

CORE BANKING

PARTNER GUIDE 2008



FOREWORD

Welcome to the *Core Banking Partner Guide 2008*.

As the topic of core banking becomes more central to the legacy technology renewal plans of banks, the question arises: 'What exactly is core banking?'

To many banks, the concept of core banking remains fixed to the traditional 'relationship anchor' of the current or cheque account. However, the widespread existence of processing silos for other products, such as lending and cards, suggests that for many banks there may be more than one core banking system.

The analyst community typically defines core banking as a combination of systems for customer information, deposits, lending and associated financial ledgers.

On the other hand the press – in particular the *International Banking Systems* journal with its well-known sales league table – has a much broader definition, based on the products available in the market. This covers the whole range of processing requirements, from traditional retail and lending over private banking to specialist wholesale banking systems.

We at Microsoft have a vision of a future world where monolithic core banking systems will be replaced, or at least drastically reduced in size, by a collection of banking enterprise services. We recognise that this means most back-office systems can be viewed as relevant when it comes to considering a core system migration.

This guide then, gives you, the reader, an opportunity to read what some of the leading ISVs have to say about core system migration, and provides a sample of key Microsoft partners with offerings ranging from the universal banking system to individual and narrowly-focused services.

It also gives me an opportunity to share with you my personal perspective on the current state of play in the market, and to outline Microsoft's strategy for this important area of focus.



Koen Van den Brande

Worldwide Industry Manager, Core Banking
Microsoft

people  ready

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CONTENTS

FEATURE

- At your service** 4
Banking services and service-oriented architecture are increasingly the strategy of choice for banks and vendors as they migrate core systems away from mainframe and midrange platforms. Koen Van den Brande looks at how Microsoft and its partners can support banks' business objectives



COMMENTARY

- Banking on change** 8
How a service-oriented approach helps banks to cope with change
- Modelled for success** 10
Approaches to core system replacement have evolved
- Growth through innovation** 11
How Capitec Bank achieved a paperless, cost-efficient core system
- Winds of change** 12
In a changing market, institutions need to adapt or be left behind
- Orchestrating banking process** 13
Service-oriented architecture has transformed core banking
- Taking account** 14
To get the most from SOA, pay attention to the back office
- Opening doors** 15
Open architecture is a must in an intensely competitive industry
- Delivering a difference** 16
How Microsoft provides a firm foundation for service-oriented architecture
- Legacy code: blessing or curse?** 17
The role of legacy and new programming teams in migrating to .NET



DIRECTORY

- Companies A-Z** 18
The directory lists core banking solution providers alphabetically and provides information on the solutions offered, contact details and a company profile. It is divided into three sections: Core banking; Core banking services; and Core banking migration tools, to help you select the most appropriate partner



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AT YOUR SERVICE

BANKING SERVICES AND SOA ARE INCREASINGLY THE STRATEGY OF CHOICE AS BANKS AND VENDORS MIGRATE CORE SYSTEMS FROM MAINFRAME AND MIDRANGE PLATFORMS, SAYS KOEN VAN DEN BRANDE

Kevin Lomax, the erstwhile chairman of Misys – one of the largest independent software vendors (ISVs) focusing on the financial services industry – was once quoted as having said: “Changing a core banking system is like replacing the engine of a Boeing aircraft mid-flight.” The implication was that Misys at the time felt rather secure with its large installed base.

Is it surprising, then, that while the industry has been talking about legacy modernisation and predicting growth in the numbers of banks replacing their legacy core banking systems for some time, many of the banks concerned have been hesitating, aware of the significant cost and risks of disruption to business that are involved with such an undertaking.

Industry trends

An analysis of trends in this market by *International Banking Systems* – the industry journal which tracks the market most closely – shows considerable growth in the number of what it calls ‘new name’ core

banking system sales worldwide. However, very few of these are as yet associated with the larger domestic operations of western European or US banks.

For these banks, the solutions offered by traditional banking package vendors are often considered unsuitable. They tend to focus on breadth of integrated functionality, whereas the core system legacy migration strategies of larger banks are increasingly based on a service-oriented architecture (SOA) approach and require highly focused ‘banking services’ with great functional depth. A study carried out by Forrester among some 50 European banks suggests a relationship between growing evidence of plans to tackle the legacy core banking system problem and the adoption of SOA strategies.

Universal banking packages

Even for smaller banks or those that have implemented a packaged core banking application in the past, change is in the air. The platform of choice in the early days of

packaged core banking systems was the IBM mid-range platform (variously known as AS/400, iSeries and now Series i), which was a welcome alternative to the mainframe and eventually rivalled it in performance terms, did not require a purpose-built computer facility, and was very easy to operate. To date, based on the numbers tracked by *International Banking Systems* in its annual sales league table, the worldwide installed base of international banking packages from vendors such as Misys is still well in excess of 1,000 banks. But in its recent results, announced on 16 October 2007, IBM acknowledged that: “Revenues from the System i servers decreased 21 per cent,” and this decline has been visible for a number of quarters now.

The Misys core banking applications – Midas and Equation – are a good example of the challenges faced by some of the legacy core banking packages. Once upon a time they were the most widely installed systems in the world, serving hundreds of medium-sized banks and branches of large international banks. The origin of both of these systems goes back more than 30 years to 1974 when, at Bretton Woods, the world decided to abandon the gold standard and floating exchange rates came into being. Born of the need to serve the international branches of large global banks that served corporate customers in major financial centres with foreign exchange transactions, these systems gradually grew into what became known as ‘universal banking systems’. They offered a single, integrated banking system, capable of meeting requirements in corporate, retail and private banking, much in the same way that SAP introduced enterprise resource planning systems with ever-expanding breadth of functionality to the world.

These universal banking systems were originally introduced in international branches and subsequently – as international banks expanded into emerging markets – into larger domestic banks. In many ways, they set new standards for parameterised product definition, a single view of the customer relationship, and enterprise-wide real-time monitoring of credit limits – all benefits



derived from their essentially highly-integrated design. Many larger banks with more complex and less well-integrated environments still aspire to these capabilities.

And yet, change seems inevitable for users of these systems. Misys recently announced its new BankFusion platform, which is not based on either Midas or Equation, but on the acquisition of a new system developed by a group that originally broke away from the Misys team that looks after Bankmaster – another widely installed universal banking package, on a different technology platform. Misys is positioning BankFusion as a J2EE layer above its legacy packages and seeking to gradually migrate functionality toward this layer, using the principles of SOA – that is, focusing on one banking service at a time.

Other leading vendors of legacy packages are facing similar challenges and implementing similar strategies. Fiserv announced a migration path to Linux for its international core banking system (ICBS), and has invested heavily in its Aperio .NET-

based front end. Temenos acquired Actis with its PABA user base in Germany, with the clear intention of offering a migration path to T24. ERI Bancaire also announced a few years ago that it was already considering moving off the IBM iSeries, and Financial Objects was one of the first to embark many years ago on a strategy of trying to gradually convert its IBIS user base to a new generation banking platform, ActiveBank.

In many ways, the problems faced by Misys and others with legacy universal banking packages – especially companies that have tried to consolidate the market and now own several overlapping systems – are similar to those faced by the larger banks. And the range of approaches available is also similar.

As can be seen from the strategies of leading vendors, many started by surrounding their IBM iSeries-based core banking applications with distribution channels, financial messaging and business intelligence or statutory reporting capabilities on the Microsoft platform. In addition, they often introduced departmental systems to complement the core banking systems in areas

such as trade finance, treasury and capital markets. In the case of Misys' Equation product, the surround capabilities consisted of a cashier system, loan origination and relationship manager, as well as specialist departmental systems for trade finance, treasury and capital markets.

Some started to focus on what one might now recognise as more typical banking services, at a level of granularity in line with the growing industry consensus around SOA. These banking services addressed such areas as customers, payments or limits. The separate modules offered for customer relationship management (CRM), Swift interfaces and enterprise limit monitoring exemplify this. Again, Misys introduced a Swift gateway to complement both Equation and Midas.

More recently, a few vendors have also started to reflect the need for a strong process layer in the overall architecture and have indicated that – in the same way that SAP announced a few years ago its intention to break up the enterprise resource planning 'monolith' into a set of separate services – they are working to decompose their integrated universal banking systems into a set of banking services that can be orchestrated through this process layer.

In the case of Misys, the recognition of this need is reflected in its recently announced collaboration with SAP, whereas Fiserv relies on the capabilities of Portrait – the technology that underpins its Aperio offering.

Then, at some point, it starts to make sense to consider migrating the remaining core banking functionality off the legacy platform and offering the user base the benefits of a uniform front, middle and back office environment, complemented by the people-centric collaborative technologies that the Microsoft platform offers. Especially where the focus is increasingly on better customer service and increased cross-sales, the business drivers for achieving this kind of integration are compelling.

This is where companies that provide an easy migration path off the IBM iSeries platform come to the fore. For example, the migration path to Linux proposed for Fiserv's ICBS is based on conversion technology from PKS, which has a rules-based conversion engine that will translate RPG into another language, which can in turn be compiled on the target platform. The PKS engine can of course also be targeted at the Microsoft platform. As an alternative, BluePhoenix's recently acquired ASNA offers the route of Visual RPG, which enables experienced RPG programmers to benefit from the .NET development environment without initially having to abandon the RPG code. Another example is the Lansa-based Windows version of Fidelity's specialist commercial lending application, ACBS.

Microsoft's vision for core banking

Microsoft has a vision of a new generation of banking platforms, architected on service-oriented principles in a multi-channel context, and bringing together a collection of reusable banking services coordinated by means of a business process orchestration.

Just as the community of vendors with legacy packages on the IBM iSeries platform is working toward a gradual migration strategy for their existing user base, so more banks are now starting to consider a gradual migration path away from the IBM mainframe. The typical approach consists of the same mix of three complementary strategies – surrounding legacy systems with a multi-channel architecture that has strong process and workflow capabilities; externalising specific banking services such as CRM, payments, origination, document management and others, and ultimately migrating the remaining legacy system code to a different platform.

Microsoft is increasingly the target platform for such strategies, given the renewed business focus on being people-ready, the total cost of ownership and agility benefits associated with the industry's leading development environment, and the lower cost of commodity hardware. This is illustrated by a growing number of impressive legacy migration

case studies ranging from SOA-based multi-channel projects such as the one at CBA in Australia, to externalising banking services as in the payments infrastructure project at Banco Santander in Spain, to legacy migration, as at Scarborough Building Society in the UK.

A study conducted by the Massachusetts Institute of Technology suggests that architectural maturity leads to a shift in the balance between the proportion of IT solutions being classified as infrastructure and applications – based on technologies such as portals, workflow or rules engines. In line with this, Microsoft has invested in recent years in what could be described as 'horizontal' capabilities such as CRM, document management and payments messaging. These form the basis of vertical specialised solutions built by partners such as Galeforce, with its financial services CRM offering.

There is also a growing Microsoft ecosystem of smaller ISVs that provide highly focused banking services, with good examples being NetEconomy for anti-money laundering – now part of the Fiserv group; Clear2Pay for payments, and Finarch for accounting and Basel II reporting.

Microsoft's core banking strategy will increasingly be focused on working together closely with its partner ecosystem toward an industry consensus on the banking enterprise services which banks expect to implement as part of their SOA strategies, by ensuring partners describe their offerings in terms of services; are able to deliver individual services; adopt industry standards for integration of services, and ultimately support the dynamic orchestration of services in support of banks' business objectives of increased agility, improved time to market and optimised operational efficiency.

Kevin Lomax, having left Misys, was recently reported by IBS as being on the stand of Sentential at Sibos, promoting his latest new investment. Perhaps not surprisingly, the company focuses on a single banking service – direct debits.

Koen Van den Brande is responsible worldwide for Microsoft's core banking strategy



BANKING ON CHANGE

A SERVICE-ORIENTED APPROACH TO CORE BANKING WILL ENABLE BANKS TO COPE WITH CHANGE AND COMPLEXITY, SAYS ALEKSANDAR MILOŠEVIĆ

There seems to be a basic human aspiration to look for patterns and cycles that enable us to explain past events and predict future ones. This 'pattern thinking' can be applied to the issue of core banking renewal to explain how technology and business innovations drive and reinforce each other, and to suggest a viable strategy for banks in emerging markets.

Banks have always been pioneers in applying the latest technologies in practice. The banking business has scaled to enormous proportions, dealing with millions of transactions, accounts and customers. These new capabilities and service levels would be unimaginable without the help of technologies – but they have also created dependency on technology, and a new source of operational risk.

Core systems are an excellent example of mission critical software whose reliability directly impacts a bank's business. This is why many banks have custom built their core systems in-house, with the IT team promptly available for support and system enhancements. Although this seemed a viable strategy in the 1970s and 1980s, it was a recipe for IT chaos in the long term.

Because each solution was custom made for one bank, systems were not architected for change and variation, but were patched over time to fulfil tactical goals. In computer science, this is known as local optimum – where local and short-term benefits lead to a system that is poor as a whole because, over time, IT shops become unable to handle increasing complexity and constant changes. This opened a new market for firms offering system integration services, as the IT shop was reduced to a point where even a small change required a formalised project structure

and days of impact analysis. The banking business has since learned to see core systems as a limiting factor to business opportunities, and core systems were surrounded by tactical band-aid type solutions operating in a loose integration and increasing overall complexity.

The situation is reminiscent of a story in which a frog is being boiled alive, unable to sense the gradual increase in temperature. The frog here is the CIO and the temperature is the system that is becoming too complex and inflexible to meet business demands. Since banks tend to have a risk-averse culture, core system renewal is often seen as a radical change needing strong business justification. When the water reaches boiling point, decision makers typically have to decide whether to keep the status quo and build new capabilities around the legacy system; to build a replacement system in-house; or to licence and deploy a packaged system from an established vendor.

Keeping the status quo is hardly an option if decision makers are fully aware of the situation, trend and consequences. Architecting a system for constant change requires strategic focus, state-of-the-art engineering and excellent knowledge of variation in banking. These requirements are hard to meet even for vendors that make their living from mission-critical banking systems.

In-house IT shops know their bank's practice, but may lack the knowledge of variation in banking practice. For vendors, this knowledge comes over time, and is sometimes distilled in the form of industry proven data and process models such as Information Framework from IBM, a popular choice in the financial services industry. Strategic focus is hard for in-house IT shops where 90 per cent of projects are tactical and

funded by line-of-business managers. For vendors, strategic focus comes from the product-oriented nature of their business. Vendors are also in a better position to attract the best software engineers and set up optimal processes and tools.

Analysts have developed criteria, methodologies and ratings that aid the selection of the right vendor and product for a new core system, but no single product or vendor is optimal for all environments. Thus, the specific environment becomes an important factor in making a sensible decision.

Emerging markets are often places with significant potential for growth and intensive changes in regulations and business practices, where politics matters at least as much as economics. For banks in such a market, the risk of instability is rewarded with higher profit margins and greenfield conditions for products and services already tested in developed markets. In free market economies, banks that can adapt to the environment will ensure a dominant position in the long term. Indeed, intensive changes in emerging markets favour flexible players that can use agility and responsiveness to compensate for a lack of the funds available to large global banks.

As risk tolerance is generally higher in emerging markets, core renewal is usually viewed as a business opportunity to gain competitive advantage by eliminating inflexibility and using technology advances that have accumulated since the introduction of the present core. Some banks see their core system as a commodity that should work with minimal integration, customisation and maintenance, assuring quick return on investment and low total cost of ownership (TCO). A new core should therefore be designed to embrace future changes, support modular and gradual deployment and enable new scenarios using the newest technology, with a low TCO. Thought should be given to an in-depth description of canonical core system requirements.

Advances in technology are not linear over time; disruptive innovation comes in cycles. Technologies go through a lifecycle of industry hype, emerging applications, maturity and legacy, and finally end-of-life. Architecting a packaged, mission-critical system for banking is a complex undertaking. Most packaged core systems still rely on technologies scheduled for retirement, but the latest innovations on the Microsoft application

platform, together with a service-oriented approach, enable disruptive innovation and allow core banking vendors to offer truly flexible and agile systems that would cope with constant change and increasing complexity.

In 2008, Pexim will introduce a new core system, codenamed Revolution, built on extensive experience with existing core banking products, in a strategic partnership with Microsoft and IBM. The world's first core system built entirely on the .NET platform and industry proven models from IBM, Revolution will enable the breakthrough productivity, flexibility and TCO required in emerging markets.

Banks in emerging markets should be fully aware of their specific environment and have an articulated business strategy when they make core renewal decisions. Core banking products based on a service-oriented architecture and the .NET platform are ideally positioned to drive banks to new levels of agility and enable new business scenarios.

Aleksandar Milošević is chief software architect at Pexim Solutions



MODELLED FOR SUCCESS

AS MANY BANKS SEEK TO REPLACE CORE SYSTEMS FOR A SECOND OR THIRD TIME, THEIR APPROACH TO TECHNOLOGY HAS EVOLVED, SAYS MARK GUNNING

The core banking market is changing. Many of the banks now selecting core systems are actually doing so for a second or even third time, and they have learned from their experiences. They don't want to be tied to a single IT supplier, or to technology that may become obsolete. Nor do they want a system that will drain valuable funds and resources in unproductive maintenance that could be put to more use in growing the business.

In addition to running a business, banks face media scrutiny – security issues or service outages can gain wide press coverage, which can be disastrous. And while the number and types of security and hacking attacks continue to grow, customers have more choice and more information than ever before, and are ready to switch providers if they are not happy.

In the interests of both efficiency and building trust among customers, banks need to be sure that their systems are flexible, compliant and secure. There is no substitute for best practices here, and a tried and true core system built on these principles will enable the customer service and trust-building that are essential to success for banks.

In addition, as the entire industry continues to grow and becomes increasingly competitive, flexibility is key to moving with the demands of customers, regulations and business conditions. But flexibility means much more than the capability to tailor the technology – true flexibility enables fast time-to-value through low cost of ownership and efficient, people-ready technology that won't drain resources.

It is perhaps not surprising, then, that many banks no longer want a 'one size fits all' solution, and they don't want to spend

valuable funds on the core functionalities that are similar across the industry. Specifically, they want a system that can deliver commodity core functionality quickly while enabling them to tailor the applications that will differentiate them from the competition, now and in the future.

For example, one Temenos client had grown significantly since implementing a core system as a small organisation ten years ago. When it came to replacing its technology, the bank realised that it needed to accommodate further growth with a system that would combine flexibility and longevity with visible costs. In order to achieve this, it decided to move to the T24 package on the Microsoft platform.

This is just one example of the many clients that are keen to exploit T24 on the Microsoft platform. T24 Model Bank makes up to 80 per cent of the bank's required functionality available immediately based on preconfigured, best practice-based products and processes. The solution can be rolled out in half the time of many other systems, and T24 then enables flexible, differentiating functionality to be developed at low risk in a secure environment.

As banks move to replace legacy systems quickly and at low risk, there is an inexorable trend toward the Microsoft platform in partnership with vendors like Temenos. By taking an intelligent approach to core system replacement, banks can build a flexible, forward-looking system based on best practices that will support not only their own growth, but that of the industry too.

Mark Gunning is group strategy director at Temenos

GROWTH THROUGH INNOVATION

INNOVATIVE USE OF TECHNOLOGY HAS HELPED CAPITEC BANK TO IMPROVE SERVICES AND SUPPORT GROWTH, SAYS GLENN STAFFORD

Based in South Africa, Capitec Bank is a fast-growing, innovative retail bank. Since its inception in 2001, its goal has been to provide accessible and affordable banking services to a broad range of customers via innovative use of technology. Capitec Bank has over 1.18 million customers, 330 branches, 70 mobile banking units and 200 ATMs nationwide. Its reported annual turnover increased in 2007 by 31 per cent.

Capitec Bank had spent three years realigning its internal focus and laying a foundation for accessible, simplified and affordable banking services in South Africa. To achieve its business goals, Capitec Bank implemented TCS BaNCs Core Banking, Payments, Link (branch) and Connect (Internet) business application solutions.

The bank chose TCS Financial Solutions to help design a paperless, cost-efficient core banking solution. This would provide access to all facilities through a single platform – the Capitec Global One Facility – which incorporates paperless savings, loans and transacting facilities and can be accessed using the bank's Maestro debit card.

TCS BaNCs integrates retail, e-commerce, treasury, commercial banking, trade and management information system components in one homogeneous solution that can automate every aspect of a bank's operations, regardless of size. It can be configured to meet the banking needs of consumers and small to medium enterprises, as a standalone treasury system, or as an integrated core system encompassing retail, treasury and trade.

Capitec Bank used TCS BaNCs to create new revenue streams and increase profits. Following rapid implementation, benefits include 24-hour data access; a faster approval process; lower total cost of ownership;

improved customer relationships; high performance; scalability across the Windows platform and adaptable delivery channels.

The solution allowed Capitec Bank's Internet-based banking system to introduce four new banking services:

- An Internet-based platform for easy access to account information and transferring of funds between accounts
- An inexpensive and accessible payment mechanism for informal convenience stores
- A robust, factory floor kiosk offering facilities similar to Internet banking, without the cash withdrawal function
- A Capitec Bank card reader installed at retailers, giving access to account balances, which will stimulate overall card usage.

Capitec Bank has made extensive use of innovative technology. It now takes only ten minutes to open a Capitec Bank account and the entire procedure is paperless. A photograph of each client is stored on the system, and is retrieved whenever that client does business with the bank.

"The growth in client numbers to 1.18 million is testimony to the level of acceptance of our unique offer in the market," says Riaan Stassen, CEO of Capitec Bank. "No other bank provides the ease of access and affordability we are providing."

"Running on Microsoft 2003 Server EE with SQL Server 2005, TCS BaNCs Core Banking solution has scaled to support a phenomenal growth rate for the team at Capitec Bank," says N. Ganapathy Subramaniam, president of TCS Financial Solutions.

Glenn Stafford is global head of product management and professional services at TCS Financial Solutions

WINDS OF CHANGE

IT'S TIME TO MOVE AWAY FROM LEGACY CORE SYSTEMS,
SAYS MIKE NICASTRO

Business trends are like winds – they vary in intensity, but when they converge they can change the climate dramatically. Now, several trends are converging in the financial services market. Institutions need to adapt or be left behind.

Increased competition is bringing pressure to launch new, targeted products and diversify revenue streams with new sources of non-interest fee income. Financial institutions worldwide need greater flexibility to launch products and services more quickly, and to enhance customer knowledge in order to improve sales and service.

Consumers access bank information through an expanding number of channels. Online commerce continues to grow, and channel opportunities such as wireless are increasingly popular. Superior products, improved service and increased levels of interaction have become essential. Financial institutions must manage all channels efficiently, and create opportunities to cross-sell new products.

Unfortunately, many legacy technologies are nearing the end of their useful cycle, and obstructing the successful implementation of applications such as customer relationship management. There are limitations on data field sizes and product types, redundant databases, and additional layered-on systems that don't communicate effectively with each other. Ageing technology also brings security concerns, as hackers and identity thieves find ever more ways to compromise an institution's database. Whether in-house or outsourced, legacy systems present a serious handicap to financial institutions.

Many legacy core platforms are surrounded by bolt-on applications. Vendors have tried to fix problems with layered-on applications, but these are increasingly ineffective and mask the weakest link in the technology infrastructure –

the underlying, dated core processing technology and architecture.

Legacy technology lacks both openness and complete documentation. It is complex and expensive to maintain, and burdens resources with a greater risk of downtime due to incompatibility among applications.

Taken together, these flaws put many financial firms at a competitive disadvantage, resulting in a growing shift from legacy systems to more open, relational and real-time technologies. Intensifying competition has created both an imperative to change and an opportunity to prosper; doing nothing is no longer a practical option.

Many financial institutions have replaced legacy systems with open, next-generation technologies that enable them to better address changing market needs. They recognise that the total cost of ownership for newer systems far outweighs the risk involved in maintaining ageing technology.

In addition, financial institutions are looking for systems that take advantage of industry standard technologies, for example those that incorporate a .NET platform. A .NET object framework provides a contemporary look that enables ease of use, a common look and feel, and supports added technology such as Shared Application Framework.

The winds have shifted. Speedier adoption of open-based technologies is enabling financial institutions to leverage information throughout the enterprise and across all customer touch points, consistently and in real time. Realising that the core application layer is the critical foundation of your financial enterprise opens up an array of possibilities, and can improve all areas of your operation.

Mike Nicastro is senior vice president and chief marketing officer at Open Solutions

ORCHESTRATING BANKING PROCESS

SERVICE ORIENTED ARCHITECTURE HAS TRANSFORMED CORE BANKING
SYSTEMS, SAYS KATE J. HENRY

Core banking systems are the backbone of a bank, but they must now support a wider range of systems, applications and databases as banks wrestle with business, customer and regulatory demands. They must support customer relationship management (CRM), business process management (BPM), risk and fraud management, anti-money laundering (AML), online banking, trade and treasury and many other attached solutions.

The challenge lies in integrating all these systems, applications and channels and orchestrating banking processes from front to back – especially given multiple underlying operating systems. Service-oriented architecture (SOA) is a key differentiator, and has been a part of every technology decision made by Fiserv CBS Worldwide since the late 1990s. It underlies Fiserv Aperio, our .NET-based, process-centric customer interaction management solution developed in conjunction with Portrait Software.

Using Aperio, banks can identify and optimise key components of their front-end business processes and streamline sales and service operations to improve efficiency, increase cross-sell and up-sell opportunities and optimise the customer experience. Aperio integrates multiple back-end systems, bringing together customer and product information in a deep, real-time, 360-degree view of the customer relationship. This allows bank staff to interact with an intuitive, process-based interface for sales and service.

The Aperio BPM model enables banks to build, adapt and reuse financial services processes. Execution of functions is more rapid and less prone to human error, since previously separate functions are now grouped and predefined for end users. This allows banks to focus on improving channel

performance through more effective customer acquisition, retention and cross-selling. Banks can also concentrate on enabling competitive advantage in manufacturing, processing, distribution of products and speed to market.

Fiserv is committed to developing reusable services, extending and leveraging the SOA environment. Customers gain the flexibility of an industry standard integration method, and their legacy system is insulated from invasive code. It also means easier maintenance and a safe, secure upgrade path.

Aperio reduces the cost and risk normally associated with deploying new business services. The SOA architecture enables various types of integration, including:

- External line-of-business systems for credit card, investment, insurance, loan systems and business intelligence
- Existing or new Internet sites and portals including Corillian. Aperio exposes and consumes Web services across layers for presentation and system interaction
- Extending existing CRM and customer service applications
- End-user desktop applications including mortgage or interest rate calculators and internal credit scoring systems
- Functional supporting systems including CTI, document management, printing, e-mail, integrated credit scoring and identity verification systems, fraud management, AML, signature path devices and online authentication systems.

The ability to streamline processes, integrate enterprises and improve sales and service is a powerful driver for financial institutions as they seek to ensure future success.

Kate J. Henry is director of global marketing at Fiserv CBS Worldwide

TAKING ACCOUNT

AN SOA APPROACH IS A MUST FOR TODAY'S FINANCIAL FIRMS, SAYS NIGEL LEE

For the past 25 years, financial institutions have invested heavily in IT, focusing on the 'front of house.' A great deal of time and money has recently been invested in new branch systems, e-banking solutions and re-engineering legacy systems, while the need to improve the back office has been overlooked.

Even in light of the trend toward new core banking systems, a key area seems to have been left out: risk and finance. Sound investment here will yield great reward and help financial firms better leverage investment in other areas of the application architecture.

There are four main pillars of risk and finance: accounting, information management, capital management and compliance. There is a growing need to embrace the philosophy of finance resource planning (FRP), and furnish the risk and finance function with tools encompassing all four pillars based on a single source of the truth in terms of data. It will also become harder to consider any of these areas in isolation from the other three.

There is growing demand for a new generation of accounting solution. Financial institutions need a solution fit for purpose, not one born out of enterprise resource planning solutions developed primarily for the manufacturing industry. They need a toolkit that can cater for the most complex accounting rules, which must be built into the solution as inherent intellectual property, supporting multi-GAAP accounting requirements and IFRS. With increasing demand for real-time, event-based accounting, solutions must enable firms to derive multiple GAAP from a single source with minimal effort and intervention.

These solutions must provide data at the most granular levels. Data should be available

for all functions within risk and finance, but common to all business functions. There is also a need for a sub-ledger architecture supporting a thin and flexible general ledger (GL) with full reconciliation and consolidation features, including automated repair.

This architecture provides a sound platform for business management, and dramatically improves operational efficiency while increasing competitive advantage. Financial Architects' Financial Studio solution is based entirely on the FRP concept. The Accounting Domain provides a sub-ledger combined with a thin GL, and many customers are implementing this at the core of their finance transformation initiative.

Integrating this new generation of accounting solution with effective capital management and attention to regulatory initiatives, will enable the effective application of Risk Adjusted Return on Capital and Economic Capital models. Solutions should include fully integrated statistical and prudential reporting facilities for regulatory reporting, and a comprehensive portfolio of internal reporting capabilities.

Every modern solution should, like Financial Studio, make functionality available as services. A service-oriented architecture enables strategic change by stealth, facilitating integration and sustained leverage from existing solutions within the application architecture, and providing for effective migration from legacy technology via low risk projects bearing returns in the short term.

Accounting solutions are essential to the core systems replacement initiative. Equal care and attention must be given to selecting the most appropriate solution.

Nigel Lee is chief communications officer at FinArch

OPENING DOORS

AN ITANIUM-BASED OPEN ARCHITECTURE DELIVERS RELIABILITY, AVAILABILITY AND SCALABILITY ON A PAR WITH LEGACY SYSTEMS

Core Banking is highly competitive, with institutions facing constant pressure to develop powerful yet cost-effective technology solutions.

The Itanium architecture was designed from the ground up as a truly open platform, allowing Windows solutions to deliver high-volume transaction processing in a 24x7x365 environment. Itanium is the only high-end enterprise architecture available from multiple hardware vendors and supporting multiple operating systems, delivering the reliability, availability and scalability (RAS) associated with mainframes and midrange systems.

The enhanced Intel Itanium architecture, teamed with Itanium-based Windows solutions designed to take advantage of the inherent capabilities of the processor, creates a perfectly-matched environment for the data-intensive, always-on banking landscape. Eight of the top ten financial services corporations have chosen Itanium-based systems. Itanium-based Windows platforms offer banks the features they've come to expect from their old, proprietary systems, plus the flexibility and cost savings they need.

With over 3,000 Windows applications ported and tuned for the Itanium architecture today, banks can find solutions they need on platforms that provide better value for mission-critical workloads. In addition, a full suite of integrated tools exists for custom coding of applications. Both off-the-shelf and custom solutions allow customers to deploy new capabilities quickly and confidently. Itanium-based Windows platforms deliver room for business growth. Further enhancements will come with the arrival of Windows Server 2008, SQL Server 2008 and Visual Studio 2008.

Itanium-based Windows platforms deliver RAS on par with mainframe and midrange solutions. Continued advancements in

mainframe-class RAS features provide the confidence to migrate off of proprietary architectures while maintaining 'always on' service level agreements.

Banks need scalable performance, allowing them to see benefits today and provide the headroom to get more from their investments. Itanium processors address over 1,024 terabytes of memory and come with 24MB of on-die cache. Itanium is the foundation for massively scalable SMP systems, and the only platform that provides best-in-class scalability with mainframe-class reliability and virtualisation capability.

Financial institutions worldwide are realising the benefits of switching to Itanium-based Windows platforms. DenizBank wanted a new IT architecture to increase processing power. It deployed a range of Microsoft solutions on an HP Integrity Superdome Server, yielding reductions of 71 per cent in end-of-day processing time and 66 per cent in card application processing.

Banca Popolare di Vincenzo migrated to two HP servers, with four Intel Itanium 2 processors, running Windows Server 2003 and SQL Server 2000 (64-bit). The 64-bit version of SQL Server yielded a ten-fold performance increase, while the overall solution delivered enterprise-level security and scalability for mission-critical data.

The Itanium Solutions Alliance was formed by leading solutions providers to work toward a common objective of transitioning the world of RISC-based computing platforms to open, industry standard solutions based on Intel Itanium architecture. Members include some of the most influential companies in the computing industry.

www.itaniumsolutionsalliance.org
www.itaniumsolutions.com

DELIVERING A DIFFERENCE

AN SOA BASED ON MICROSOFT IS ONE BUILT ON FIRM FOUNDATIONS, SAYS DAVID CARRUTHERS

Back in 1996, Financial Objects' founding principles were to provide fully Web-enabled solutions to the financial services industry, built from reusable components and running on the Microsoft platform. We were confident that this would transform the way banking systems were developed and used, but we couldn't have envisaged the speed or magnitude of the changes the new technology would bring.

The Internet has transformed banking and commerce, and Microsoft has become the platform of choice for many development strategies. Component technology is generally established as the preferred approach for future software development, with Microsoft setting the de facto standards.

In our experience, Microsoft provides the best tools and technology for implementing a service-oriented architecture (SOA), creating loosely coupled Web services that run business processes through interconnected systems. This is particularly important in the finance industry, where a mixture of legacy and new software must co-reside and interact.

Microsoft's SOA strategy is different because it has been used to build solutions from the bottom up. Using its client and server operating systems as a foundation, Microsoft utilises operating system features and components within its technology stack. This not only confers advantages relating to performance and scalability, but with .NET, Microsoft has produced a flexible and sophisticated application development platform that can directly harness features of the operating system. C# is rapidly becoming the language of choice over Java for many programmers, and with the ability to compile VB.NET, C# and C++ to a common runtime language, it is relatively easy to find skills in the market.

Microsoft is now concentrating on the application platform to create middleware solutions that facilitate the management and joining up of business processes within the SOA context. Take BizTalk Server 2006: in addition to its integration capabilities, it features a powerful orchestration engine that provides a drag-and-drop user interface to model processes and creates the business process execution language used to control processes and cross-system workflow.

Windows SharePoint Server (WSS) is another example of Microsoft's ability to support organisations like Financial Objects. WSS 3.0 provides support for Web 2.0 features such as blogs and wikis. Microsoft publishes numerous templates that extend the delivered features of SharePoint for different business contexts, and it is easy to create and incorporate new .NET custom Web parts to provide further extensions and business logic. At the Web client, Microsoft has launched Silverlight, which will further enhance the richness of the presentation layer.

Finally, the latest versions of Microsoft Office incorporate more applications and features to join up business processes, including deployment and support for mobile devices. Infopath provides a method for collecting and distributing information via workflow, and Groove enables remote teams to collaborate and share information.

Any SOA strategy supported by this platform would appear to be based upon sure foundations. We believe our founding principles have proved correct, and have led us to a position where we can develop the most advanced applications for our customers in a highly cost effective manner.

David Carruthers is director of group development and technology at Financial Objects

LEGACY CODE: BLESSING OR CURSE?

MIGRATING TO .NET CAN MAXIMISE THE VALUE OF BOTH LEGACY AND NEW PROGRAMMING TEAMS, SAYS ROGER PENCE

An enterprise dependence on legacy code is both a blessing and a curse. You're using mature, tested software that has evolved into a finely-honed business solution (not to mention having been fully depreciated long ago). However, that same reliable code base has a dated user interface and software that is hard to change and enhance. Even if you had the patience and time to modify it, a legacy platform no longer offers the core functionality needed to fully modernise the applications.

The curse of legacy code is especially true for IBM System i (also known as the AS/400 or iSeries) software. The RPG/400 and ILE RPG languages are both limited in terms of enhancing existing applications. For example, enterprise Web-enablement, using modern service-oriented architecture (SOA)-based Web services to integrate your business with partners, is but a dream when you're constrained by green-screen RPG.

For System i enterprises, the need to modernise applications is paramount, yet most migration options disregard the value of existing RPG assets. Virtually all System i businesses have accumulated substantial value in their programming team, processes, applications and data, and leaving these assets behind is foolish. Rewriting a major application or acquiring new software to replace it is a daunting, expensive and often unrealistic option. The safest way is to leverage the value in existing legacy assets.

If RPG teams are to control the destiny of migrated applications, the target language is a major concern. System i companies that migrate ILE RPG to Java, C++ or C# usually find that expensive consultants are required to modify the migrated code. However, if the target language is RPG on .NET, then RPG teams can build on their existing skills to

modify and enhance the new application. This scenario is now possible with Amalgamated Software of North America's (ASNA) Monarch migration solution coupled to the RPG compiler for .NET (developed in partnership with Microsoft). The more RPG idioms that remain in place after the migration, the more productive the existing RPG team can be with the migrated applications.

Beyond persisting RPG language semantics in migrated code, you should also consider the value of your RPG programming team's knowledge of the migrated application. For many a System i enterprise, an application's documentation exists mostly as 'tribal knowledge' stored in long-time RPG coders' heads. The value of including these programmers in your migration project is incalculable. They add understanding, depth and 'how-it's-supposed-to-work' knowledge that you'd be hard pressed to find elsewhere.

The value and future capabilities of your RPG programming team are indeed factors in the legacy migration strategy. However, you also need to plan for new team members who can work with your newly-migrated applications. These will most likely have skills quite different from those currently found on your legacy development team. Nevertheless, one of the strengths of the .NET platform is the ability for any .NET developer (C#, VB.NET, RPG.NET) to work with others on the same application. Successful migrations from System i to .NET depend on the right tools, good planning, and appreciation of the value of legacy programming teams in migration and post-migration efforts.

Roger Pence is the educational director for ASNA (www.asna.com), a subsidiary of BluePhoenix specialising in System i RPG program migration



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APAK's Bank Environment Automation Manager (BEAM) modules are used in live operations in Europe and across the Middle East. Developed on Microsoft .NET for rapid deployment over an intranet, BEAM offers a complete suite of specialist banking modules to support a wide range of back and front office operations:

- **BEAM Branch:** BEAM's branch module caters for multiple internal branch operations, including full support for all teller, foreign exchange, customer services, back office and management activities.
- **BEAM Internet:** BEAM Internet banking module provides an up-to-date and flexible solution which allows the bank's customers to enquire, conduct transactions and utilise the bank's products online.
- **BEAM Workflow:** allows the bank to assign, schedule and track complex work processes throughout the organisation. Users are able to automate a range of business tasks, routing the right information to the right people at the right time.
- **BEAM Core:** provides a full back-office system with embedded workflow management. Equipped with an online product designer, the system allows for rapid change and development of new products.
- **Technology:** BEAM achieves maximum system interoperability through its advanced design and compatibility with a service-orientated architecture. Business rules can be exposed via Web services, which allows system modules to interface with different banking applications and institutions, supporting bank delivery channels as well as workflow and document archiving software.



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Financial Objects is an international supplier focused on the provision of new generation banking, wealth and energy software solutions. In the core banking space, we deliver three key products: ibis s2 is our flagship commercial banking solution – providing global banks with a full remit of back office operations including trade finance, private banking, Internet banking and commercial lending. activebank Retail is our back office retail banking system, run entirely over a .NET platform and offered as a complete solution or as individual components. activebank Treasury can be offered as a standalone product, or easily and comprehensively integrated with either ibis s2 or activebank Retail.

Our partnership with Microsoft allows us to offer our clients the ultimate in flexibility. We offer rapid product development and roll-out, individual component implementation, and multiple channel integration for superior flexibility to a bank's client base. Our SOA architecture is based around Microsoft's SOA strategy and utilises BizTalk to model processes and create the business process execution language (BPEL) required to control processes and cross systems workflow.



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Harland Financial Solutions supplies software and services to over 7,000 financial institutions of all sizes, both in-house and in a service bureau environment. The company is a leader in core systems, risk management, item processing, enterprise content management, branch automation, business intelligence, origination and document solutions, compliance training, financial accounting, open documents, mortgage solutions, electronic funds transfer (EFT) and self-service solutions.

In core banking, the Phoenix System is an innovative front-to-back Microsoft enterprise solution based on the Windows operating system, SQL Server database, and .NET elements. With a growing roster of 150 banking clients globally, the solution is powerful and scalable while being fully integrated with Microsoft's Outlook and Office Suite. The architecture and relational database of the system allows institutions to broaden their customer relationships, improve productivity, enhance management reporting and reduce training costs. Harland's integration methodology (XML and SOA standards) is part of the Phoenix System deployment.

Additionally, many of the company's other best-in-class solutions leverage Windows, SQL Server and .NET, including those in credit risk management, loan origination, branch automation and enterprise content management. Harland Financial Solutions is a Microsoft Gold partner.



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Intertech was established in 1991 primarily to serve the finance industry, and provides wide range of information technology services for many industry areas with a superior service quality.

Intertech is highly specialised in the areas of banking software and applications, systems management and operation, portal technologies, process management systems, customer relationship management (CRM), data warehouse and information security. The company provides project management consultancy and turnkey services in all of these.

Intertech offers the inter-Next integrated banking platform to banks of all sizes, for a new generation of banking service across all distribution channels including Internet/kiosk, ATM/POS, call centre and mobile devices.

Based on a CPM approach, the inter-Next banking platform links enterprise CRM strategy to core processes and activities and allows banks to drive business aligned with customer needs and expectations.

Knowledge is driven from consolidated and centralised data to feed front-office applications for dynamic access to decision support models, turning operational staff into a fully equipped sales force.

inter-Next is built on a service-oriented architecture to provide a unique combination of best-of-breed IT infrastructure, and guarantee scalable solutions with speedy implementation.

Running on Microsoft technologies, inter-Next adds value to banks by saving both time and money.



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Jack Henry & Associates, Inc. was founded in 1976 and three decades later, it supports more than 1,700 banks – ranging from de novo to mid-tier institutions – with three market-leading in-house and outsourced core processing solutions:

- SilverLake is a highly customisable, IBM System i-based solution for commercial banks
- CIF 20/20 is a parameter-driven, IBM System i-based solution
- Core Director is a Windows-based, client/server core processing solution.

Jack Henry operates as a single source for enterprise-wide automation by integrating these popular core systems with more than 100 complementary products and services; and serving each client as a single point of contact, support and accountability for today's complex information processing platforms (www.jackhenry.com).

Jack Henry also provides ATM/debit card/ACH transaction processing services primarily for financial services organisations. Its technology solutions serve more than 8,700 customers nationwide, and are marketed and supported through three primary brands. These brands are Jack Henry Banking, a leading provider of integrated computer systems for banks; Symitar, the leading provider of information and transaction processing solutions for credit unions (www.symitar.com), and ProfitStars, a leading provider of best-of-breed solutions that improve the performance of financial institutions and diverse corporate entities (www.profitstars.com).



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New Technology Business Solutions Group (NTBSG) is a Microsoft solution provider specialising in the development of state-of-the-art software for the global financial services sector.

Our flagship product NTBS is an end-to-end core banking solution. Since the product's birth in 1996, the NTBS financial services platform has been proven as a leading-edge retail banking platform incorporating both front office and back office functionality.

The NTBS platform has been successfully implemented in New Zealand, Australia and the United Kingdom, primarily as a direct banking and mortgage/loan administration platform. The NTBS application was developed exclusively with Microsoft products including Visual Studio (C#.NET; C++) and SQL Server, and implements a comprehensive service-oriented architecture in an N-tier stateless middleware design. NTBS is a highly scalable customer-centric platform core banking system built with e-channels at the core, metadata-driven workflow and metadata-driven process management.

NTBSG is a New Zealand registered company with its head office in Auckland, New Zealand and branch offices in Sydney and Melbourne, Australia.



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Open Solutions' enabling platform provides new avenues for cost saving opportunities to diversify products and offer new ones. Our relational technologies enable financial institutions to better compete in today's ever-changing market.

Our strategic product platform integrates core data processing applications built on a single, centralised relational database supporting multiple currencies and languages with cash management, customer relationship management (CRM)/business intelligence, financial accounting tools, treasury and trade finance, imaging, digital documents, interactive voice response, network services, and payment and loan origination solutions.

Our system manages highly flexible relationships between people, businesses and accounts with no codes or product limitations, no limits on service charge routines or interest rate parameters, and no translation needed.

Our system is designed to take advantage of industry standard technologies. In particular, the latest release of our relational core product incorporates a .NET platform using Smart Client technology. The .NET object framework provides a contemporary look that will allow Open Solutions to stay current as the Windows 'look and feel' continues to evolve. An important benefit of the .NET Framework is the supporting architecture for Open Solutions to develop a Shared Application Framework (SAF). Future use of the SAF module will benefit all Open Solutions premier products by providing a single source of code for common functions such as security, printing controls and single sign-on capability.



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Pexim Solutions is the first independent software vendor in the world to offer a new generation of core banking, multi-channel payment and business intelligence applications entirely based on IBM IFW models and Microsoft .NET technology – Windows Server 2008, Windows Vista, Office 2007, SQL Server 2008, BizTalk Server 2006 and Visual Studio 2008.

Pexim's proven solutions include core banking, loan origination, payments, card management, Internet banking, mobile banking, banking data warehouse, credit scoring, risk management, performance management, compliance and customer relationship management.

With experience from more than 50 installations in European banks since 1996, a rich portfolio of mature banking software and strong investments in future innovations, Pexim offers a safe choice for banks looking to renew their core system, improve channel and payment efficiency and utilise the full information potential of their data warehouses. Banking expertise in emerging markets and a growing customer base are the most valuable of Pexim's assets.

The next generation of products, codenamed Revolution, is being developed in intense partnership with Microsoft and IBM, engaging world-class experts in service-oriented architecture, adaptive processes, data centre reliability and platform interoperability. The first products from the Revolution family will be available on the international market in the second half of 2008.



SAP

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SAP is the world's leading provider of business software comprising enterprise resource planning and related applications such as supply chain management, customer relationship management (CRM), product lifecycle management and supplier relationship management for more than 25 industries.

SAP for Banking provides banking-specific (transactional banking, CRM, risk management) and banking relevant (financial accounting, human resources management, procurement) services and solutions created on a single enterprise service-oriented architecture (SOA)-enabled business process platform. With more than 600 customers in 60 countries, SAP for Banking provides an integrated set of tools and automated processes to manage every aspect of the front and back-office banking environment—from high-volume transactional banking processes and CRM to financial accounting, cost controlling and profitability and risk analysis.

Based on the open architecture of the SAP NetWeaver platform, SAP for Banking helps companies expertly manage transactions and relationships across the institution to quickly identify and exploit market opportunities and easily tailor new products to the specific needs of individual customers.

SAP and Microsoft are long-term complementary partners. Recently, they designed, developed and manufactured Duet software so that organisations can empower employees to seamlessly access data and SAP enterprise applications from within the familiar Microsoft Office environment.



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SlaterLabs was formed in 2005 by a group of core banking industry veterans to develop the world's first fully .NET compliant, end-to-end core banking system. The system, known as Etude, is a 24x7, real-time service-oriented architecture based banking system, developed collaboratively with SlaterLabs' banking clients.

Banks around the world participate in the Etude Programme, which connects these banks via Etude-Virtuoso to the SlaterLabs development team in Madrid. Banks across the world are currently participating in the Etude Programme.

Etude is constructed and compliant with the most current Microsoft .NET technologies including BizTalk, Visual Studio and SQL Server 2005.

The business function highlights include multi-currency, multi-bank and multi-language support, and a sophisticated product builder to facilitate rapid new product development and launch.



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TCS Financial Solutions, a strategic business unit of Tata Consultancy Services, is a leading banking solutions provider in more than 80 countries. Branded under TCS BaNCS, our product solution offerings comprehensively address the financial services market across commercial, retail and wholesale banking, capital markets and insurance.

TCS BaNCS Core Banking solution is platform agnostic, and TCS Financial Solutions is fully committed to service-oriented architecture (SOA) enablement of all TCS BaNCS products. Today, more than 3,000 coarse grain 'online' TCS BaNCS Core Banking services have been exposed as Web services, in addition to support for business process orchestration by provision of in-built adaptors for use with industry-leading integration platforms such as Microsoft BizTalk. TCS Financial Solutions broadly classifies its SOA approach to implementation into four categories and provides professional services accordingly:

- Simple SOA* – TCS BaNCS application portfolio service enablement
- Multi-level SOA* – Focused on building the business services layer which forms the fulcrum of SOA
- Process SOA* – A strategic initiative to harmonise and streamline end-to-end business process
- EA-driven SOA* – A strategic initiative to transform the business and IT architecture and infrastructure focused on long-term vision and strategies.

SOA-based solutions, based on the Microsoft platform, enable greater flexibility and choice in rolling out large and complex core banking replacement programmes.



Temenos

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Founded in 1993, Temenos Group AG is a leading provider of integrated modular core banking systems. We serve more than 600 customers in over 120 countries, supported by 43 offices.

Temenos software provides banks with a single, real-time view of the client across the enterprise, enabling banks to maximise returns while streamlining costs. We provide 24x7 functionality to the retail, corporate and correspondent, universal, private wealth management, Islamic, microfinance and community banking sectors. Temenos partners with central banks on core system replacement, and works with the World Bank on solutions for emerging markets.

Our flagship product Temenos T24 is a functionally rich, scalable, integrated modular banking system. It is built on open service-oriented architecture, and uses established technology standards such as simple object access protocol (SOAP) Web services, XML and a true stateless browser front end. It offers a single client view across the enterprise and can support large numbers of users with true non-stop resilience. Its fully-integrated architecture enables it to offer a significant cost advantage compared to other competing products. It is the only system available with no end-of-day batch processing, and so can genuinely provide real-time 24x7 non-stop banking.



Clear2Pay

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Clear2Pay is an innovative payments technology company focused on delivering globally applicable solutions for secure, timely and streamlined payments processing. Clear2Pay's Open Payment Framework (OPF) enables financial institutions to improve internal payments processing efficiencies while at the same time providing their clients with better payment services that are faster, with richer payments-related information.

The Clear2Pay OPF is a library of component building blocks from which payments solutions can be derived. The OPF is built entirely on a service-oriented architecture (SOA) delivering common, reusable services consisting of a comprehensive data model, choreographed payment business processes and configurable services including parsing, validation, cost-based routing, warehousing security, auditing and many more. From this core framework, Clear2Pay has created pre-defined solutions including domestic and international payments, SEPA, Check Imaged Processing, EBPP, and remittance.

Clear2Pay's core OPF ships with a comprehensive Software Development Kit (SDK). The SDK changes the paradigm of a 'buy versus build' decision to 'buy and build.' Through documented APIs, customisation patterns and a suite of reusable frameworks, the SDK offers our customers the ability to add, change and round out components to meet their unique requirements.



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EFS Technology's AutoFORM LaserNet output and document management software cuts the cost and time involved in converting standard core banking output data into attractive, multi-language banking statements, transaction-driven client letters and any other client-driven document. AutoFORM LaserNet allows banks to take control over producing consistently branded documents with regional variations to meet differing cultural and tax requirements, including double-byte printing for Asian, Cyrillic and Eastern languages. These documents can then be delivered to network printers, e-mail, fax or XML.

As the volume of information from both paper and electronic sources grows, so does the need to manage document records more efficiently. AutoFORM helps you meet these challenges with a host of document imaging and computer online data archiving facilities. Banks can take advantage of distributed scanning in their branches for documents such as mortgage applications.

Residing on a Windows server as a standard service, AutoFORM LaserNet enables banks to use technology such as XML, Web services, file monitoring, .NET applications and application programming interfaces to interact with other systems. This allows AutoFORM LaserNet to act as the central hub for all data transfer and document production and management.



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Fair Isaac Corporation combines trusted advice, world-class analytics and innovative applications to help businesses make smarter decisions. Fair Isaac's solutions and technologies for enterprise decision management (EDM) turn strategy into action and elevate business performance by giving organisations the power to automate more decisions, improve the quality of their decisions, and connect decisions across their business.

Clients in 80 countries work with Fair Isaac to increase customer loyalty and profitability, cut fraud losses, manage credit risk, meet regulatory and competitive demands and rapidly build market share. As a provider of EDM solutions, Fair Isaac is a leader in predictive analytics as well as business rules management, helping lenders turn business intelligence into action more quickly and cost-effectively.

Our product portfolio includes leading solutions across the banking customer lifecycle, from marketing and account origination to fraud protection, customer management and collections/recovery. We introduced the concept of credit scoring in financial services, and have developed breakthrough analytic applications for other industries. Among our industry-standard products are the FICO score, which is the standard measure of credit risk in the US, and Blaze Advisor business rules management system, recognised as the worldwide revenue leader in rules management systems by analyst firm IDC.



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With offices in the major financial centres worldwide servicing a global customer base of banks and financial institutions, FinArch has built a strong reputation as a vendor or partner for financial, risk and compliance solutions.

FinArch prides itself on its unrivalled niche expertise, its in-depth knowledge of local and global banking practices, and its successful partnerships with customers, regulators, consulting firms and technology providers.

The company's new generation of financial management and business intelligence software, Financial Studio, is the first fully integrated finance resource planning solution. Financial institutions around the world – including many of the leading names in the industry – use Financial Studio to drive their financial management activities.

Financial Studio's scalable and modular components are designed to support truly global operations and are easily integrated with large and complex enterprise architectures through service-oriented architecture (SOA)/enterprise service bus, message broker systems or direct interfaces.

FinArch strives for easy integration in a service-driven environment. Thanks to its revolutionary deployment system, Financial Studio is able to expose all of its functionality as Software-as-a-Service. Additionally, FinArch caters for a varied approach in which service-oriented integration is mixed with classical means of integration allowing a gradual migration toward a full SOA.



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Founded in 1992, Fircosoft has been a member of the Sword Group since 2000.

Fircosoft is a leading provider of WatchList filtering and financial message repair solutions. Fircosoft's WatchList filtering solution, OFAC-Agent Suite, helps financial institutions comply with embargoes and reinforced international regulations on terrorist financing, by eliminating the risk of processing illegal transactions and detecting high-risk financial customers and counterparts. OFAC-Agent Suite addresses the goals of real-time transaction filtering and Know Your Customer (KYC).

STP Factory is a complete offering to improve the automated processing of bank-to-bank transactions by transforming, fixing and completing rejected payment and securities messages.

Fircosoft's solutions are simple and quick to deploy, and 315 customers in more than 50 countries (representing 650 live sites worldwide) now use Fircosoft's WatchList filtering solutions.



Fiserv

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Fiserv provides information management and electronic commerce systems and services to the financial services industry. Headquartered in Brookfield, Wisconsin with offices worldwide, the company has more than 21,000 clients.

A key part of Fiserv's service-oriented architecture strategy, Aperio streamlines sales and service operations to improve efficiency, increase cross-sell and up-sell opportunities and optimise the customer experience via its .NET integration layer. Aperio adeptly integrates multiple back-end systems and channels, bringing together customer and product information in a deep, real-time, holistic view of customer relationships. This allows bank staff to interact with an intuitive, process-based user interface for all sales and service interactions, shielded from the complexity and constraints of legacy systems.

Real-time predictive analytics within Aperio also help banks to execute the most suitable cross-sell, retention, data gathering and risk management strategies during everyday customer interactions based on up-to-the-second customer information.

Fiserv Aperio is one of a wide range of leading Microsoft-based solutions for financial services from Fiserv. Others include the NetEconomy financial crime management suite, IPS Sendero financial and credit risk management solutions, Imagesoft Nautilus enterprise content management solution and credit union core processing solutions from Integrasy.



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GaleForce Solutions Inc. is a leading provider of customer relationship management (CRM) software for the financial services industry.

GaleForce CRM for Financial Services is an enterprise-class application uniquely suited to the daily workflow of client-facing producers in the financial services industry, including commercial and retail banks and credit unions, and wealth management, investment banking and capital markets firms.

Account and portfolio managers, financial advisors, lenders and traders can all use GaleForce CRM to organise, present and track information about their clients, driving workplace productivity, sales revenue and client acquisition and retention strategies. GaleForce CRM drives efficiencies and revenue for companies in one of the world's leading growth industries.

GaleForce leverages Microsoft CRM as the core platform and a modern architecture that provides a composite service-oriented architecture-based development and integration methodology.



Granville Associates

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Granville Associates provides business intelligence (BI) solutions for banks.

These BI solutions extract and transform data from banking systems and populate a generic banking data model to create a fully reconciled source of reliable banking information in a single management information layer – that is, one version of the truth.

All Granville solutions use a common architecture consisting of:

- Data warehouse: SQL Server 2005 (Enterprise) – contains a Granville's generic banking data model
- Adaptors: packaged extract, transform and load (ETL) developed with SQL Server Integration Services (SSIS). These adaptors automatically extract data from banking systems, then transform and load it into the data warehouse.
- Online analytical processing (OLAP) software: Cognos TM1 – with default cubes and views supplied so users can start analysing their data immediately and perform quick, sophisticated analysis, modelling and charting.

Granville combines all these components in complete BI products which can be installed out of the box, allowing banks to go live within two months and immediately start realising benefits. Granville also provides standard BI applications.

The solutions are easily extensible, allowing data from many banking systems in many locations to be added to a single solution, thus creating an enterprise-wide business intelligence capability.



Misys

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Misys Opics Plus is an award-winning .NET service-oriented, front to back office, core treasury, capital markets and derivatives solution. On a single platform, it processes vanilla and complex derivatives, fixed income, equity and treasury trades while managing risk and compliance.

Opics Plus delivers optimal performance and functionality with Microsoft-endorsed architecture, enabling multi-tiered and parallel processing. This service ensures usability while providing scalability that can meet future volume growth.

The flexibility of the design includes an intuitive user interface, a customisable desktop and an open architectural framework that keeps the smart client separate from the core Opics Plus processing (allowing easy substitution of an alternative user interface).

Opics Plus is a proven solution enabling our clients globally to meet their current and future business needs. The proven breadth and depth of coverage and the financial stability of Misys, as well as local expertise, make Opics Plus the appropriate solution for our broad and diverse customer base.

Misys is a Microsoft Key Capital Markets Partner Solutions provider and a Microsoft Global Independent Software Vendor in the financial services industry vertical.



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N4 Solutions' business is the development of multi-channel mortgage sales and origination systems and wealth management platforms. N4's product is widely regarded as one of the most innovative and effective in the market today, providing mortgage lenders and financial planning firms with a functionally rich multi-channel solution for managing the entire sales and origination process from initial customer engagement, through to sale and completion. Importantly, the system provides not just the means to transact business, but also the ability for clients to fully customise each sales process, thus optimising the customer engagement within the various sales channels and providing genuine differentiation.

XML toolkit-based technology has been used to construct the system components, enabling rapid customisation and deployment of the system and resulting in reductions, both in implementation costs and in time to market. Similarly, once the system has been implemented, further business change can be rapidly and cost-effectively accommodated.

Underpinning the N4 platform is Microsoft .NET technology, including Windows Workflow Foundation which provides the management of both automated (orchestrated) and manual workflow tasks.

The N4 platform design is service-oriented architecture (SOA), and the architecture benefits from having common interfaces with and to core services. This fundamental design principle provides clients with complete flexibility and allows key parts of the system to be replaced with either existing client solutions or our clients' preferred third-party solutions.



NetEconomy

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NetEconomy was founded in 1993 and is a business unit of Milwaukee-based Fiserv Inc, a Fortune 500 company that provides information technology services to the financial industry worldwide.

NetEconomy monitors customer activity and financial transactions and alerts users to potential suspicious activity. The solution then drives users through investigation, case tracking and reporting using a step-by-step workflow with built-in case management and full audit trail. Key capabilities include intelligent transaction monitoring based on multiple detection techniques including pre-built detection scenarios, behavioural profiling, filtering, peer group analysis, link analysis and static risk factor analysis. These approaches are uniquely combined to generate only those alerts with the highest degree of risk, significantly minimising the number of false positives.

NetEconomy's ERASE Financial Crime Suite comprises four business modules hinged on the ERASE Risk Framework, providing case management, workflow management, investigation capabilities and automated reporting:

- ERASE Compliance Manager – An anti-money laundering solution that monitors transactions to automatically detect suspicious activity; includes user-friendly investigation and case management system, and automated regulatory reporting.
- ERASE Fraud Prevention Manager – Provides real-time detection for various forms of fraud including cheque fraud, debit card fraud, credit card fraud and identity theft.
- ERASE Market Surveillance Manager – Prevents market abuse, insider trading, minimises trading risk and ensures compliance with regulatory requirements.



Portrait Software

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Portrait Software provides Intelligent Dialogue software that helps financial services firms to deliver great customer experiences, increase sales, drive down costs and manage risk.

Portrait provides an Intelligent Dialogue platform that helps large retail financial services software vendors, integrators and outsourcers to develop process-driven customer experience management applications much faster.

Portrait specialises in applications that drive critical customer experience processes, including real-time customer interactions and the longer-term follow-up procedures that can involve many different systems, departments and partners.

Using Portrait, banks can identify and optimise key components of their front-end business processes to streamline sales and service operations. This improves channel efficiencies, increases cross-sell and up-sell opportunities and optimises the customer experience. Based on .NET and deployed over a service-oriented architecture, Portrait adeptly integrates multiple back-end systems to deliver a 360-degree view of the customer which includes predictive customer insight. This then allows bank staff to have smarter, process-based interactions and shields all users, including customers, from the complexity and constraints of legacy systems.



ASNA

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ASNA provides sophisticated enterprise application development products and services that propel businesses to higher levels of performance and agility while extending the value of their investments in IBM midrange (iSeries, AS/400 and System i) enterprise applications and the resources used to support them.

ASNA developer solutions include:

- Highly-evolved, modern application development solutions
- Knowledgeable and dependable technical support
- Superb education and training
- Comprehensive consulting services.

ASNA products and services help couple iSeries 400 enterprise databases, existing data processes and data flows with modern user interfaces such as Windows clients, browsers and even mobile devices. We do this by:

- Providing application developers with rich and deep solutions to create, maintain and extend modern solutions
- Extending the reach of existing development team programming skills
- Leveraging existing RPG application investments.

ASNA is a Microsoft Gold Certified Partner, a Visual Studio Industry Partner and a founding member of the Midrange Alliance Programme. ASNA is an Advanced Tier Member of IBM PartnerWorld whose products have achieved 'Server Proven' status and appear on the IBM System i Innovation Developer Roadmap.



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Lansa provides organisations with a highly productive development, integration and modernisation platform that speeds up the development, maintenance and deployment of commercial applications for the Microsoft platform.

Fidelity Information Systems, a Lansa partner, used Lansa to build a commercial lending package called Advanced Commercial Banking System (ACBS), which provides commercial lending institutions with a comprehensive, cost-effective way of managing and servicing commercial lending portfolios. Multi-currency and Euro ready, ACBS handles multiple fee and pricing structures, as well as complex loan products such as syndications. ACBS customers include many of the world's largest financial institutions, as well as many small regional and private banks.

In addition to Fidelity Information Systems, other partners have used Lansa to build packages for portfolio management, funds management, investment management, loan management, deposit management, mobile banking, Internet banking and electronic funds transfer networks. Other customers within the banking industry use Lansa technology internally to rewrite or extend their own homegrown or purchased banking applications.

Beyond creating new applications, Lansa has the ability to migrate or integrate your existing legacy application assets with Microsoft's platform, while adopting new technologies such as service-oriented architecture and Web services.



Micro Focus

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Micro Focus provides innovative software that enables companies to dramatically improve the business value of their enterprise applications. Micro Focus enterprise application management and modernisation software enables customers' business applications to respond rapidly to market changes and embrace modern architectures with reduced cost and risk.

Our banking solutions help drive the innovation agenda through reuse of existing assets to enhance operational efficiency, allowing business growth to accelerate with the adoption of strategies such as Web enablement and service-orientated architecture.

Application Portfolio Management – Enables the CIO to align IT spend with business strategy, by providing factual business intelligence for informed decision making

Application Modernization – Providing choice, supporting a wide range of modernisation strategies regardless of your existing or future hardware and software environments.

Micro Focus SOA Express – Enables the modernisation of existing mainframe applications by unlocking the business value embedded within those applications and delivering them to a service-oriented architecture through Web services at very low risk.



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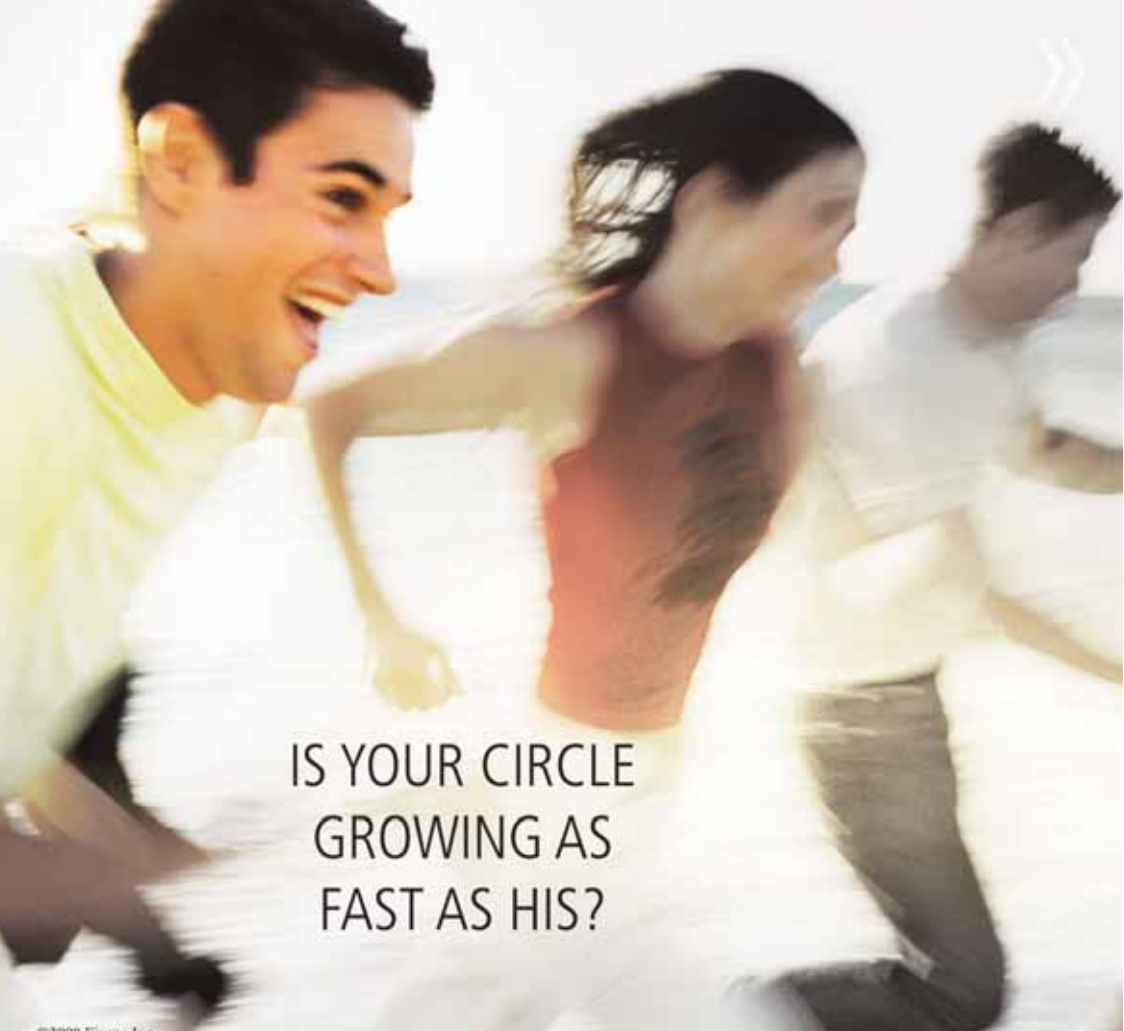
PKS Software is specialised in application migration and reengineering. This covers tool-based extraction of user interface functionality from legacy applications, including transformation to .NET as well as complete platform and database migrations. Existing legacy assets can be analysed and transformed according to custom-specific rule sets to move step-by-step into a service-oriented architecture without the need to rewrite the system.

The background of the advertisement is a photograph of a high-voltage electrical substation. The scene is captured during sunset or sunrise, with a bright, glowing sun low on the horizon, creating a strong orange and yellow light. Silhouetted against this light are the complex structures of the substation, including tall metal towers and a network of power lines. A few small figures of people can be seen near the base of the towers, providing a sense of scale.

Expand your banking in emerging markets

Pexim Solutions is a first ISV in the world to offer new generation of core banking, multi-channel, payment and business intelligence applications entirely based on IBM IFW models and Microsoft .NET technology. Pexim proven solutions include core banking, loan origination, payments, card management, internet banking, mobile banking, banking data warehouse, credit scoring, risk management, performance management, compliance and CRM.

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IS YOUR CIRCLE GROWING AS FAST AS HIS?

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Fiserv | CBS
Worldwide

They are more than your customers. They are brothers, friends, colleagues, parents, and the key to growing your customer base.

Solutions from Fiserv CBS Worldwide provide the insight you need to better serve your customers by anticipating and preparing for their growing needs. Become more than their financial institution – become their financial partner. They will notice. And they will spread the word.

To find out how CBS Worldwide can help you improve service and grow your family of customers exponentially, visit www.fiservcbs.com.

The smartest path to: **GROWTH, EFFICIENCY, TRANSFORMATION.**