and across multiple processes, service-orientation aims at giving services a degree of autonomy from the underlying technology stack, thus freeing them to be used in a business context without concern for their infrastructure. Services are designed to be standards-based, to such an extent that they can be used by any process that conforms to that standard, regardless of its specific function. This allows new applications to be created by linking together existing services rather than building from scratch.

For example, a credit check needs to be carried out in multiple different types of transaction. As such, it is a suitable candidate to become a service which—provided that it is sufficiently standardized and thus only loosely coupled with any particular transaction type—can be used by multiple processes. Forwarding a receipt to a customer's postal address is another such service.

This reusability of common functionality also promotes extensibility: when a new business process is to be created, it can be broken down conceptually into its component parts, with those that require a standard service able to request its use rather than requiring it to be written from scratch.

### **Adopting an architectural approach allows phased rather than 'big bang' migration**

By adopting an architecture for an entire business area such as wholesale payments, banks can start small, converting a single payment type to become SOA compliant, before moving other payment types across at a pace that suits them. This would avoid banks having to transform their entire infrastructure in one go and running the whole thing parallel with their live production system until it is completely debugged and ready to go live. Banks can create a service, i.e. a SEPA direct debit, and then use it in the future development of other services, with cost savings from the second service onwards. Such progressive savings can be offset against the up-front cost of developing and implementing the overall architecture.

### **SOA brings reusability in that the same software can be used by multiple systems**

With its standards-based componentized approach to building software, SOA promotes reusability. In order for the services to be used by multiple systems (i.e. by individual business processes), information about them is stored in a central services repository. This information, known as metadata, enables the repository to locate the individual service, as well as making it possible for application developers to discover what services are available for inclusion in their programs.

### **Moving to SOA helps consolidation**

The ability to consolidate multiple disparate processes onto the same system, and ultimately even the same hardware, is clearly advantageous in the current economic environment, and particularly in the highly competitive, increasingly commoditized, world of wholesale payments. With its reliance on repeatable, reusable components and industry standards, SOA can be used to drive consolidation, particularly when it can also leverage a bank's existing mainframe infrastructure, which, in this context, may be considered the ultimate consolidation platform in hardware terms.

## **Conclusions**

It is clear that, despite the budget constraints imposed by the global financial crisis, banks face an ongoing need to invest in the transformation of their wholesale payments operations, in order to address emerging customer requirements, as well as to meet the growing demands of regulatory compliance. In this context:

- The adoption of an SOA approach can help banks to meet a series of the current business imperatives in wholesale payments. In terms of driving operational efficiency, it can result in lower maintenance costs thanks to the removal of duplication, as well as provoking a reduction in development costs by introducing software reusability. In a broader sense, it can also enable a bank to move away from a siloed IT infrastructure, aligning IT systems to business processes.
- With regard to product innovation, an SOA enables the support of standardized processes and the separation of information on customers and products. This, in turn, can enable

more creative, on-the-fly bundling for new offers, allowing banks to respond to competitive forces in a more agile manner. SOA also tends to enhance banks' ability to integrate product and payment systems.

- These are the advantages that Datamonitor perceives in the areas of efficiency and innovation, but there are others, for instance in compliance and risk management. An SOA can enable the creation of standardized compliance processes, such as KYC checks, and thus promote consistency, while an enterprise-wide view of systems that is made possible by an integrated architecture tends to facilitate risk management.
- Finally, support for a standardized process model, which makes it easier to align IT services to business processes, contributes to the development of an enterprise-wide operating model.

### **SOA is not a universal panacea**

Of course, an SOA is not, in and of itself, a guarantee of success for banks' wholesale payment offerings, any more than a sophisticated camera guarantees award-winning photographs or the best Spanish guitar turns anyone who plays it into John Williams. SOA should be viewed as an agile technology which, when combined with the expertise of a world class payments provider, comprising extensive and in-depth knowledge of the industry and a thorough understanding of best practice, can provide the kind of competitive edge that will be required in the wholesale payments arena in the wake of the global financial crisis.

## **APPENDIX**

### ***Definitions***

#### **SOA – service-orientated architecture**

Strictly speaking, the term “service-oriented architecture”, or SOA, refers to a concept for how to architect the software used within an enterprise, whereby functionality is grouped around business processes and packaged as interoperable services. However, it is nowadays used interchangeably for the concept itself, the resulting style of business solutions and the supporting infrastructure.

#### **KYC – Know Your Customer**

Know Your Customer (KYC) is the legal requirement, as defined by banking and financial service regulation, for institutions to perform checks to identify and ascertain relevant information pertinent to doing business with their customers. Examples of such regulation where this is required are the USA PATRIOT Act and the EU’s Third Money Laundering Directive.

#### **PSD – Payment Services Directive**

The European Commission’s Payment Services Directive (PSD), the final text of which was published on December 5<sup>th</sup>, 2007, is a regulatory initiative defining the process whereby payment products, infrastructures and technical standards are to be harmonized across the euro zone, so as to create a single market for these services. The plan is for all member states of the EU, Norway and Iceland to transpose the Directive into national legislation by November 1<sup>st</sup> this year.

#### **SEPA – Single Euro Payments Area**

Whereas the PSD is a supra-governmental initiative, the Single European Payments Area (SEPA) is a self-regulating endeavor, driven by the banking sector in Europe (as represented by the European Payments Council, or EPC), but with the same goal, i.e. harmonization of products/services across the region.

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