TEMENOS NEWS

Behind Banking

Issue 4, May 2004

Pushing it to the Limit!

TEMENOS supports Dominique Wavre in the Transatlantic and Vendée Globe round the world solo races!

We interrupted Dominique's preparations for the Transat to find out more about the man, the races and the role TEMENOS is playing as sponsor.

Dominique, how long have you been sailing?
I began sailing 25 years ago, initially on Lake Geneva, but I soon progressed to the sea, and, being driven by a competitive spirit, I began to take part in competitive sailing. I have taken part in five round the world races (one solo and four with crew) and in one Vendée Globe solo round the world race. I have also been Swiss champion three times.

What drives you to take part in gruelling and dangerous races like the Transat and the Vendée Globe?
First of all, I don't see them as particularly dangerous – I think driving my car probably incurs more risks! I am a professional, skilled sailor and I feel at home on the sea. As for being 'driven', I have a naturally competitive spirit, which makes me push the boat harder when I take part in these races.

So these are the two races you will be focusing on this year?
Yes, in fact the focus is really on the Vendée Globe and we see the Transat as a kind of training for this. So, it is very important to finish the Transat without breaking anything on-board as we will have only limited time to carry out repairs before the Vendée Globe.

What do you see as the main challenges of the Transat?
I think there are three main challenges. The first is, because it's a competition, we have to push the boat hard; the second is we are sailing in the North Atlantic so there is a good chance we will have stormy weather and winds against us; and thirdly, towards the end, we will be sailing south of Newfoundland (Terre Neuve), an area of very cold water and frequent fogs. So the end of the race is almost more

'TEMENOS' sails around the world!

difficult than the beginning and we will need to ensure that we remain in good shape.

In the course of the race, do you see other competitors?
The Transat takes between 13 and 15 days to complete. For the first day or two and towards the end, we may see our competitors, although our attention is mainly taken up with avoiding ships and tankers in the busy waters! For the

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Chairman's Comments

We are already half way through the year and what a year it has been so far! Our financial results for the first quarter were excellent - contract signings almost doubled, and the net profit more than tripled, compared with the same period last year. I feel that 2004 is going to be a 'TEMENOS year' and hope that this will benefit all of our extended 'family'! Moving on from meeting the challenges of business, to meeting the challenges of the elements, I am delighted to announce that this year we are again sponsoring the Swiss skipper Dominique Wavre in the solo transatlantic and Vendée Globe round the world yacht races. Dominique will be bearing the colours of TEMENOS across the world's most challenging oceans in these gruelling races. In our interview with him, you can find out what drives this amazing man, who has already pushed himself and his boats to the limit in five round the

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world races, as well as other major competitions. In many ways Dominique's love of the elements and quest for success reminds me of TEMENOS ! I hope that you will find it as exciting as we do to follow Dominique's progress. I wish him every success and I would like to think that we show the same kind of strength and resilience in business as Dominique demonstrates in his racing!

Finally, it's that time of year again! We will soon have the pleasure of meeting you all at our annual TEMENOS Client Forum – TCF™, in the magical city of Prague! The event this year promises to be even better than previous years, with the addition of several new items, such as 'round tables', new style breakout sessions and the provision of an internet café to mention but a few. For the first time, our forum will be sponsored by a media partner - an industry-leading publication in the shape of The Banker. We are also delighted to welcome IBM, Oracle, HP, Softgen, Finantix and Microsoft as principal sponsors of our events.

I look forward to seeing you in Prague on the 22nd and 23rd of June and I would like to thank you all personally for your continued loyalty to TEMENOS.


George Koukis, chairman, TEMENOS

TEMENOS significantly over-achieves its Q1 targets

Andreas Andreades reviews the first quarter of 2004


Andreas Andreades, CEO, TEMENOS

As I wrote in the January newsletter, 2003 saw TEMENOS returning to both growth and profitability. It is sometimes even more challenging to follow a good year than it is a bad one, but I am pleased to confirm that TEMENOS has started 2004 stronger than ever!

The value of our initial licence fees (ILF) for new contracts signed during the first quarter of 2004 amounted to US$ 15.7 million, which means that we have significantly overachieved our target of US$9 million and realised an increase of 91.5% compared to the same period last year. Importantly, we have continued to see our average deal size increasing from US$2.2 million in 2003 to US$3.2 million in the first quarter of 2004. This is the result of the launch of TEMENOS T24 and the success of our mainframe solution for retail banks, TEMENOS CoreBanking (referred to as TCB). Both of these products have enabled us to compete in deals with the larger financial organisations. This is very encouraging.

With TEMENOS T24, our continued success in partnering with integrators, such as IBM, HP, Accenture, EDS and Cap Gemini, has also facilitated access to Tier 1 banks. In addition, we have seen a higher level of activity in retail banking, with a number of deals recently signed or in the pipeline - some 69% of new signings in the first quarter were for this sector, compared with 42% in the final quarter of 2003. And TCB deals are gaining speed. The first quarter saw a new contract signed with the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand, in conjunction with IBM and Thai Equipment Research. This came hot on the heels of our contract with Bansefi in Mexico, which was signed at the end of 2003. The first quarter also saw a number of other single or multi-site licence contracts signed, with prestigious companies such as the Anglo Irish Bank Corporation (UK and Ireland), Overseas Private Investment Corporation (US) and the Banque de France (France).

I am delighted to report that TEMENOS has also benefited from an excellent performance in Europe, where we continue to see increased demand across all segments. For these reasons, TEMENOS' twelve months ILF signings running rate is now at US$58.5 million, its highest level ever. Looking ahead, having already signed US$5 million in new licences, we are already in a good position to reach our Quarter 2 ILF target of US$16 million.

But initial licence fees are only part of the story - we also need to deliver on our contractual obligations. As an indicator of our success in getting our new clients live, I would point to the increased maintenance revenues (payable by 'live' sites) for the first quarter 2004 – up by 21.5% over the same period last year. This results partly from the aggressive investment in product quality, people and capability, which I promised in the last issue of this newsletter.

So TEMENOS is right on track! Our financial results are positive and we are also gaining market share against our competitors. As the market continues to consolidate, TEMENOS is getting stronger and more established as the key vendor for core system applications. We have created together a company which is second to none. We have products, we have people, we have distribution, we have clients! We also have a culture which is unique. We are able, when we work as a team, to make the impossible happen and we do so on a regular basis! Thank you all for a wonderful quarter and an excellent start to this year. I too am convinced that 2004 belongs to TEMENOS!

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ten days or so in the middle, we see nobody.

What about the Vendée Globe?

The Vendée Globe is a bit like climbing Everest! It's the longest race, lasting some three months, you are alone and there is strictly no assistance. Also, we will be sailing far to the south, where we will be encountering stormy weather, big seas and possibly icebergs. Then, we will be returning to Europe in the middle of Winter, in February, so we can expect stormy seas then. So, we will need to be in good shape at the end too. It really is a human challenge - technically, physically and psychologically.

How do you prepare for these races?

Physically, I work out every morning for an hour or so before I go to work. Psychologically, it is more difficult to prepare. I feel that I am ready psychologically when I am satisfied that the boat is ready and all the preparations on it are completed.

What about the relationship with TEMENOS? You have worked together before haven't you?

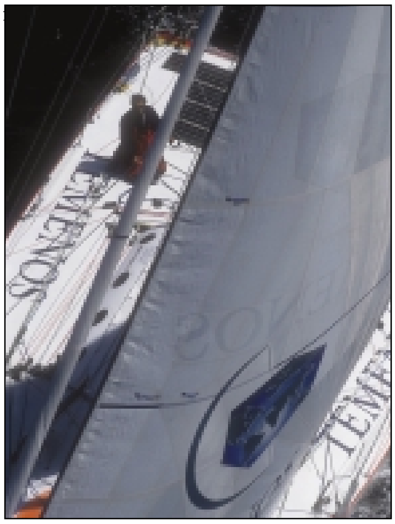
Yes, I have worked with TEMENOS before and the partnership works well. It's an easy company to work with because we have the same kind of spirit. I try to push the boat and myself to the limit. I have to be strong if I hit problems or bad weather and I think TEMENOS meets its challenges in business with the same kind of attitude.

TEMENOS will be sponsoring both of these races. But is funding the only thing a sponsor provides?

Definitely not. I can almost feel the emotional and psychological support provided by TEMENOS pushing me through the race. I hope that it's exciting for TEMENOS too. Perhaps some members of the company will be able to join us for training and see how we work on-board and the way we push the boat to its limits.

New developments in technology must have had a big impact on long-distance sailing?

Absolutely, and in different ways. Firstly in the materials used – very sophisticated carbon fibres are now used in the rigging and in the sails. This makes the boat very, very light and it affects the whole way we sail now. We can move so



waves, whereas before, boats were slower and we got the full impact of the waves. Weather forecasting is a lot more sophisticated than it used to be too and communications have improved dramatically, so we can receive forecasts more easily. Also, with satellite communication, we can keep in touch with home as well as with the media and this gives us a feeling of comfort and safety, although the latter is a bit of an illusion since if we did have a major problem in the middle of the Pacific, no-one would be near enough to help us anyway!

What personal attributes do you need to take part in long-distance racing?

You need experience. You need to be a highly skilled sailor technically and in all aspects of seamanship. You need to be competitive and, when sailing as part of a team, you need to be adaptable and to be able to get on with the people you are working and living with in a very confined space!

What have been the lowest and the highest points you have experienced when racing?

I have to say that when I'm in the middle of a race, I don't have much time for philosophical thinking! I am always busy – thinking about how fast I am going, how the boat is handling and so on. I am just a sportsman doing my job with a lot of passion. So really, the time for reflection is after the race, when I return home! The one time I did hit a very low point was when I had to pull out of the Route du Rhum after four days because my sails broke. That was the first time I had ever had to stop a race.

Do you prefer sailing double-handed to solo?

My preference technically and emotionally is for double-handed racing, preferably with my partner Michèle Paret (an expert yachtswoman in her own right with more than 100,000 miles in round the world and transatlantic races to her credit). Solo racing tends to predominate in the sailing programme however – possibly because the public tends to understand solo racing more. In double-handed, it's very nice to have someone to share the experience with and, perhaps more importantly, a second person brings increased security – someone to look out for you if you have to climb the mast or go into the water. Also, with two, you can really push the boat to the limits, as there is always someone ready to trim the sails and react to changes in the winds and so on. If you are alone, you have to operate within a safety margin, because if you push too hard and something goes wrong, there is very little you can do to put it right.

Do you feel ready?

Yes indeed. Preparations for the Transat have gone very well and on the 31st May I set out from Plymouth.

We wish Dominic every success in his races!

Race dates:

31 May	**Transatlantic – solo** **From Plymouth to US, Eastern Seaboard**
7 Nov - Dec	**Vendée Globe 2004/2005 - solo** **From Les Sables d'Olonne to Les Sables d'Olonne (France)**

Dominique's progress can be monitored on his web-site at www.dominiquewavre.com

In the Hot Seat!

Andreas Andreades, CEO, TEMENOS

TEMENOS has traditionally been a 'one product' company and has enjoyed spectacular success with TEMENOS GLOBUS on this basis. Now, a 'two product' company, offering TEMENOS T24 and TEMENOS CoreBanking (referred to as TCB), we ask Andreas Andreades, CEO, why this move is perceived as crucial to the company's success and future growth and what the implications are for existing and prospective clients.

Andreas, TEMENOS GLOBUS enabled you to carve out a leading position among banking system suppliers. Why do you think this single product strategy has been so successful?
I think to answer that, you have to go back to the way the product was originally put together. In TEMENOS GLOBUS, we had an excellent product - the basics were there from the very beginning. Then, there were many advantages to following a single product strategy. It allowed everyone to focus. There was no confusion. It was clear what was available to sell and the development model was very efficient. There was also a company-wide determination to make the product successful – it's much easier to rally people around a single cause!

What prompted the move to a 'two product' strategy, with the acquisition of TCB?
We were never able to position TEMENOS GLOBUS effectively in Tier 1 retail banks. These were mainframe-based organisations, operating in an MVS/CICS environment and, when we tried to sell the benefits of open technology, we hit a total communications barrier with the IT heads, who had built up huge resources to support the mainframe environment. So we left this sector until we acquired TCB in 2001. That year saw the bubble burst in the financial services sector and from then on, retail banking was the only growth area for systems suppliers – with a compound growth of 5% from 2001 onwards. As retail was growing much faster than other sectors of the market, it made commercial sense for TEMENOS to take advantage of this growth. So we did!

How was TCB originally positioned alongside TEMENOS GLOBUS?
It really wasn't about functionality. In the organisations which we were targeting with TCB, it was all about technology, architecture and proving the scalability of the system. That's not to say that TCB doesn't have some excellent features, which have allowed us to be very competitive. Its data model, for example, is the financial services data model sponsored by IBM, so it is **the** solution for retail banks – standard and transparent. Banks don't like non-standard, proprietary products.

Initially, TEMENOS did not market TCB very aggressively. Why was this?
It was difficult at the beginning to make the transition to a 'two product' company – it was a mindset exercise first of all. Then, when we acquired TCB, we acquired the intellectual property, but no people with it, so we had to develop our own skills base internally. Since 2001, we have also done a significant amount of work in packaging the product and organising our processes and procedures. We made a small number of sales, but we did not have the capacity for a major roll out. Now, the time is right.

Has TCB taken TEMENOS into different geographical markets?
I wouldn't say that we have reached more markets because of TCB, but it has made it easier to win business in certain areas. For example, the contract we signed with Bansefi last year, which was probably the largest software deal to be signed in Latin America for four or five years, involved both TEMENOS T24 and TCB. If we had not had TCB, we would probably not have won any of that business. TCB is making expansion into Asian markets easier too. It is a facilitator.

Has TCB changed the way you sell?
Yes, we work very much more with partners in selling and implementing TCB. Inevitably IBM has been key to our sales and delivery process. TCB runs on IBM mainframes and so for about 80% of this target segment, IBM is the 'gatekeeper'. We are generally quite pleased with the way things are going.

When TEMENOS acquired TCB, was the TEMENOS T24 development already planned?
The technology basis for TEMENOS T24 originated in new technology requirements - for database and platform independence, for example. We were working on these as early as 1999, when we acquired the jBASE technology and followed the UNIX route. The technology mandate was joined by the 'operational' requirements of some of our key clients. For example, in 2002, ING Bank prompted us to eliminate the close of business (COB) as a physical stop on the availability of the system. ING ran round the clock operations and so needed real 24-hour availability. So the finishing touches to the TEMENOS T24 development occurred in 2002 with ING driving some of the changes. When we acquired TCB, there was absolutely no overlap with the work shaping TEMENOS T24. The two were very independent projects.

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TEMENOS CoreBanking: a scalable system for major retail banks!

Retail banking solutions represent the fastest growing segment of the market, with spending on retail core system software set to increase by 14 per cent over the next few years. In 2001, to ensure that it would be well positioned to take advantage of this opportunity, TEMENOS pre-empted the opposition with the acquisition of an excellent product for this area – TEMENOS CoreBanking (referred to as TCB), a modern, scalable system, which has already formed the basis of some significant deals.

TEMENOS CoreBanking had its origins in Spain, where it was developed as a major project for a Spanish banking cooperative, comprising more than 70 rural savings banks. The product development was led by IBM and this resulted in a highly 'architected' application, built within the IBM Information Framework Methodology (IFW) and employing the Financial Services Data Model (FSDM). This industry standard has helped in the development of several hundred large-scale applications and ensures that the banks' complete organisation, relations, products and services are represented in the application design. The application is mainframe-based and incorporates the DB2 database.

Functionally rich, TCB has been proven in real sites and has also been benchmarked against hundreds of millions of accounts and tens of thousands of users.

'TCB is a significant and very powerful solution in a market where competition is thin and ill equipped,' says Andreas Andreades, TEMENOS' CEO.

So what makes TEMENOS confident that it can succeed in a market which has seen considerably less innovation in recent years than other banking sectors?

Andreas Andreades continues. 'We did not embark on this acquisition without being convinced of the market potential as evidenced by some extremely detailed research. If we consider the number of new retail banking systems sold between 1997 and 2002, as shown in figure 1, we can see a dramatic increase from 2000 onwards, with almost four times as many new signings in 2002 as in 1997. None of the other banking sectors have shown anywhere near this level of growth over the same period. So, we decided to use TCB as a basis to open up new markets and to meet a demand that has evolved over the past two decades from the failings of other less successful suppliers.'

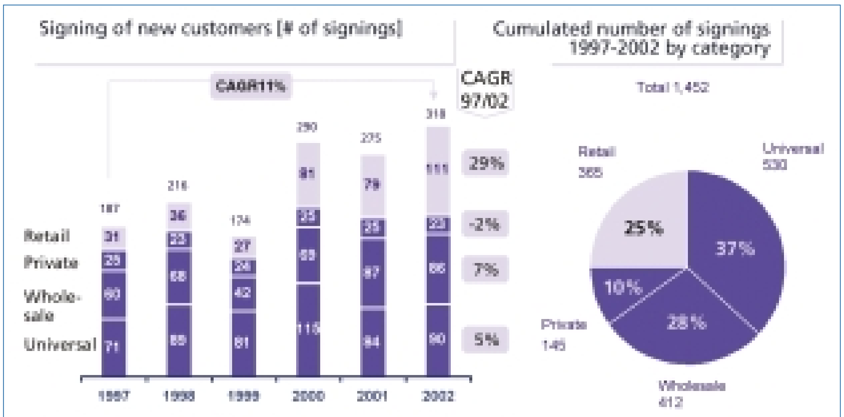


Figure 1: Market Growth

Trends in retail banking

The retail banking market is characterised by high levels of competition, increased regulatory scrutiny and a focus on managing strategic costs. The retail market is over-banked, margins are thin and the industry is characterised by consolidation. Banks need to be able to support branch networks as well as more innovative, technology-based delivery channels. The internet is destroying traditional customer loyalties and it is difficult for the banks to differentiate their offerings. The banks are driven to acquire new customers in order to increase revenue growth and to introduce new products to market more quickly and cost effectively than their competitors. Then there is the need to meet regulatory and compliance imperatives, efficiently and using coherent business processes. In terms of IT, retail banking is a mass transaction business and one which is predominantly mainframe-based. Many of the large retail banks still rely on the use of in-house solutions. IT-spend focuses on customer interaction, the creation of new revenues to increase profitability and on integrated multi-channel delivery – the internet, telephone banking and so on.

The retail core banking market has been characterised by large, in-house technology spend. This is forecast to grow, (spending for retail core system software is set to increase by 14 % over the next two years or so) and a larger proportion will be spent externally. At that stage, the retail bank will face the challenge of system selection and, thereafter, system integration. This is where TEMENOS and IBM can help with TCB.

Highlights of TEMENOS CoreBanking

TCB offers extensive support for all aspects of retail banking and administrative operations. Figure 2 demonstrates the scope of TCB, in the depth and breadth of banking product applications and common banking processes incorporated.

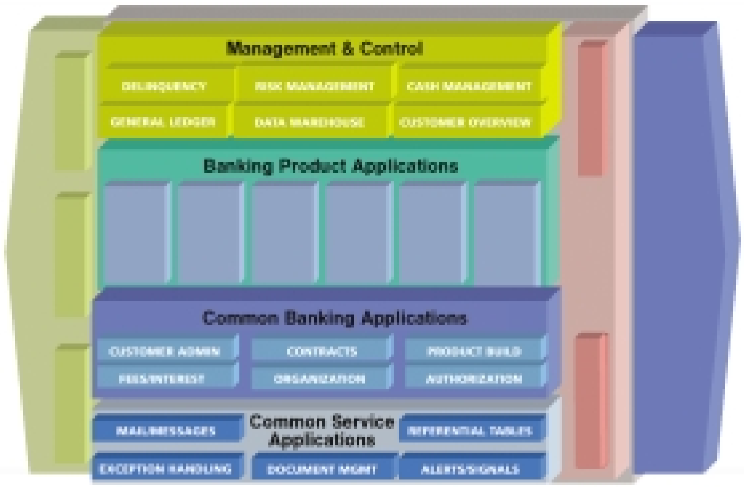


Figure 2: TEMENOS CoreBanking – application architecture view

The ability to react quickly to changes in the market is also important. Here, TCB's inherent design enables new applications to be added quickly, helping banks to get new products and services to market ahead of their competitors. In particular, the 'product builder' enables banks to build support for new financial products from component-based processes within the system. Significantly improved operational control is also a key benefit of the system. Entries can be easily tracked through TCB, so auditing, checking and ratification becomes a straightforward process. The system also incorporates immediate and direct access to extensive management information and reporting. Most importantly, TCB's architecture supports integration with other areas of the business – with brokerage, investment funds and insurance, for example, in addition to enabling a range of delivery channels to the customer.

TCB can handle extremely high levels of transactions and will scale to meet any further rapid growth in volumes. This has been proved both in live operation and in extensive benchmark testing, since banks like to see evidence of the system's capability, in terms of their own volumes and business mix. And most importantly in these cost-conscious times, the first users of TCB have noted a reduction in transaction costs year on year.

Target markets and banks

TCB is certainly of interest to the larger retail banks, which have typically been running in-house developed systems, but which are now considering packaged software. Basically, however, any bank from Tier 5 upwards could benefit from TCB, provided that it is running an IBM mainframe. Research has shown that 75-80% of retail banks are using mainframes and could thus leverage their technology investment. This would be a receptive market for TCB. TEMENOS has also identified the Asian and South American regions as key to the growth of TCB.

First clients

In 2002 TEMENOS gained its first sale of TCB, when Industrial Bank of Korea bought the system. It was a major sale, won against very tough competition, by a newcomer in the region and the market. Some client-specific requirements had to be met too. The bank needed the solution to be translated into Korean and wanted to use its own client user-interface rather than that supplied with TCB. There were also strict performance criteria to satisfy.

Then, at the end of 2003, in what was probably the largest deal in South America for four or five years, Bansefi (the National Savings and Financial Services Bank) selected TCB and TEMENOS T24 to consolidate operational support for the social bank sector in Mexico. Bansefi is used by the Mexican government to support the savings sector and it also acts as a bank for many regional and national small-to-medium sized financial institutions in the country. TEMENOS is working with IBM on this contract, which is underwritten by the World Bank.

The goal of Bansefi and its associated financial institutions is to position itself as a leading banking institution in the Mexican market. It aims to achieve this through a long-term growth plan, which will target the low-income sectors and the 'unbanked' population. It is hoped that this will result in over 20 million customers and 3,000 branch offices within the next four years. Social banking needs are complex and challenging. Bansefi was primarily looking for a system that could manage the requirements of a large number of banks on a single hub (a very similar model to the one for which TCB was originally developed), that could speed up the time-to-market for new products, reduce costs through economies of scale and achieve operational efficiencies, as well as ensuring better control and management of its banking activities.

In a first phase TCB will be used in 570 branches of some 300 banks and will replace the numerous small systems being used by the network of savings institutions currently supported by Bansefi.

TCB is also about to be implemented for BAAC (Bank for Agriculture and Agricultural Cooperatives) in Thailand. This evaluation involved extensive benchmark testing, since BAAC required that TCB demonstrate huge volume and performance capabilities. So, the performance and processing capabilities of TCB were ramped up beyond the selection criteria, and then again, beyond these figures to 75 million accounts, with a three hour end-of-day process and response times running at half the permissable levels. BAAC was reassured as to the system's capabilities and signed contracts. So TCB is already proving itself in high-volume retail environments, with several more banks in the pipeline.

Andreas Andreades sums up. 'This is our time and our opportunity to command the retail banking software market on a global basis. The timing has never been better. It is the largest and richest software market for us, but it also holds the greatest challenges and the biggest and most discerning customers. If you know TEMENOS, you will know that these are the conditions on which we thrive!'

Back office systems - what is really happening?

by Martin Whybrow, Editor, International Banking Systems (IBS)

The IBS Journal's annual sales league table has become the barometer for the back office systems market. How did TEMENOS fare in the latest analysis? IBS Journal editor, Martin Whybrow, puts some of the findings into context.

The banking systems market is sending out mixed messages at present. Most banks are having a much better time of things than in recent years, as reflected in their financial results. There certainly do not seem to be the banking crises around the world that there were a few years ago, with the dust having settled in eastern/central Europe and Asia Pacific. And a fair few banks have stated that they are increasing their IT spend. However, based on the annual sales league table recently published in our IBS Journal, there were actually fewer back office systems sold in 2003 than in 2002. Adding to the confusion, some suppliers are continuing to struggle and blame a supposedly still depressed market for their woes, while others - TEMENOS being the most extreme case - have recorded significantly improved results. What is the reality?

The market has that transitional feel about it. Overall, it seems the signs are hopeful, with banks more confident and, as a result, relaxing their tight grasp on expenditure. At the same time, there is still a lot of caution, so it is only a fairly gradual shift. There is still wariness about some aspects of the economy; moreover, there is understandable caution in these complicated times, where world events can have a sudden and devastating effect. There are also a lot of fairly pressing areas to address, such as anti-money laundering and Basel II, which are probably on top of the current 'to do' list within many institutions, so that more strategic projects might not kick in for a while.

At first reading, TEMENOS' performance in the sales league table was not clear-cut. On the one hand, the company gained fewer TEMENOS GLOBUS and TEMENOS T24 sales in 2003 (24) than in 2002 (32). However, TEMENOS' own public pronouncements are that initial licence fee (ILF) revenue went up in 2003, compared with 2002. As we pointed out in the editorial which accompanied the sales league table, it genuinely seemed that TEMENOS had more than its fair share of large deals, with wins at the likes of Menatep Bank, Bank of Shanghai and Bansefi falling into this category. Within the totals of most other suppliers, an underlying characteristic seemed to be fewer large ticket deals in 2003 than in past years.

TEMENOS claimed an ILF for the year of over $50 million, equating to a median average value per deal of $2.4 million and a mean average of $1.9 million. The total ILF was some 28% higher than in 2002. It is difficult to set this achievement in the context of other suppliers.

"...It genuinely seemed that TEMENOS had more than its fair share of large deals, with wins at the likes of Menatep Bank, Bank of Shanghai and Bansefi falling into this category."

Unfortunately, there are no equivalent figures for most suppliers, and their financial results are less transparent than those of TEMENOS (their business models are also more complicated - try finding detail relating to specific businesses within Sungard's figures, for instance). A sales league table based on ILF would make fascinating reading! We do know, for instance, that the total number of sales within Misys went up in 2003, while the company has stated that ILF was down, so it seems that quantity did not add up to higher value for at least one major competitor to TEMENOS.

Of course, winning a spate of large deals is one thing - TEMENOS now needs to deliver at each of those new signings. CEO, Andreas Andreades, has said that 40% of new deals are now for the Oracle version of the system, so this will be one key focus. Menatep Bank and Bank of Shanghai are among the Oracle takers, so too ING Bank, of course. Another interesting technical twist is at Bank of China in New York and Bansefi, where TEMENOS T24 has been taken on Linux on the mainframe, with DB2.

There is no doubt that TEMENOS will look back favourably on 2003, after a tough time in 2002. The analysts are happy, and seem confident about the start made by TEMENOS in 2004 and its prospects for the full year. There have certainly been a few additional interesting wins already. Hopefully, they can all be turned into satisfied customers, with TEMENOS balancing its sales success with smooth deliveries.

Has the time to replace core systems finally arrived?

Octavio Marenzi, CEO, Celent Communications

Spending on information technology (IT) at large banks accounts for an ever-increasing portion of overall operating budgets. On average, between 18 and 20% of total non-interest expenses are dedicated to technology. The bulk of this spending goes on the maintenance of ageing core systems, which are frequently thirty years old. Not only do these antiquated core systems account for a frightening proportion of IT budgets, they also frequently act as an impediment to introducing new products and services, and as a brake on any change that banks attempt. These systems are undeniably good at fulfilling the primary tasks that their original architects intended - namely, the efficient and reliable processing of very large numbers of transactions. However, in terms of flexibility, in terms of allowing rapid changes, in terms of allowing operations to be streamlined and optimised, they leave much to be desired.

In the late 1980s and early 1990s there were numerous attempts by large financial institutions to replace these legacy systems with more modern client/server technology. Virtually all of these projects failed, as banks found that recreating all of the functionality that had been built up over 20 years was too daunting a task - particularly given that the banks' IT staff were largely unfamiliar with the new technologies. In some cases, banks spent in excess of US$1 billion on multiple, failed attempts to modernise their infrastructures.

The topic of replacing core systems at large banks entered a dormant phase after the failed projects of the early client/server era. Now, we are starting to see renewed interest in the topic, as a handful of large banks is again engaged in large-scale replacement projects. This time, however, these banks are building on the lessons of the past. Rather than failing miserably, they are beginning to succeed with these massive transformation projects.

So what has changed?

A need for innovation in terms of delivery channels, a demand for new products and services, the importance of cross-selling and customer relationship management, as well as the requirement to implement a plethora of regulatory changes, have led many banks to realise that their technology architectures are inadequate and have been the cause of extensive delays and inflated costs when they have tried to implement these additions and changes.

"In some banks, as much as three quarters of the savings generated by new core systems will not be the result of lower IT expenses, but will come from a greater streamlining of the firm's business processes, which has been facilitated by the new technology infrastructure."

In addition, the wave of mergers and acquisitions amongst banks throughout the world during the 1980s and 1990s has left many institutions running multiple core systems simultaneously and inefficiently. As a result, a small group of top banks is now considering working with external software providers, as they begin to address their antiquated legacy systems with more modern and more flexible architectures. Most banks are understandably cautious about launching these projects, since the replacement of a core system is perhaps the most complex and mission critical technology project a bank can undertake. These projects entail significant risks and substantial costs, with most projects at large banks lasting several years and involving hundreds of millions of dollars in investment.

While banks have continued to invest significantly in technology, new initiatives are now more intensely scrutinised and a demonstrable return on investment (ROI) has become essential. However, although the risks and costs associated with core systems replacement are significant, the potential savings in terms of reduced IT expenses, as well as low operating cost, should substantially alleviate such concerns.

In this article, we consider the issue of ROI for core system replacement. Clearly, every bank will have different calculations, depending on the firm's current architecture, scope in terms of products and services, geographic reach and so on. Nevertheless, we have analysed the return for what might be considered to be a 'typical' large bank, with about US$100 billion in assets. This ROI analysis is presented in figures 1 and 2.

It was developed for one of Celent's clients and we have their permission to present the results. The bank in question was considering the replacement of practically all of its core processing systems. These were ageing, mainframe-based applications, dating in part from the late 1970s. The bank has a system architecture that is broadly similar to other banks of its size - namely, a heterogeneous

collection of applications, built over time and based on different technologies, as well as separate core banking systems, inherited from mergers with other banks and still maintained.

Cost/Benefit Analysis

Large banks with over US$100 billion in assets invest on average over US$1 billion annually on IT. Of those investments, over half is dedicated to core systems and their maintenance. When an institution of this size embarks on a core system replacement project, it should expect to pay approximately US$400 million over a period of about three to five years. These costs can be broken down into hardware, software licence, systems integration, and software development. The bulk of this spending typically goes on software development and integration, as a result of the significant customisation required by these banks and the complexity of their existing architectures.

Returns on this substantial investment are initially slow to be realised. However, the institution can expect to see significant savings within two to three years. More modern technologies will be less expensive to maintain and, given their greater flexibility, will also make it less costly and easier to deploy new functionality. Maintenance and software development will decrease further as multiple systems are consolidated, reducing the number of systems running simultaneously and resulting in lower hardware costs through the elimination of mainframe systems. Interestingly, one of the areas in which significant cost savings can be generated is in general operational expenses, rather than IT expenses per se. In some banks, as much as three quarters of the savings generated by new core systems will not be the result of lower IT expenses, but will come from a greater streamlining of the firm's business processes, which has been facilitated by the new technology infrastructure. Banks embarking on core systems replacement projects should bear this in mind and should regard the upgrading of their ageing infrastructures not just as a strategy for reducing IT expenses, but also as an opportunity to rationalise overall operations.

Figures 1 and 2 depict the costs and benefits associated with a full core system replacement. The analysis shows that, for this particular bank, a replacement of core systems is indeed a project with a significantly positive net present value, and a payback period of about five years. We should bear in mind that this analysis was performed with an individual bank. For other institutions, the results of such a financial analysis could vary widely from the above, depending on the starting position of each. In conclusion, replacement projects among large financial institutions remain rare. Fear, as well as cost, makes institutions hesitate. We expect that for most, this hesitation will continue while they monitor the success rates of the industry leaders. Momentum will increase, however, as current systems increasingly hinder productivity, leaving many of the largest institutions facing increasing pressure to replace their core systems. For a growing number of banks, the time to replace their core systems has finally arrived.

Fig 1: Breakdown of Total Cost

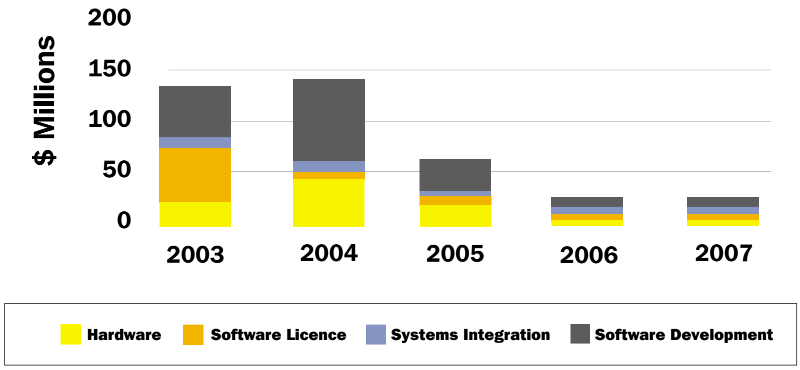
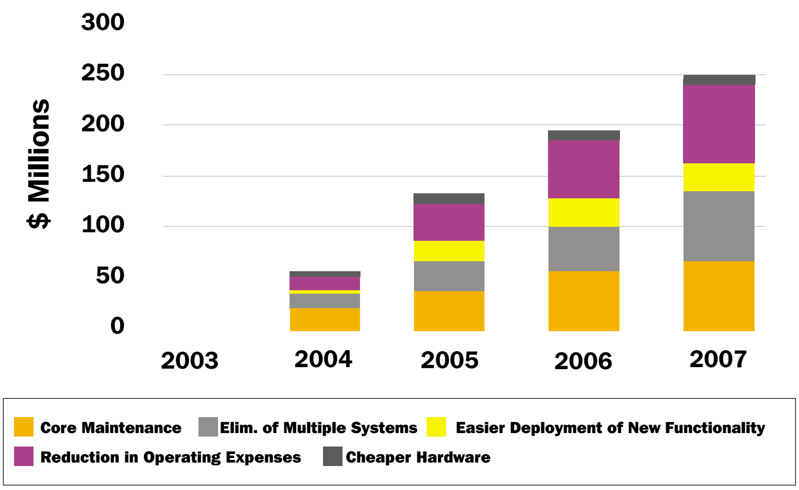


Fig 2: Cost Savings Associated with Core Replacement



Octavio Marenzi, Founder & CEO
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Octavio Marenzi is the founder and CEO of Celent Communications. He has advised many of the top financial institutions in the world on their business and technology strategies. Mr Marenzi has written and spoken extensively about the financial services industry, and is a popular speaker at conferences in North America, Japan, Europe and Latin America.

Before founding Celent Communications, Mr Marenzi was co-founder of Meridien Research. Previously, he was the head of IT planning for the asset management division of the Union Bank of Switzerland in Zurich. He also worked as a management consultant for Booz, Allen & Hamilton.

A new departure for Dunfermline - a new market for TEMENOS?

This is the first in a series of case studies which will look at the different business environments in which TEMENOS' systems are being used.

In 2002, Dunfermline Building Society rejected the 'usual suspects' in this market, in favour of TEMENOS, becoming the first UK building society to select TEMENOS GLOBUS. What is more, the Dunfermline is so confident of the system's applicability to the building society, community and retail banking market, that it has created a subsidiary company with the intention of marketing it on an outsource basis once it is live.

We asked Stewart Cooper, director, operations for the Dunfermline, why the building society took this decision and, with the implementation project well under way, we asked him to comment on how TEMENOS GLOBUS would change the way the Society does its business.

The decision

'Two years ago, the Dunfermline underwent a strategic review to consider its future strategy. With many rushing towards the internet, we decided to concentrate initially on improving our face-to-face relationships with customers. We had talked to a number of customers and had researched the market and we found that customers were fed up with not being able to talk to someone at branch level. So we wanted to give our customers the opportunity to transact their business over whatever channel they chose. A further question was how to deliver member value and we broke this down into requirements such as improved service levels, cost efficiency and the ability to offer a greater variety of products.'

The strategic review brought significant changes for the Dunfermline. 'I would liken it to starting a brand new company with radical changes made to the way we were doing business, including among other things, the adoption of new software. The Society was using a number of in-house systems, with an additional element from Unisys. The review of our IT solutions showed that they couldn't do everything we needed. We had the business aspirations, but we didn't have the solution to support our values,' says Mr Cooper.

This meant a huge business change, involving the replacement of all systems, including tellers and general ledger. 'This was a big step for us. The chosen core system would need to be rich in functionality for areas such as loans, investments and commercial activity and we also stipulated that it be browser-based and non-proprietary. We were only going to do this once, so it needed to be right!

'We ran an extremely detailed supplier selection process. A request for information was sent to 15 vendors, which included the usual suppliers to the market, and these 15 were then narrowed down.

'In the end, we selected TEMENOS, despite its lack of users in the building society market. Was this a risky decision? We accepted that the selection of any software partner incurs risks. Additionally, we were concerned about the lack of local market knowledge and potential implementation risks, combined with the prospect of being the only UK customer in this market. However, we looked at a couple of TEMENOS reference sites in the US – community banks, with a similar business profile. We also attended the 2002 TEMENOS Client Forum - TCF ™ and spoke to a number of other clients. The message from all of these was that the software had unbelievable functionality. Most importantly, we were attracted to the kind of partnership offered by TEMENOS. We share similar values when it comes to our approach to customers and put them at the centre of everything we do. To sum it up, we felt that TEMENOS had the best software solution and, in the areas where functionality was missing, it could be developed in partnership to do what we wanted. In fact, we put this assertion to the test towards the end of the selection process. Having come down to a decision between TEMENOS and one other vendor, we invited both to take part in a 24-hour challenge! Each was presented with a list of changes to be made to their respective systems. These included making amendments to the loan process for social housing from application through to settlement, the simple addition of a field in the system and the design of a mortgage servicing process. TEMENOS' changes took 15 minutes, while the other supplier needed 24 hours.'

The implementation

'So, we decided to implement TEMENOS GLOBUS, with a solution from Finantix, a TEMENOS partner, for customer relationship management (CRM). We identified about 100 gaps in functionality, and solutions to these are currently being developed with TEMENOS alongside the implementation. Most relate to making the system compliant with the UK marketplace for mortgages and investments, or to adding specific customer contact procedures (such as customer retention) that could be used in the market place.

'We selected Version 14.1 of TEMENOS GLOBUS, which gives us the option to move to TEMENOS T24. Work began in February 2003. Ours is a phased implementation, with phase 1 concentrating on the branch network. Three months after this has been completed, phase 2 will enable internet banking and the TEMENOS T24 technology will be introduced.

Removing the need to run end of day processing is a major development in our market place. The third phase involves the launch of other products, available within TEMENOS T24, to our customers for the first time.

'The system is being delivered as seven releases, with three of these (for the single customer view, teller system, and parts of the mortgage process) already received. Still to come are the investment products, the completion of the mortgage front-end, and third party links to the likes of BACS and credit scoring systems. A new general ledger has now been implemented, and this will also be interfaced to TEMENOS T24.

'The final delivery is due in June 2004, at which point we will begin user acceptance testing. We will take a 'big bang' approach, with the cut-over on the branch network expected in the fourth quarter of this year, to be followed by the internet banking phase during the first quarter of 2005.

'Staff training has started, with incredible feedback from branch staff on how they feel the system will help them to improve the levels of customer service and to increase sales.'

The impact

'What will be the impact of the new system? Without doubt the system will help us to deliver in the areas of value to members – enhanced customer service, for example. The Society is independently ranked in the top 8% of retail organisations in the UK, but we are not resting on our laurels. We still see scope for improvement to customer service and sales through the contact system and the single view of the customer, afforded by TEMENOS T24. We will also benefit from improved efficiency - the Society will achieve major productivity enhancements through the back office processes and technology areas. And we will be able to expand our product offering - TEMENOS T24 gives us the ability to launch retail banking products such as money transmission and flexible lending products.

'The impact of the new system will reach beyond the Dunfermline too, as we have set up a subsidiary company, Dunfermline Solutions, to enable us to offer the product on an outsource basis. There is clearly nothing in the UK marketplace that can match the system and there is a clear opportunity to offer the product and to provide administration of back office services. Equally, there are opportunities overseas in the community banks, a model which is prevalent in the US, Australia and New Zealand. So the system will offer a separate profit stream to both companies. We would expect Dunfermline Solutions to be active in the first or second quarter of 2005. We don't see this move as 'selling' our competitive edge. The main competitive advantage does not lie in our back office processes - it resides with our staff. They make the difference and they are the main customer interface.'

The verdict

'We did not select TEMENOS T24 purely as a route to cost savings through increased efficiencies - although we expect it to deliver these! The most important thing for us is that it will enable us to transform the way we do business and give us a greater opportunity to generate revenue. That is a significant benefit. In any project you have risks but, provided you identify them and manage them, the project will be successful. We have a major project that covers system and organisational change and a 'new' company! At times this has been a roller-coaster ride, but we identified the risks and we managed them and I don't regret it in any way. If we had to select again, we would always choose TEMENOS, mainly because of the company's attitude towards the partnership. I would encourage people to come and have a look at the system. It may well open opportunities in the marketplace for a win/win situation.'

All that Dunfermline is ... represented in art-work hanging in the central atrium in Caledonia House.

For further details about the Dunfermline solution, developed with TEMENOS, please contact Stewart Cooper, director, operations on +44 (0) 1383 627745; or Tim Hulse from TEMENOS on +44 (0) 20 7423 3758.

DUNFERMLINE
BUILDING SOCIETY

Scotland's Building Society

Established in 1869, Dunfermline Building Society is Scotland's largest building society and plays an important part in the savings and mortgage market there. With assets of around £2 billion at the end of 2003, an electronic distribution service augmenting a network of 33 branches and 41 agencies, and an expanded Commercial and Social Housing department, the Society is well equipped to meet the challenges of the financial marketplace.

Working with our clients on asset management

By the TEMENOS Asset Management team

One of the cornerstones of the TEMENOS philosophy is the partnership that we have with our clients. This is not just an empty claim. The development of the new asset management module is an excellent example of the way this approach works in practice.

The design and development of the asset management module started about four years ago. At that time, TEMENOS GLOBUS provided basic asset management functionality, but our client base suggested that much more was needed. The marketplace for asset management was already fairly congested, but what was lacking was a robust, front-to-back, totally integrated solution. This became most apparent in discussions with our clients and potential customers. Our clients wanted a seamless integration of all instruments, so that they could benefit from the comprehensive financial instrument coverage provided at the time by TEMENOS GLOBUS. They felt that such a solution would have a significant impact on cost and maintenance, as it would remove the need for an additional package. Another major consideration was adherence to standards. The asset management domain might not be the most standardised in finance, but the AIMR/GIPS performance presentation standards have gained considerable momentum during the past few years and are widely accepted today.

The result of the client consultations and discussions was that TEMENOS made the strategic decision to develop a new asset management module to meet client expectations and significant resources were committed to the project.

The project had a clear mission statement. Firstly, to develop an asset management module that would seamlessly integrate all instruments. Secondly, to make the module compliant with widely accepted standards such as the AIMR and GIPS, with some country specific requirements. Thirdly, to ensure that the module supported modern asset management practice and, in particular, provided risk management, modelling, restrictions and simulation capabilities.

In light of the project's ambitious scope, a phased approach was planned, with a specific set of objectives for each phase.

Phase 1 – Consolidation

Valuation and performance measurement were stabilised and improved. Historical valuation was added, together with the aggregate valuation of portfolio groups. Performance measurement was re-designed to cope with the forthcoming GIPS requirements. The calculation and storage of performance attributes are now computed on a daily basis. Both time-weighted return and money-weighted return are provided, with money-weighted return based on the modified Dietz method. The facility to aggregate performance on groups of portfolios was added and, separately, GIPS composites were introduced to adhere to the GIPS standards.

Benchmarks were also introduced during this phase. These can be defined and generated in many ways - from selected portfolios, from a basket of securities and from index combinations, for example.

Finally, with the addition of the historical dimension to both valuation and performance, back-value operations were needed.

Phase 2 - New functionality to support asset managers

The second phase of the project introduced a considerable amount of new functionality to support the daily activities of asset managers, essentially in the areas of portfolio modelling and portfolio restrictions. Modelling, as it stands today, is flexible and powerful. Investment strategies can be assigned to portfolios to direct their investment process and to allow for gap analysis and portfolio rebalancing. Rebalancing can also generate bulk orders and security switches across portfolios.

The rebalancing process offers flexible simulation capabilities, allowing for an iterative 'what-if' approach. Rebalancing can be based either on model portfolios or a recommendation list. However, rebalancing is not restricted to securities. The module also supports currency rebalancing and currency hedging.

The second phase also introduced investment restrictions. The module supports two kinds of restrictions: transaction restrictions and holding restrictions. Transaction restrictions specify the constraints applicable to them, such as no tobacco related securities allowed, no derivative products allowed and no transaction amount above a certain limit. Conversely, holding restrictions specify limits on positions or aggregate positions, relative to the value of the portfolio or a portfolio's subset. Holding restrictions require the valuation of the portfolio, whereas transaction restrictions do not.

Phase 3 - Extending the capabilities of the module as an analytical tool

The third phase extended the capabilities of the module as an analytical tool as well as offering a number of other interesting enhancements! First and foremost, this release contributed performance segmentation and breakdown. Performance segmentation partitions portfolio level performance into an arbitrary subdivision of the portfolio. This can go down to instrument level. Similarly, performance breakdown splits the return according to its type - market effect, currency effect, income effect and fees effect, for example. Performance segmentation and performance breakdown can be combined arbitrarily to provide a detailed insight into the factors contributing to portfolio performance. We are also considering the addition of performance attribution to further enhance the module's analytical capabilities. This would compare the returns from a segmented portfolio against a correspondingly segmented benchmark. The portfolio's excess return relative to the benchmark would be analysed, showing the proportion attributable to superior security selection skills, to appropriate tactical allocation decisions, or to both. Performance attribution will also show currency effects.

Risk management

Traditionally, asset management has focused on generating superior returns. However, we are mindful today that no reasonable asset manager can ignore risk. Unfortunately, the assessment of investment risk has been shrouded by apparent mathematical complexity. To avoid this problem, we have adopted a graphical approach, where risk and return are displayed as two dimensions of a chart. The instrument belonging to a portfolio can then be easily compared in terms of both risk and return. The graph also displays the efficient frontier of the portfolio. This represents the best return for a given risk, which is, therefore, the optimal solution. These visual tools are fully integrated into the asset management module, within the Investment Panorama (IP) application. IP offers risk-return analysis and comparison against benchmarks as well. Within IP, users can measure Sharpe ratios, correlations, betas against the benchmark, information ratios and tracking errors. Being both visual and interactive, IP not only provides help on investment analysis, it has also been shown to be a very effective tool in improving client relationships.

'We are delighted that our project has demonstrated so well what can be achieved by working in close partnership with our client base.'

Reporting

This is an important aspect of asset management. Reporting capabilities were improved considerably during Phase 3. In particular, XML-based reporting was added, allowing data to be fed into external modern report generation tools in a flexible way. Institutions can thus tailor the output to their specific needs.

User interface

As you would expect, the user interface has an important role in asset management. As part of the TEMENOS T24 initiative, the current user interface application will migrate to a web-based technology. This should be available during 2004.

The Asset Management team is justifiably proud of what has been achieved, but our work hasn't finished yet! Asset management is a fast moving target and new challenges are always on the horizon. We are delighted that our project has demonstrated so well what can be achieved by working in close partnership with our client base and we hope that this will continue for future enhancements!

For more information, please contact the Geneva Asset Management team at xpintado@temenos.com

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Was it envisaged that TCB and TEMENOS T24 would be positioned together?

TCB is an engine, which handles millions of transactions in retail banks. TEMENOS T24 brings sophisticated treasury, securities and trade finance functionality. The ability to offer both products is an advantage for us in certain situations, but each product is attractive in its own right.

Are any existing TEMENOS GLOBUS users considering upgrading to TCB?

TCB is not really appropriate to most of our existing customers – we are using it to address a different segment of the market.

Does TEMENOS have a sufficiently strong global infrastructure to support and develop two major new products?

Absolutely. We have not shifted any resources from TEMENOS T24 to support TCB. Furthermore, IBM provides abundant product expertise and, through IBM Global Services, very effective support.

Are there plans for future developments on TCB?

There is an active development programme for TCB to take the product into the next stage. Details of this will be available shortly.

What has been the reaction from market commentators and financial analysts on the new 'two product' strategy?

We have had a very positive reaction. When we signed contracts with Bansefi, and more recently with BAAC (Bank for Agriculture and Agricultural Cooperatives) in Thailand, we won this business against players with whom we were previously competing less effectively – Sanchez, Alltel, FNS and Accenture, for example. The high-end retail segment has hitherto been dominated by these players, but TCB has enabled us to win three out of the last five deals we have been involved in.

We have traditionally been a 'one product' company and we have enjoyed great success with TEMENOS GLOBUS on this basis. We are now a 'two product' company, with TEMENOS T24 and TCB, and our market and advisors recognise this as a crucial key to our success and future growth.

What is your vision for TCB?

I would like to see TCB generate the same kind of business and financial success over the next five years as TEMENOS T24 and TEMENOS GLOBUS have over the last ten!

Rabobank Australia and New Zealand goes live on TEMENOS GLOBUS

The successful live operation of TEMENOS GLOBUS for lending marks the end of phase 2 of Rabobank's core systems project in Australia and New Zealand (the bank went live on deposit products in February and June respectively last year). The current challenge, phase 3, covers transactional banking products in both countries and the completion of this will conclude the TEMENOS GLOBUS project. Go-live is targeted for June 2004 in Australia and July 2004 in New Zealand.

This has been a key project for the bank and a milestone for TEMENOS, as we have added a major multinational bank to our user list and have acquired our first user in the Australia region.

The principal focus of the Rabobank Australia and New Zealand Group is agriculture and agri-business, covering all segments of the market, from farm to corporates. Rabobank has had a presence in Australia since 1989, but growth really began in 1994 with the acquisition of Primary Industry Bank of Australia (PIBA), a specialist in rural banking in Australia and New Zealand. Today, the bank has more than 800 staff and, unlike many banks, is still increasing its branch network. It currently has 41 branches in Australia and 26 in New Zealand.

We asked Sjaak Verschoor, chief manager, core systems at Rabobank, to give his view of the implementation to date and his plans for the next phase.

'We began to implement TEMENOS GLOBUS towards the end of 2001 as part of a larger strategic initiative, codenamed Project Sundial. We had a number of objectives. Firstly, we wanted to standardise and improve our business processes. We also wanted to upgrade our internet banking capability so that we could offer internet access to our clients across our whole product range. We needed to provide the business areas with the ability to introduce new products to clients more quickly and we also needed to consolidate all of the legacy systems, inherited through our acquisitions, into a single core system. This is where TEMENOS came in!

'We are now nearing the end of the TEMENOS GLOBUS project, so what advice can I offer to anyone about to embark on a major core system implementation? My first piece of advice would be not to underestimate the scale or complexity of the project! That is just what we did! Our original plan to complete all of the TEMENOS GLOBUS elements was much too ambitious, so we had to reschedule.

'The second piece of advice I would give is to involve a large team from the bank in the implementation, from all business areas, and to train them early in the use of the new system, so that you are not fully dependent on the supplier. Rabobank invested a substantial team in the project and we brought in additional resources when necessary (for testing for example), and this paid off. Our team worked very well with the TEMENOS team – there was a very cooperative atmosphere, even through the periods when we were time-pressured. People advised us to implement the standard TEMENOS GLOBUS 'core' and to keep as close to this as possible, doing any necessary developments (to meet specific regulatory or accounting requirements for example) outside the core. We were pleased that we followed this advice! I think advice from other users is invaluable. Before we began the implementation, we visited several TEMENOS GLOBUS users in Europe and asked them about the best way to approach the project. I think it is important to do this.

'On the whole I am satisfied with the way the project has gone. Of course, it would have been preferable to do things more quickly, but TEMENOS GLOBUS is a complex system and the integration of a new core system within the existing infrastructure should not be underestimated. Right now, we are focussing on the transactional banking implementation. We plan to launch a pilot of this to a group of clients initially and then roll it out to all clients and non-clients in two months' time in Australia. New Zealand will follow soon after that. Once we have finished the project, we need a stabilisation phase to allow the system and the new processes to 'bed in'. Then we have plans for some other business areas and products to be added, which we took out of the main project. After that, we may have a look at TEMENOS T24, perhaps from the database or non-stop processing perspective. But that's another story!'

TEMENOS and Ernst & Young at the forefront of the EU Savings Tax Directive

TEMENOS has chosen Ernst & Young as its partner to help to assess the impact of the EU Savings Tax Directive on TEMENOS T24. TEMENOS aims to provide its clients with a global solution for the Directive.

Ernst & Young is an ideal choice of partner. With approximately 25,000 professionals dedicated to providing tax advice in Europe and throughout the world, the company has taken a leading role in monitoring and commenting on the Savings Tax Directive and has established a task force across Europe to provide advice and disseminate best practice as regards the practical implications.

So what will the new Directive involve?

The EU Savings Tax Directive will be enforced from January 2005. The objective is to prevent tax evasion by individual residents who are paid interest from another member state. Financial organisations will be obliged to:

- Undertake an automatic exchange of information (applicable to twelve EU member states from 1st January 2005). The information exchanged will include details of interest paid, identity and residence of interest owner, name and address of paying agent, beneficiary's account number and identification of the debt claim, giving rise to interest.

or,

- Apply a withholding tax (a transitional period for Luxembourg, Belgium and Austria). These countries will levy a 15% withholding tax rate during the first three years, 20% for the subsequent three years and 35% thereafter.

The EU Savings Tax Directive also has consequences for other countries not directly involved. To preserve the competitiveness of the EU financial markets, the European Commission has entered into discussions with the US and key third party countries (Switzerland, Liechtenstein, Monaco, Andorra and San Marino) to promote the adoption of equivalent measures. At the same time, the EU member states concerned have committed themselves to promoting the adoption of the same measures in all relevant dependent or associated territories (such as the Channel Islands, the Isle of Man and dependent or associated territories in the Caribbean). The paying agent of the interest would normally be responsible for compliance with the new Directive. To simplify a complex procedure, let us assume that banks and potentially investment funds will normally be the paying agents for the purposes of the Savings Tax Directive. Hence, it will be the banks' duty and responsibility to either apply withholding tax or to exchange information.

Who will be affected by the new ruling?

The beneficial owner of the interest will be subject to the Directive if he/she is an individual and is a resident for tax purposes in a member state other than that of the paying agent. The Directive allows for some exceptions - for example where an individual is acting as a paying agent or on behalf of a legal entity. As a result, for banks,

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In	Out
Current Account	Equity products (ie. corporate shares, units in equity funds, preference shares)
Foreign currency account	SICAV of shares (15%, 25%, 40% rule)
Term deposit MT/LT	Life assurance products
Bonds	Pension products
Bons de caisse/vouchers	Derivatives
Indirect ownership structures - UCITS	Products without guarantee for full reimbursement of the capital invested
Structured notes (products which guarantee full reimbursement of the SWAP capital invested)	
Bonds with a right to profits	Catastrophe bonds
Zero coupon bonds	Redeemable bonds (automatically redeemable)
Convertible bonds	Real estate notes (certificats de placement immobilier)
Fiduciary	Penalty interest for late payment
SICAV of debt (15%, 25%, 40% rule)	Grandfathered debt claims

Table 1: Source, Ernst & Young Luxembourg, 2003

TEMENOS T24 to support Mexico's financial intermediaries

On the 21st of February 2004, at the 'Convention de Intermediarios Financieros Especializados' in Acapulco, IT support services group, FESI (Fomento Empresarial de Servicios Informáticos) announced a powerful new banking solution to support financial intermediaries in Mexico. The new solution was built on TEMENOS T24, based on the TEMENOS eMerge platform. TEMENOS eMerge is a platform designed to provide smaller financial institutions with the flexibility and capacity to meet the needs of the complex and changing community banking environment.

The role of FESI is to help the intermediaries to reduce their IT investment and help them to run their key business processes, through use of the most advanced technology. FESI will offer itself as an ASP (application service provider) via the internet, on a payment per use (PPU) basis. The FESI philosophy is very much, 'You take care of your business, we will take care of the technology!' With this concept of 'e-Service', FESI adds a further dimension to the practices of e-Business and e-Commerce. FESI is the result of a strategic initiative between TEMENOS and FIRA (Fideicomisos Instituidos en Relación con la Agricultura), a financial and technical support institution created in 1954 as an adjunct to the Central Bank of Mexico. As its name suggests, FIRA's original purpose was to offer credit and guarantees, training, technical assistance and technology transfer support to the agricultural sectors. FIRA is a second-tier development bank, which means that unlike a first-tier bank, it does not channel resources directly to clients, but operates through financial intermediaries. Traditionally, some 85% of the institution's resources were channelled through commercial banks and 15% through development banks. These funds would be lent at favourable rates to the banks, which could re-lend them at an attractive margin. FIRA provided some 33% of the agribusiness sector's financing in this way.

In the wake of the agricultural and banking crises of the 1990s, FIRA was obliged to re-invent itself, which it did, with new leadership, a new financial structure and a new business model. The strategic association with TEMENOS, resulting in the FESI/TEMENOS T24 initiative, continues this innovative trend.

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the 'know your customer' rule must apply. If the beneficial owner is subject to the Directive, the following should be noted:

- The Directive does not affect any national tax scheme already in place and there can be circumstances where two foreign taxes are levied - local withholding tax applied by a depository and the EU savings tax.
- The beneficial owner, whose bank is established in a 'withholding tax' country, may wish to request the exchange of information instead of the application of the withholding tax. His/her paying agent must therefore be able to report the interest information as well as to levy the withholding tax. If the paying agent has 'withheld', the beneficial owner can then ask for a tax credit or reimbursement in his/her country of residence.

Which products will be affected?

The ECOFIN Council agreed that the scope of the Directive should include interest from debt claims of every kind, including:

- 'Plain vanilla' interest payments
- Interest accrued or capitalised at the sale or refund of debt instruments
- Income distributed by investment funds
- Income realised on the sale, refund or redemption of shares in investment funds.

Table 1 shows which instruments are currently included in the Directive and which are not. This list could change in the future as the Directive foresees a review process every three years, which means that an 'out' instrument could become an 'in' instrument and vice versa.

TEMENOS is currently analysing the development impact for its applications, to ensure that the relevant data is available and can be extracted, thus enabling users to exchange data and to perform the appropriate calculations for those clients withholding EU tax. Ernst & Young is helping to flesh out the specifications and ensure conformity to the new Directive. The implementation of the Directive may differ from country to country and TEMENOS aims to discuss country-specific expectations with clients.

Watch this space for further details!

TEMENOS T24 is proven on IBM mainframe running DB2 XML

IBM and TEMENOS have rigorously tested TEMENOS T24's non-stop processing capability in a simulated high-volume retail environment using a multi-tier, distributed architecture. TEMENOS T24 passed with flying colours! But what do these results mean to a bank looking to implement TEMENOS T24 to support its operation? Does benchmark testing really matter?

Traditionally, users and prospective users have relied on benchmarks to provide a clear, objective indicator of product performance. In the case of software applications, benchmark testing often comes as the deciding factor at the end of an evaluation, to prove that the product can cope with the current and envisaged volumes of business in an acceptable response time and in a robust and secure fashion.

Delve through the technical press and you will surely find a host of benchmark test results, dealing with a wide variety of software products. We live in an age of measurement and performance rankings, be this hotels, music, films - there seems to be a 'top ten' for everything and IT is no exception. However, you will just as surely find a certain amount of scepticism about the value of benchmark testing – after all, suppliers control the systems environment used for evaluation and can be highly selective in replicating a typical business scenario for the test.

So, if the results of a benchmark test will be key in selecting a system to support your operation, it is important to be clear as to exactly what it is that is being tested and why this is a significant measure.

Many benchmark tests are run simply to measure the throughput performance of a system – the number of transactions per second - a rather 'macho' measure! The goal of the TEMENOS T24 benchmark was not to run a performance test (although the throughput rate achieved was highly creditable and the tests showed that the CPU usage increased linearly, with increased capacity, demonstrating the vertical scalability of TEMENOS T24). The goal was to **prove** the technology in high-volume scenarios – to test TEMENOS T24's non-stop processing capability in a simulated high-volume retail environment, using a multi-tier, distributed architecture. This was achieved by creating a DB2 XML database with over 52 million accounts and over 25 million customers, running on an IBM z990 mainframe and with TEMENOS T24 running on a pair of IBM P690 machines, which also acted as web servers. The majority of customer accounts (50 million) comprised a standard local currency current account and a standard local currency savings account and the remaining two million were a mix of retail and private customer accounts, internal accounts and nostro/vostro accounts. The spread here was from two to five accounts per customer in a variety of currencies.

A number of tests were run, including full tests across the network dispatcher architecture. The results of two of these, using three transaction types, are summarised here:

Test 1

The first was a clearing test, which involved one T24 application server (TAS) and the database server. Results showed that 80 TCS (T24 Connector Server) listeners processing OFSML (Open Financial Service Mark-up Language) clearing transactions achieved a rate of 55,000 transactions per minute (over 900 per second) using 50% of the Z series machine and 83% of one partition of a P690.

Test 2

The second test involved a scaled down (i.e. less throughput) repeat of the clearing run with, in addition, the TEMENOS T24 close of business process running, and simulated online transactions being injected as browser users through the web layer. This achieved a rate of approximately 53,000 transactions per minute (over 880 per second) using 49% on the Z series machine, 70% of one P690 and 15% of the second P690. Note that no load balancing was used, with one partition of the P690 running as the injector and processor of the clearing transactions, while the second partition serviced close of business (COB) and online requests.

Transactions of all three types (clearing transactions, close of business and online browser transactions) were thus shown to be handled successfully, proving the non-stop processing capability of TEMENOS T24.

So, to sum up the value of this kind of benchmarking test for TEMENOS' customers, it represents:

- An indicator of real performance, under varying conditions
- A proof of ability to scale to meet predetermined business scenarios (high volumes, peaks of business, multiple tasks…)
- A balance to, or proof of, vendor marketing claims
- An approximate guide to relative cross-platform performance
- A basis for performance/cost decisions – how much are you prepared to invest in hardware and software to achieve a certain level of performance?

In short, at the end of a 'theoretical' evaluation, a 'practical' demonstration that the system and the technology on which it is based actually do work!

TEMENOS T24 to be implemented in Washington DC

The Overseas Private Investment Corporation (OPIC) has selected TEMENOS T24 to support its loan and investment funds tracking operation. TEMENOS T24 will replace a mixture of legacy and in-house developed systems.

OPIC was established as a development agency of the US government in 1971. The agency helps US businesses to invest overseas, fosters economic development in new and emerging markets, complements the private sector in managing the risks associated with foreign direct investment and supports US foreign policy.

OPIC was prompted to seek a new solution because its existing financial information architecture was not integrated, making it difficult to extract decision support and portfolio tracking information.The main goal for TEMENOS T24 will be to provide a fully integrated loan origination, loan processing, and general sub-ledger product, which will allow the agency to view and track its financial portfolio without manual intervention. Also high on the list of requirements was the ability to provide the latest technology and business workflow capabilities to both internal and external system users. TEMENOS T24 will capture and track information throughout the loan lifecycle, starting with receipt of a loan application, through the approval process to the loan commitment/agreement phase. It will support loan processing (including amortisation schedules, invoicing and portfolio management), accounting (disbursements, payables, cash receipts, journal vouchers, budget entries) and monitoring of the loans (covenants and the tracking of loan performance).

By the end of the project, OPIC will have an integrated system, which will help it to improve business and other processes by maximising the benefits and cost savings from COTS products and associated processes. The agency will have a single repository for its financial information to support daily operations, long-term planning, and improved internal reporting and it will have an integrated system of record that will meet internal and external reporting requirements, including information required by the Office of Management and Budget (OMB), the General Accounting Office (GAO), and the US Department of Treasury.

TEMENOS T24 will be implemented on a SunFire V440 Server, using an Oracle database. No core changes to the system are anticipated, although there will be a number of local developments, principally to handle interface requirements.

OPIC plans to complete the project by July 2005.

We wish them every success with the project!

TEMENOS Welcomes...

Bank of Shanghai

TEMENOS has gained its second client in China, with the Bank of Shanghai following in the footsteps of ICBC. The project will cover core retail, as well as some wholesale banking. The bank initially embarked on a business process re-engineering project, with the full project due for completion at the end of 2004. The bank is a relative newcomer, having been established as Shanghai City United Bank in 1995. It has around 180 branches already and has an ambitious expansion plan. HSBC has a stake in the bank and, while this is less than 10%, the Bank of Shanghai is viewed as important to HSBC's strategy in mainland China.

SwaziBank

SwaziBank signed for TEMENOS T24 at the end of 2003. It is a universal bank with 17 branches, owned by the Swazi government. The bank was previously using a very old legacy system. The implementation is expected to be completed by the end of 2004.

Capital Bank International

Lagos-based Capital Bank has also selected TEMENOS T24, via TEMENOS' longstanding partner in Nigeria, Inlaks. The bank is retail-oriented, with 18 branches, and is privately-owned. TEMENOS T24 will replace the IBSA system developed by Crédit Lyonnais, which has been in use at Capital Bank for a number of years. A main driver for the bank was its desire to move off the AS/400 by implementing an open system.

Banco Ve Por Mas Institucion de Banca Multiple (VePorMas)

This bank is a start-up institution, owned by the Del Valle family of bankers, who used to own BITAL, another Mexican bank, which was acquired by HSBC. The new bank will be universal in nature, with a broad range of products and services. It is intended to challenge the non-Mexican heavyweights who now largely dominate the market. The bank is intended to be retail in nature, starting with around 50,000 accounts, with a planned presence across the country, and ambitious plans for growth. VePorMas initially took a local system but was then swayed by the international nature of TEMENOS T24. The current size of the institution will not warrant the whole range of functions provided at this stage. Instead, it will focus initially on such areas as cash management and corporate lending.

Turkish Bank

Turkish Bank has signed contracts with TEMENOS to implement TEMENOS T24 in the UK, Turkey and Cyprus. The year-long evaluation was initiated by a desire for common systems across the group and the need for regulatory compliance. The system will be installed on the AS/400, and will replace an in-house system. The project is expected to take about twelve months.

Anglo Irish

One of the fastest growing banking groups in Europe, Anglo Irish, has signed contracts for TEMENOS T24 to support corporate banking operations in Dublin and London. The new system will run on IBM's pSeries and TEMENOS' jBASE database. The bank plans to go live in the UK during the first half of 2005, with its Irish operations to follow fairly quickly.

Banque de France

At the end of an extensive selection process, which included a number of international and French suppliers, Banque de France has chosen TEMENOS to support its operations. This is very good news for TEMENOS, as it is notoriously difficult for international suppliers to get into the bank and it adds to a growing list of central banking organisations using the system.

2004 TEMENOS Client Forum - TCF ™

Tuesday 22nd and Wednesday 23rd June
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details of the latest product developments and product solutions
information about migrating to TEMENOS T24
customer case study experiences
an update of TEMENOS' recent activities

The Banker

This year's event sees The Banker magazine as media partner. **Karina Robinson**, senior editor of The Banker, will be presenting on the current and future challenges facing international banks. We are also introducing dedicated 'Open House' sessions, private meetings, which will enable delegates to pose their business queries to a specific TEMENOS team.

TEMENOS Client Forum - TCF ™ is a truly global conference, with TEMENOS' clients, business partners, and prospective clients attending from every corner of the world. We hope that you will be able to join us in Prague for what promises to be an informative and enjoyable event.

For more information regarding the TEMENOS Client Forum - TCF ™ 2004, please contact the TEMENOS Client Forum - TCF ™ team on temenostcf@temenos.com