

TEMENOS NEWS

Behind Banking

Issue 5, September 2004

'TEMENOS' – the fastest running outsider in the 2004 English Transatlantic race

The 'Transat' took place at a breathtaking pace this year and held us in suspense until the very end! The top three boats beat the record time of 14 days and 16 hours - a record held since 1992 by Yves Parlier with Cacolac - and crossed the finish line separated by less than six hours. Dominique Wavre and his blue and white boat, the 'TEMENOS', came in second, crossing the ocean in just 12 days and 18 hours. It flew into second position on the eleventh day of the competition. The official results showed that the 'TEMENOS' scored the best average speed, compared to distance crossed in the Transat, with 10.66 knots. This performance confirms the recent developments made to the boat, which now is capable of competing with the best of the new-generation boats. The achievement is all the more remarkable this year as the single mono-hull category race was made even more demanding. With rules that were closer to those of the Vendée Globe,



'TEMENOS' charges through the American night to take second place in the twelfth English Transat, 13 June 2004

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Chairman's Comments



George Koukis, chairman, TEMENOS

In the last edition of TEMENOS News, I spoke of my belief that this was going to be a 'TEMENOS year'. With Autumn just around the corner, I am even

more convinced of this. Who could fail to be inspired by the 'TEMENOS' Transat performance! To see our 'TEMENOS' name flying across the Atlantic in the outstandingly capable hands of Dominique Wavre; to witness his sprint to the finish in Boston; to share his enthusiasm and adventurous spirit – I think we have all gained from our association with this man and his vision. Like Dominique Wavre, who immediately

moved on to prepare for his next adventure in the Vendée Globe, we at TEMENOS are fuelled with bags of energy and many exciting projects! Many of these projects relate to the Asia Pacific region and I am pleased that in this issue of TEMENOS News we are focusing on our activities there. This is already such an important market for us, as is evidenced by the considerable resources we are deploying in the region. Key drivers like the opening up of the financial markets in China in 2007 and

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Feature on Asia Pacific

introduced by Mark Cullinane, regional director...pg 4

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A strong first half for TEMENOS

'We continue to forge ahead and are now planning for next year's growth!' says Andreas Andreades.

We have achieved strong first half results from both a financial and business perspective, as has been demonstrated by our recent achievements around the world and also by our success in fast emerging markets, such as Asia Pacific. Indeed, the first half of 2004 has seen us strengthen our commitment to this, the world's fastest growing region. Asia Pacific offers some exciting opportunities for TEMENOS and we have already signed a number of deals in the region with high profile banks, such as BAAC (for TEMENOS CoreBanking) and Sacombank (for TEMENOS T24). The Chinese market represents a further exciting opportunity since, with banks gearing up for the entry of foreign organisations in 2007, China's financial services industry has eclipsed most markets in Asia Pacific to become the region's second largest and fastest growing market for IT products and related services. We have just opened an office in Shanghai, where we already have one client, the Bank of Shanghai, currently implementing TEMENOS T24, and in conjunction with Oracle and HP, we have made a commitment to increase our collective market share in China.

During the first half of this year we also signed key contracts with Union Bank of Switzerland (UBS) and Banque de France, both high profile organisations and strategically important to TEMENOS. UBS with regard to positioning us in the area of securities processing within investment banking and Banque de France, with regard to the French market. We signed some interesting contracts in the United States too, with a noteworthy addition to our client base in United Nations Federal Credit Union (UNFCU) – a project which positions us very strongly in the US domestic credit unions market. New single and multiple site licence contracts were additionally signed with Raiffeisen Krekova

Banka d.d in Slovenia; with Bank of Botswana in Botswana; with the Joint Stock Commercial Bank for Social Development (Ukrsotsbank) in Ukraine and with Banco Sabadell for private banking in Barcelona and Miami.

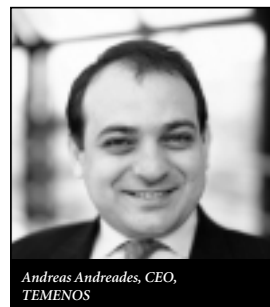
September saw the first bank begin to use TEMENOS T24 in live operations. This is Hatton National Bank (HNB) in Sri Lanka. And more clients are going through upgrade projects to TEMENOS T24. Quite a few are planning to be live before the end of the year.

Clearly, TEMENOS is viewed as a serious and reliable supplier, but we must not let this success go to our heads! With each new contract comes the responsibility to provide the appropriate level of support to each client to ensure a successful implementation. We have continued to strengthen support in 2004 for both TEMENOS T24 and TEMENOS CoreBanking and I have recently commissioned a client satisfaction survey, which will give all of our clients the opportunity to rate our products and our services.

So we enter into our next phase of growth, with a clear product and market position and strong, transparent financials. We have successfully made the leap from a single product to a multi-product company, with TEMENOS CoreBanking now reaping the benefits of two years of integration and development work and representing a significant share of our revenues and of our future strategy. We are focusing strongly on packaging TEMENOS CoreBanking and we have developed a clear road map for its evolution in the future, including taking it to the open J2EE world. A further milestone was reached in September with the go-live of Industrial Bank of Korea (IBK), our first client outside of Europe to go live with TEMENOS CoreBanking.

From a product point of view, we are maintaining a strong focus on quality and in August and

September, devoted a significant part of our development resources to ensuring the delivery of a high quality product. We



Andreas Andreades, CEO,
TEMENOS

have reshaped client services across all regions, with the aim of delivering consistent and high quality professional services. Adrian Hadley has taken charge of product direction and strategy and will lead the evolution of our product set in the future.

Finally, our success is reflected in our results. For the second quarter, our US\$16.2 million in initial licence fees (ILF) for new contracts brought us to the outstanding position of being more than 43% ahead of the first half of 2003. Indeed TEMENOS' twelve months ILF signings running rate (that is, the signings achieved in the twelve months prior to June 30 2004) was at its highest level ever – US\$60.7 million, compared with US\$51 million on 30 December 2003 and US\$58.5 million on 31 March 2003.

I am convinced that the foundations we have put in place will propel us to our next level of growth and I am confident of success in 2004 and in the years beyond. The growth we are achieving this year is quite exceptional for any player in our industry, especially one of our size. Of course, 2005 will bring its own challenges, alongside new opportunities! We need to be able to respond to both of these appropriately and so we need to continue to build the organisation and put in place the correct processes to support our initiatives.

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deregulation in Vietnam in 2008 will surely lead to long-term opportunities for us. I am delighted that some of the region's most prestigious banks have already selected TEMENOS as a partner to support their business – banks such as Sacombank in Vietnam, BAAC in Thailand and HNB, which has recently cut over to TEMENOS T24 in Sri Lanka.

Of course, we must not lose sight of our success elsewhere in the world. A major aspect of this 'TEMENOS year' has been our financial performance and this success has been shared by all regions, which have either met or exceeded targets. Indeed, our twelve months initial licence fee (ILF) running rate to the end of June was the highest ever. I will leave Andreas to provide further details!

Finally, as we look back on this year's TEMENOS Client Forum - TCF  in Prague (and I agree with our reviewer here in describing it as 'this most beautiful of cities'), we have already started working on next year's event! Please note that TEMENOS Client Forum will take place in Monaco on 14 and 15 June 2005.

I already look forward to welcoming you all at what I can guarantee will be an exceptional event!



Continued from front page...

"We are very proud of Dominique Wavre's result in the 'TEMENOS'! His second place in the 2004 English Transat has given us even more confidence in his abilities. Dominique is an extraordinary man, combining mental strength with very human qualities. His final sprint to the finish was simply incredible and so exciting to follow! We also congratulate his new team, whose efforts were so instrumental in him meeting the challenge and winning the title of fastest boat. At TEMENOS, we feel very much involved in this victory and I want to thank Dominique for the emotion and excitement he stirred in us during this 2004 Transat. We share the same values as Dominique: an adventurous spirit, a taste for challenges and the desire to achieve the very best performance. We wish Dominique the best of luck for the Vendée Globe race that will take place in November."

Andreas Andreades, CEO, TEMENOS

skippers were limited in the amount of external help available for weather forecasts and navigation.

To have completed the race is an achievement in itself as participants were faced with challenging weather patterns, with some participants, such as Bernard Stamm, sustaining severe damage to their boats and having to abandon the race. Dominique spent twelve days battling the elements, proving his seamanship as well as the capabilities of his boat. We caught up with him in Boston, before his more leisurely sail back to La Rochelle where the boat will be prepared for the Vendée Globe 2004. This is what he had to say about the race and his preparations for the Vendée Globe.



Dominique and Mike Sanderson congratulate each other after a hard fought duel for second place

Dominique, right from the start, you were up with the leaders, including the very fast, new-generation boats. It looks like the recent improvements to the 'TEMENOS' are bearing fruit.

Yes, the boat has changed considerably since last year. We worked tirelessly for three months to transform her. Now she is better balanced, more versatile, and easier to handle, so I can really take advantage of her power. She behaved beautifully and her performance in this race is a vindication of our efforts.

What were the highlights of the 2004 race for you?

The race started with a bang. The conditions

were difficult, there was a lot of wind and I had to deal with some minor damage right away. I was soaked. I had to work at the stern without being able to focus 100% on adjusting the boat. It was frustrating. But I quickly got back into the race and discovered just how fast the boat was. As of the second night, I was able to sail ahead of some of the fastest competitors. It was exhilarating. The second low-pressure area was another highlight of the race. The winds were very powerful, with gusts and squalls up to 60 knots. It was impressive, but tough, tricky and trying. Finally, of course, the finish in Boston - a wonderful moment and the culmination of the team's hard work on the boat.

The Vendée Globe will start on 7 November. What are your plans until then?

After sailing back across the Atlantic, the 'TEMENOS' will return to the dockyards at La Rochelle. As for me, I'm off to Switzerland to try and convince new sponsors to sign up for our project. There is still more room on the sails! The work should be finished by the end of August and then we must prove the latest changes and try out the new sails during September and October. After that, we will go to Les Sables d'Olonnes and make last-minute preparations before the start of the Vendée Globe on 7 November.

Can you be more specific about the work you will be doing on the boat?

I have a pretty good idea of what remains to be done on the boat, but I prefer to keep that confidential for now. To sum up, the work on the equipment and the rigging will continue. The boat still has room for improvement, and the latest changes are moving us in the right direction.



A beaming Dominique sprays the waiting crowd with champagne

If Dominique's fantastic performance in the 2004 English Transat is anything to go by, the latest changes are most certainly moving him and the 'TEMENOS' in the right direction! The next race, the Vendée Globe 2004 (the single-handed, non-stop around the world race), starts on 7 November and we will keep you posted on Dominique's progress in this epic voyage in the January issue of TEMENOS News.

Positions in the single mono-hull category:

1st: Ecover, Mike Golding, in 12 days, 15 hours and 19 minutes.

2nd: TEMENOS, Dominique Wavre, in 12 days, 18 hours and 22 minutes.

3rd: Pindar AlphaGraphics, Mike Sanderson, in 12 days, 20 hours and 54 minutes.



In the Hot Seat!

Interview with Mark Cullinane, TEMENOS' regional director for Asia Pacific

'It is almost seven years since the Asian financial crisis, and those years have proven to be one of the most economically turbulent periods in the region's recent history. In the past two years alone, there have been uncertainties associated with the Iraq conflict and terrorism, high and volatile oil prices, and the SARS epidemic. Yet, through all of that, developing Asia has shown remarkable resilience, emerging as the fastest growing region in the world with overall economic growth accelerating to 6.2% in 2003. In the medium-term, even stronger growth is projected. Aggregate GDP for the region is predicted to expand at an average rate of 6.5% in 2004-2005.'

(Tadao Chino, president of the Manila-based Asian Development Bank, The Banker, 3 March 2004.)

To find out what is happening in the Asia Pacific markets in which TEMENOS is active, we put Mark Cullinane, regional director, 'in the hot seat'! Mark has spent more than twelve years in the region, taking up his current position for TEMENOS in February of this year.

Mark, by way of background, can you give your view of what is happening economically across your region?

First of all, it is a huge region and I think it is best to pinpoint one or two of the most significant economic drivers in those markets which are the most interesting from TEMENOS' perspective. Firstly, in Japan. This is the second largest economy in the world and the largest in the region. Having spent ten years or more in a major recession, Japan has seen its fortunes improve in the last six to nine months. This is driving opportunities for TEMENOS, as it is accompanied by the consolidation and liberalisation of the banking sector there. Six or seven years ago, the Japanese

market was dominated by the 'city' banks – eight or nine very large organisations, which controlled the major part of the banking market. As a result of the lending excesses of the early 1990s, virtually all of these banks were struggling under the weight of a significant number of non-performing loans. To strengthen their balance sheets, the Japanese Government has guided a number of them to merge and has also provided support from public funding. This consolidation and accompanying changes are driving a need for new technology. In addition to these 'mega-banks' are some 4-500 regional and small banks, which are actively seeking growth and, alongside this, new systems to support the growth. TEMENOS opened an office in Tokyo in mid 2003 to be better positioned to respond to the demand and we are now very active in the country.

The second major driver for us in the region is China, whose economy has been growing at a phenomenal pace over the last seven or eight years. This growth has been particularly dramatic over the last 12 to 18 months in the banking sector, where we have seen a much more aggressive and adventurous policy by the Chinese banks and we have also seen the growth of the smaller regional banks versus the four national state-owned institutions. Against the background of World Trade Organisation changes in 2007, which will open up the country to foreign banks, local banks are gearing up for competition. Again, TEMENOS is making a firm commitment to the region. We have just opened up an office in Shanghai, where we already have one client, Bank of Shanghai, which is implementing TEMENOS T24. Another significant economy is Korea. This country has prospered over the last decade, even as others in the region suffered. TEMENOS



Mark Cullinane, regional director, TEMENOS

has been very successful in Korea and we have taken on additional people in our office in Seoul. And then there are the emerging markets such as Vietnam, which are starting to invest in banking and technology. We have just signed our second client in Vietnam, Sacombank, our first being Techcombank.

And we haven't even spoken about India and Australia, where there are some very interesting things happening!

What about political and regulatory changes in the region? Are these helping or hindering TEMENOS?

I've already mentioned the positive effect of the removal of barriers to entry for foreign banks in China from 2007 and the consolidation policy for the Japanese banks, both of which are creating opportunities. In Malaysia, there has been a similar government-led policy of consolidation, but at a much slower pace, and this has actually delayed investment in systems by banks, so has had a negative effect for TEMENOS. Naturally, any significant political change will impact on investments by banks.



Elections held in the Philippines earlier this year have led to banks putting decisions to invest in new systems on hold until the new government's policies are known. We see the same scenario in Indonesia, where there are also impending elections.

On the whole, though, these constraints are outweighed by massive opportunities in the Asia Pacific region. There is a huge level of pent-up demand and a need to invest in banking systems.

How well do TEMENOS' solutions fit the requirements of the different markets in Asia Pacific?

The primary market for us is retail core banking – this represents the biggest single opportunity, at two levels. Firstly, at the top end are a number of significant banks operating on very old, legacy systems built around the IBM mainframe. These systems are reaching the limits of their capacity to cope with modern banking demands, such as 24x7 operations, complex risk management and flexible management/customer information access. It is either impossible or very expensive to deliver this kind of functionality from these systems. So, they are looking to modernise. It would be a huge leap for any bank to do this by moving to a UNIX or Microsoft platform, so for banks like the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand, TEMENOS CoreBanking offers an ideal combination of modernisation in a mainframe environment. At the next level down, the smaller, regional banks, which have historically used UNIX or Microsoft-based systems, are also looking to improve their technology. For them, we have TEMENOS T24 on a UNIX platform. Over the next two to three years, we will see some 60% of business coming from these two sectors across the Asia Pacific region. Then, there is a very interesting secondary market

for us in private banking/wealth management. There is a lot of growth potential in this area, as banks move to offering fee-based services for their clients – and bear in mind that Asia has probably the highest number of wealthy individuals in the world. Also, for banks which are operating in multiple countries with standalone systems, we can offer TEMENOS T24 as a single platform to run all of their international offices, with 24x7 availability. So there are significant opportunities here across the region too.

Are you working on any specific developments for the region?

We will always encounter variations in banking practice and regulation in any new market we enter and we must be prepared to carry out localisation projects to ensure that our solution fully reflects local requirements. Probably the biggest project for us currently is the translation of the system for the Chinese market.

What level of resources has TEMENOS committed to the Asia Pacific region?

We have about 180 people in sales, professional services and support - and this does not include the development teams in Chennai. In terms of geographical commitment, we have already opened offices across the region - most recently in Tokyo and Shanghai - and we are looking at a number of other locations, including Vietnam, where we will probably open our next office. In terms of product support, our growth plans are aggressive and we are focusing particularly on TEMENOS CoreBanking support over the next six months.

Are you working through partners in Asia Pacific too?

We are working with major suppliers like IBM,

with whom we have a very close tie up. In fact we are the IBM-sponsored core banking solution for practically the whole of Asia. We also work closely with HP for TEMENOS T24. HP is very keen to work with us and is training its consultants to implement TEMENOS T24. Oracle is also an active partner. Then we work with a number of smaller consultancies and integrators in each country – with Thai Equipment Research on the BAAC project, for example.

Would you say that TEMENOS is now recognised as an established supplier across Asia Pacific?

TEMENOS has been operating in this region for ten years, but I would reiterate what I said at the beginning. This is a huge and extremely diverse region. TEMENOS has signed contracts with some very high-profile banks here – Industrial Bank of Korea (IBK), BAAC and Bank of Shanghai, to name but a few – but since these have been geographically widely dispersed, it will still take time for TEMENOS to become the de facto standard across the board. We are working on it however!

What is your outlook for business in Asia Pacific over the next year or so?

I feel incredibly bullish! TEMENOS is very well placed to lead the market in this region. In TEMENOS T24 and TEMENOS CoreBanking, we have two of the best solutions available; we have a good distribution network – we are represented in all of the markets where we want to do business; and I see a growing level of demand right across the region as banks look to change and invest in new technology.



TEMENOS CoreBanking to support BAAC's growth plans

The Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand has recently embarked on an implementation of TEMENOS CoreBanking. This overhaul of its core banking systems is intended to support the bank's future strategy and is anticipated to enable a quantum leap in areas such as customer service and management information. So, why did the bank select this system and what are its aspirations?

Around the globe, a substantial number of banks are in the middle of core retail system replacement projects. BAAC in Thailand is one of the latest to embark on the adventure, after a search which began in 1999. The bank is looking forward to transforming its business by shifting from ageing, decentralised software to a modern, centralised solution in the form of TEMENOS CoreBanking.

With around 25 million accounts, ten million customers, and 600 branches, this government bank is primarily involved in lending, with an emphasis on farming cooperatives. The lending is a cross between commercial and retail. The product set is relatively simple, with plain, vanilla loans, but there are complexities due to the way those loans can be managed, particularly linked to government-backed 'mitigation of disaster' schemes, which allow payments to be deferred when there are problems within the sector. 'Thus, flexibility was key when BAAC went looking for a lending system,' says senior advisor to the bank, John Kelly.

The existing decentralised, in-house developed software was acting as a brake on BAAC's growth. It hindered customer service; it meant that the bank was unable to offer customers multiple channels, including ATMs; it restricted the development of new products, such as credit cards; and it tied up branch resources in routine tasks. Moreover, it was extremely difficult to extract management information from the system, to the extent that, according to Mr. Kelly, 'the only information that is reaching head office are the daily balances from the branches. Profitability analysis and customer-



Mr. Teerapong, president, BAAC

based account management are certainly not feasible.' The increasing sophistication of its customers added to the problems and the fact that the existing software ran on obsolete Nixdorf hardware was an additional reason to seek a replacement.

The bank's president, Mr. Teerapong (who was recently promoted from senior executive VP for technology and administration), admits that the bank was losing ground: 'In our country, and in the Asian region generally, the banking industry is highly competitive. Those banks that have pulled through the economic crisis have emerged stronger than their predecessors. Their customers have also become more sophisticated and are looking for more from their banks than in the past.' As well as needing to provide better products, services and management information, BAAC was also under pressure from the Thai Government, which looks to the bank to provide assistance to the country's farming sector as well as to provide detailed information about that community.

The bank drew up an RFI, which went to an initial 17 vendors, then an RFP, containing around 5000 requirement items! The evaluation of the two systems that made it to the shortlist included a week long proof of concept exercise, with each vendor needing to demonstrate its ability to support a number of products. 'This capability showed the strength of the parameterisation of the TEMENOS system,' says Mr. Kelly. The system was also put through benchmark tests in IBM's labs in Montpellier. The system needed to show the ability to support 150 transactions per second (TPS), which constituted around twice the bank's existing workload. In fact, TEMENOS CoreBanking achieved around 1000 TPS, using actual transactions rather than artificial ones. The system's mainframe platform was also deemed to be an advantage, with reliability a key factor and with a lack of confidence within the bank about the ability of other hardware platforms to deliver this.

BAAC also made a number of reference site visits. For TEMENOS CoreBanking, an important factor was that the system was originally developed for the Spanish rural banks. This reassured the bank and also meant that most of the functionality was already in place. The fact that another taker of the system, Bansefi in Mexico, is a government-owned bank with a similar model was also an advantage, according to Mr. Teerapong.

The project has been under way for a number of months now and BAAC is currently working on the gap analysis. Most of the changes are expected to be for local regulations, since there

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TEMENOS T24 selected by Vietnam's premier commercial bank

Sacombank, the largest joint stock commercial bank in Vietnam, has signed for TEMENOS T24. The system will support the bank's 80 outlets, 300,000 accounts and 120,000 customers. This is the second success in the country for TEMENOS, while for Sacombank, its first branch is due to go live by the end of the year.

The bank's chairman, Dang Van Thanh, says TEMENOS T24 was chosen because it will give the bank real-time end-of-day processing, built on an open architecture. He anticipates a high degree of automation, which will greatly enhance the bank's efficiency and will reinforce Sacombank's reputation as the region's premier bank. The system will also mean that Sacombank is well prepared to compete with foreign banks with the arrival of deregulation in 2008.

TEMENOS T24 will replace an in-house developed system, Smartbank, and will include support for both retail and corporate banking, including general ledger, customer information

management, deposits, credit products and services, and trade finance. The old system was inflexible, so was hampering the bank when it wanted to launch new products, says Sacombank's deputy general director and CIO, Le Tan Loc. There were also performance and security issues. The bank carried out its own selection and contacted an initial list of almost 30 suppliers before reducing this to a shortlist of five.

The bank is seeking to implement TEMENOS T24 with country-level changes that have already been made for the other customer in the country, Techcombank. The entire roll-out is scheduled to take 15 months and will encompass the existing branches as well as those planned, with the bank intending to increase its network by around 15% over the next year or so.



Sacombank's head office



TEMENOS' new Chennai office

TEMENOS opens new Chennai office

TEMENOS has increased its regional presence with its recent move to a larger new office in Chennai, in Southern India. The 55,000 square feet of office space spread over 10 floors is required to accommodate TEMENOS' growing back office team. The office has been the global hub for TEMENOS' development and support since 2000. There are around 400

'TEMENOSIANS' at the Chennai office, in the TEMENOS T24 development, support, client services, training and the TEMENOS CoreBanking teams.

Chennai is now a serious contender to Bangalore for the title of India's 'Silicon Valley' and TEMENOS is among a host of leading IT companies which have selected this city to house their operations.

Alliance with HP and Oracle sets new horizon in China

The establishment of TEMENOS' operation in China has been marked by the announcement of an alliance with HP and Oracle. Announced earlier this Summer at Oracle Open World in Shanghai, the alliance demonstrates the commitment of the three partners to increase their collective market share in China by delivering core banking solutions.

China's financial services industry has eclipsed most markets in Asia Pacific to become the region's second largest and fastest growing market for IT products and related services. Demand by China's financial services industry is estimated to grow to US\$5.8 billion by 2005 and to US\$8.9 billion by 2008 (source: IDC data).

Possibly the main driver for growth is China's commitment to satisfy World Trade Organisation guidelines and liberalise its insurance and banking sectors by the end of 2004 and 2006, respectively. Added to this is the growing desire of local enterprises – most recently, Bank of Communications and Ping An Insurance – to access foreign market capital. Taking advantage of the market opportunity, the tripartite alliance will address the immediate

requirements of China's financial services market to enhance competitiveness, financial transparency and operational efficiency. Commenting on the alliance, Mark Gibbs, Oracle's vice-president for financial services in Asia Pacific, says: 'China's financial services industry is awash with an unprecedented and accelerating rate of change – fuelled by market deregulation, access to foreign market capital, increased competition, changing customer dynamics, and government policies designed to encourage 'outward' business growth.' The ability of Chinese financial institutions to embrace technology has therefore become a fundamental basis for survival.

The core banking solution offered by the TEMENOS-HP-Oracle alliance extends from back end data processing to front office branch operations. The partners are confident that the solution will deliver operational efficiency and business agility to Chinese financial services organisations, allowing them to quickly identify changes in customer demand and market conditions and react accordingly.

Based on an open, industry-standard banking architecture, using HP Integrity Superdome

servers, Oracle technology and Oracle Financial Services Applications (OFSA), the solution has TEMENOS T24 at its heart. This represents 'always on' computing in a massively scalable environment.

Independent Benchmarking

The solution's strengths have been demonstrated in a recent benchmark test (see page 10 for details), which endorsed its suitability for the Chinese financial services market. Mark Cullinane, TEMENOS' regional director for Asia Pacific, sums up:

'This demonstration of strength is critical for banks looking to service a market of more than 1.3 billion people. The challenges of combined performance, reliability, scalability and resilience are all ably met in this advanced banking solution born from the alliance between TEMENOS, HP and Oracle.'



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i n v e n t

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is a close fit with the bank's business requirements. In addition, BAAC's strategy is to adapt processes to match the system's 'global standards'. 'This should mean that customisation is marginal,' says Mr. Teerapong. The entire project is scheduled to take around two years. In parallel, the bank is upgrading its network infrastructure. A pilot implementation is planned within eight or nine months, probably in four or five branches, which constitute a mix of the different types of outlets. There will then be a 'big bang' cut-over for the

bulk of the remaining branches. An important aspect of the project will be training. Mr. Teerapong adds, 'If you have a good system and a good bank, but stick to the old service culture, then this won't help.'

BAAC's previous distributed configuration meant that it had been restricted in the number and type of products it could support. The new centralised solution, with TEMENOS CoreBanking at its heart, should allow the bank to launch new or improved products much more quickly. It will also bring support for additional channels and will enable BAAC to

expand its physical presence through the opening of service centres in retail outlets. With the new system in place, BAAC will be able to retain existing customers and attract new ones, as well as being able to provide much more detailed information to the Thai Government about the farming sector. Mr. Teerapong is confident that a successful project will put BAAC ahead of most of its competitors in Thailand, and will support the bank's business strategies for growth into the future.



HNB

- making banking accessible with TEMENOS T24

Hatton National Bank (HNB) in Sri Lanka, one of the pilots for TEMENOS T24, cut over to the new system at the beginning of September. HNB hopes that the system's close of business (COB) processing and 24x7 capabilities will resolve the difficulties it has experienced in bringing banking services to the more remote rural communities in Sri Lanka, as well as enabling it to capitalise on new business opportunities in the corporate market.

HNB serves a large portion of its domestic market, focusing on both retail and corporate banking. While targeting all parts of the population, it places a strong emphasis on the low income, typically rural sector. The bank has over 150 branches as well as mobile outlets. The latter comprise branded vehicles, which take staff and self-service machines to remote areas. HNB is also planning branded three wheel 'trishaws' to reach farmers in the paddy fields (the farmers cannot afford to lose time by visiting branches and therefore tend not to have bank accounts). The bank initially signed for TEMENOS GLOBUS in 1999. It was seeking to replace a standalone branch system, which was preventing it from offering 'uni-banking'. This meant that customer account details were only held at the customer's 'home branch' and could not be accessed from any other outlet - a situation which made it extremely difficult to release new products and services. Deputy general manager and head of IT, Chandima Hemachandra, joined the project at the end of 2000, moving across from Commercial Bank of Sri Lanka. He found a project that was moving relatively slowly, in part due to heavy customisation. One of his first priorities, therefore, was to try to adopt a more standardised version of the system.

The roll-out moved on and with 40 branches live, the bank implemented a network to link all of its TEMENOS GLOBUS and non-TEMENOS GLOBUS branches. This was dubbed Hatna.NET. It comprised a transaction broker, the Cisco network, and encryption software in the branches. It was implemented in six months and meant that HNB now had the largest computerised branch network in the country,

even hooking in its most northerly branch, in Jaffna, an area which at that time was extremely dangerous, with the Tamil separatists highly active. Customer and account details were still held at the branches but, via Hatna.NET, the information could be accessed from any other branch, bringing the sought-after 'uni-banking'. Other systems were also linked via the network, including a data warehouse, Mastercard and Visa systems, and internet and WAP/SMS banking. The bank is now in a position to move on to more interesting plans. It has already started to link Hatna.NET to some corporate clients, to allow them to sell goods via its branches. In the future, this capability will be extended to ATMs. The bank has product catalogues in its outlets, with customers (retail or corporate) able to select and pay for goods, with their accounts automatically debited and links into the suppliers' systems to notify them of the orders. The corporates could potentially be anywhere in the world and, at present, the bank works with a Singaporean company which provides flour on a wholesale basis.

However, while HNB had achieved the effect of centralisation, it was not easy running so many disparate systems. The old system still necessitated end-of-day batch processing in each branch, with the data then transferred to the warehouse. The elimination of that old system then became a key target with TEMENOS T24. The multi-threading capabilities of the new system are important, bringing the ability to run the batch processes in parallel, not sequentially, and thereby providing sufficient capacity to support all outlets from TEMENOS T24. For e-business, the bank is also attracted by the

true 24x7 capabilities of TEMENOS T24. Corporates typically open until late and there should not be time limits for trading. In addition, the bank is planning unmanned 24-



Mr. Hemachandra, deputy general manager and head of IT, HNB

hour kiosks in urban areas as well as Kopi Kade (coffee shops) for rural areas. The latter are another way of trying to persuade the farming community to adopt banking practices, with the Kopi Kade providing places for people to gather to socialise in the evenings for coffee, with HNB offering banking services at the same time. Mr. Hemachandra envisages ATMs, statement machines, and cheque and cash deposit machines in each coffee shop, as well as a bank staff member who is able to both serve coffee and provide financial advice!

The bank has now cut over to TEMENOS T24. Work started in December of last year and involved a move from Release 11 of TEMENOS GLOBUS, together with the conversion of data from Universe to jBase, with this taking just 34 hours. HNB has also moved all of its customisations into the new system. So, with the migration of the old sites to TEMENOS T24, the bank will finally have achieved its goal of having a single centralised, modern system to support its current business and future plans.

TEMENOS T24 benchmarked at over 16,000 transactions per second

Recent benchmark tests have demonstrated that TEMENOS T24 can deliver increased operational efficiency and business agility to banks, using Oracle technology and HP Integrity and Superdome servers. TEMENOS was delighted with the results of the tests, which demonstrated that a bank could perform account accruals across 13 million accounts in less than 14 minutes and process over 55 million online transactions each eight-hour day. The benchmarks used Oracle and HP technology to simulate the use of a core banking information system by a large bank. Two key tests were undertaken during the benchmarks to demonstrate the ability of TEMENOS T24 on HP Integrity and Superdome servers, running Oracle® Database 10g and HP-UX 11i v2, to improve the performance of a bank's close of business and to process volumes of online transactions commensurate with a retail banking environment.

The TEMENOS benchmarks established proof points for two key core banking system requirements – performance and scalability. The performance test was required for two reasons. Firstly, to show that TEMENOS T24 could process online transaction volumes in excess of those experienced within a retail institution. Secondly, to demonstrate that, in combination with a back end database, the system would not constitute a bottleneck within an end to end architecture from user to the server. The scalability objective was to understand the way in which TEMENOS T24 could be implemented across heterogeneous hardware and within a multi-server architecture. Also, to demonstrate how it could be used to accommodate the operations of different sizes of financial institutions, according to their exact business and technical requirements.

The first test evaluated the speed at which account accruals could be processed for a 13 million account database and resulted in 16,250 accruals being processed per second, enabling this portion of the close of business to complete in less than 14 minutes. As TEMENOS' banking services VP, Adrian Hadley, puts it: 'Long gone are the days of account accruals being the Achilles heel of the system!'

The second test involved injecting online transactions into the banking system. These transactions comprised a portfolio of balance enquiries, cash withdrawals and accounting updates. A rate of 2153 transactions per second was achieved, with CPU utilisation across the available server capacity ranging between 40% and 60%. This provided considerable additional capacity for further increases in transactions. The results from both tests confirmed that TEMENOS T24 was a scalable application, capable of processing a high volume of transactions. During the online run, the number of transactions being processed per server demonstrated that the throughput from each server was directly proportional to its processing capacity. In other words, a 64 CPU server processed eight times the number of transactions as an 8 CPU server. The relationship was linear and proportional. The transaction throughputs achieved from both tests also demonstrated TEMENOS T24's ability to service financial institutions with extremely high transaction volumes. The tests were accomplished within an architecture that incorporated multiple application servers, with each displaying a different hardware configuration. This type of architecture was chosen to represent that of a typical financial institution, using both incumbent and newly acquired hardware. Thus clients would have the option of using existing and new hardware

simultaneously. In addition, they would be able to build resilient architectures while at the same time increasing the number of transactions they could complete in a working day. 'By using a single, highly available database, in a standards-based architecture, we were able to consolidate a financial institution's global processing needs through a shared service centre model, thus giving the potential to reduce overall costs significantly,' says André Loustau, TEMENOS' chief technology officer. At a time when many large retail banks are looking to replace core systems, the results of benchmarks such as these should offer considerable reassurance as they consider infrastructure decisions which could have a major impact on their ability to compete in the future.

For our technical readers, these benchmark tests were done on Itanium 2-based HP Integrity servers running HP-UX 11i v2. The infrastructure included the HP Integrity rx7620 midrange systems and partitioned and non-partitioned high end HP Integrity Superdome servers. The storage solution comprised the HP Storage Works Disk Array XP 1024.

A copy of the full TEMENOS T24 Benchmark Report may be obtained by emailing your request to marketing@temenos.com



ORACLE®

Is technology the answer to AML compliance?

The Financial Services Authority (FSA) has fined the Bank of Ireland £375,000 for failing to have in place adequate systems and controls to monitor the issuing of bank drafts – high risk transactions, providing scope for money laundering. With this, the bank became the latest in a string of financial institutions to be rapped over the knuckles for breaches in this area: in July, Dutch Bank ABN Amro announced that it had reached an agreement with the Federal Reserve and US bank regulators to improve anti-money laundering (AML) procedures at its New York operations; three months earlier, a fine of £1.25 million was imposed on Bank of Scotland (BOS) for failure to keep proper records of customer identification as required by AML regulations; and in December 2003, Abbey National was fined £2.3 million for failure to comply with AML regulations in its retail banking and asset management businesses.

These examples illustrate the regulatory authorities' resolution to deal severely with the failure of financial institutions to put in place and maintain effective systems and controls against money laundering. An institution's failure to act – to adequately investigate suspicious banking activity – will result in stiff penalties, which could be applied to the bank's management itself. The examples also indicate that, despite the considerable sums of money being assigned to the area by the banks and other financial institutions, coupled with a plethora of AML systems available on the market, compliance is not that easy to achieve. While the requirement for financial institutions to take action against money laundering is not new (in 1990, for example, the Financial Action Task Force -FATF - set out 40 recommendations to form a framework for anti-money laundering efforts), the stringent compliance demands of



the US Patriot Act, passed in October 2001 following the terrorist attacks in New York and Washington, took requirements to a new level. The current regulation is centred on four directives:

1. A financial institution must produce, on demand, a detailed record of financial transactions undertaken by any individual or other entity;
2. A financial institution must not, intentionally or unintentionally, notify its customers of any ongoing money laundering investigations;

3. A financial institution must know its customers and report any suspicious activity, which requires the ability to verify individual identities, the legitimacy of their assets, and the transactions they undertake; and
4. In cases where these requirements cannot be verified, the assets in question must be frozen until a suitable resolution occurs.

According to research conducted by Deloitte & Touche in 2003, financial services institutions faced 'significant challenges' in complying with the US Patriot Act and other AML obligations, with most projecting an increase in compliance

costs for 2004. The results of the survey, conducted among 167 executives in the US, revealed that numerous issues still needed to be addressed and that 'significant' resources would need to be deployed by their organisations to meet their responsibilities. Prominent on the list of areas requiring attention was technology, which was seen as critical in enabling AML compliance, although dependent on efficient business processes and appropriately trained people to be effective. The 2001 legislation initiated a wave of spending on AML applications across all tiers of banks, not just in the US, but globally, as international organisations and local regulators wanted to be seen to be putting their AML house in order too.

For banks and other financial institutions, the requirements of compliance cut to the heart of their existing systems, with implications for three main areas:

1. Transaction monitoring, including the ability to scan data in accounts and transactions and analyse the information to identify possible money laundering activity;
2. Workflow, involving the filtering of information and checking of account holders and beneficiaries against watch lists; and
3. Report generation, to provide management information and to meet regulatory requirements.

So in this highly complex area, how effective can technology be?

A degree of disillusionment about the value of AML systems has been voiced: increased costs have been noted, tangible benefits in terms of risk reduction less frequently heard. If we consider one of the principal elements of the compliance requirements, that of transaction monitoring, in the light of the huge number of transactions needing to be reviewed, systems are key to automating routine reviews and isolating suspicious items. Activities covered here include payment screening, account activity monitoring and exceptions tracking. This is perhaps an obvious role for systems to play. However, the use of technology here has not been as entirely successful as would perhaps have been expected. A system can only be as effective as the specification on which it is based and in the world of money laundering,

information is inevitably imprecise. Feedback from the market suggests that banks around the world have insufficient detail as to what constitutes real-life money laundering scenarios, to enable their systems to successfully differentiate between the millions of bona fide transactions and the criminal (Robson Rhodes, 2004, Clean Sweep). In addition, there are reported to be wide differences in the estimates of the total amount of funds being laundered each year. Thus, the key variables in the systems' decision-making process are not as definitive as they need to be. Possibly as a result of this, high volume financial institutions are experiencing a huge increase in the number of suspicious transactions thrown up by their systems for investigation - as Robson Rhodes term it, 'the daily tsunami of potentially suspicious transactions generated by AML systems.' Handling this additional investigative activity is adding to the costs of achieving compliance in many cases.

One area where the use of integrated technologies is bringing demonstrable benefits, however, is in enabling more effective record keeping. Robson Rhodes note that many of the fines imposed by the FSA were related to poor record keeping. While the firms in question may have had the required AML processes in place, they were unable to provide proof that these were being followed. The integration of document imaging, workflow and collaborative technologies, however, can establish electronic, automatically audited repositories of client information, demonstrating that the correct procedures have been followed.

'Considering that AML practices - not to mention regulations - are an evolving art, keeping up with new technologies, methods and regulations will remain a challenging task for some years to come,' says Neil Katkov, senior analyst, Celent Communications. Also, as money laundering itself gets more sophisticated, the systems will have to be that much smarter. Today, AML solutions can be divided into three categories:

1. Solutions based on business rules and filters;
2. Statistical analysis;
3. Neural networks and other AI methods.

Many of these specialist AML solutions are based on highly sophisticated, often 'fledgling' technologies. However, no matter how leading edge these systems may be, they still need to be

integrated with existing back office systems and they still must be capable of supporting the organisation's processes and work practices. 'Just as crucial as high tech analytical capabilities are an AML solution's ease-of-use and workflow features,' comments Mr. Katkov. A single view of customer information is a further obvious prerequisite of the total AML solution. The choice of technology solution from a bank's point of view is very dependent on its individual scenario, together with its geography, size and scope and its attitude to reputational risk. These caveats aside, TowerGroup identifies a 'break-point' at around the \$300 million assets mark. Typically, banks with assets of less than \$300 million will not use AML technology as many of their requirements can be handled through manual processes. In some cases they may outsource their requirements, but overall their mandatory record keeping and reporting are very basic.

Banks with assets of more than \$300 million have diverse requirements from mandatory record keeping to maintaining complex rules-based systems. The more complex the bank's environment, the more complex its choice of technology, from simple rule settings to more complex parameters such as tolerance checking and multi-tiered analogies. In general, Tier 1 banks have very complex rules-based systems, bordering on artificial intelligence.

So, banks can have swathes of controls and highly sophisticated technology in place, but the key to success often lies with the employees who use these tools. It is often the judgement of the bank's staff, which is needed to weed out suspicious clients. Their knowledge of the business, their vigilance and readiness to act are paramount. They must also receive the appropriate level of training. The Bank of Ireland, for example, was criticised by the FSA for not checking that bank staff fully understood their anti-money laundering responsibilities in relation to the identification and reporting of suspicious transactions.

In conclusion, technology has a major role to play and AML systems are a significant help, but we should not expect them to offer a solution in isolation. To reiterate the Deloitte & Touche findings, 'while critical in enabling AML compliance, technology depends on an institution's business processes and appropriately trained people to be effective.'

A first for UNFCU – supported by TEMENOS T24!

United Nations Federal Credit Union (UNFCU) has become the first US-based credit union to offer its members loans and deposits in foreign currencies, while TEMENOS has once again demonstrated the flexibility of TEMENOS T24, by adding an award-winning cooperative financial institution to its client list!

UNFCU has selected TEMENOS T24 to support its domestic and international core processing. This move is the first step in UNFCU's plans to provide its members with loans and deposits and related services in multiple currencies, namely euros, Swiss francs and US dollars. UNFCU will also be looking to TEMENOS T24 to facilitate the expansion of its multi-currency offerings, as needs develop going forward.

A recent ruling by the US National Credit Union Administration (NCUA), allowing credit unions to open international branches, proved a catalyst for UNFCU. Currently, regulations prohibit credit unions from conducting cash transactions in their overseas facilities. UNFCU Liaison Representative Offices in Geneva, Vienna and Nairobi, for example, are information offices, where members can open accounts and apply for loans.

The new system will be deployed from UNFCU headquarters in New York City. TEMENOS T24 is uniquely equipped to handle both domestic processing and the growth of UNFCU's international member base from the single New York site. The platform has been initially licensed for up to 160 UNFCU concurrent users and some 5000 registered internet users, with the option to add further users over the next five years. The implementation is currently under way and is expected to be completed within 12 to 15 months.

Traditionally, credit unions were chartered and they continue to serve a common bond, such as an association or organisation, often on an employment or church basis, as well as having a geographical focus. The 1970s saw a major expansion in the services available to their members (share certificates and mortgage lending, for example) and this was accompanied

by a period of massive growth, during which the number of credit unions more than doubled and assets in the unions tripled to around \$65 billion. Deregulation in the 1980s brought increased flexibility in merger and membership criteria, as well as further expansion of member services. Today, there are almost 82 million members, in more than 9500 federally insured credit unions, with deposits exceeding \$520 billion and loans of over \$355 billion, according to NCUA figures. A sizeable industry indeed! UNFCU has served the financial needs of its member community since 1947 and it currently has more than 65,000 members in 210 countries – with more than half of its members residing overseas. It is one of the largest credit unions, with \$2 billion in assets.

UNFCU holds a unique position among credit unions, in that its membership is spread all around the world, and members frequently relocate to other UN duty stations. Additionally, many UN staff members are non-US citizens, making UNFCU's guiding principle, 'Serving the people who serve the world®', a testament to its flexibility and service delivery.

We asked Michael J. Connery, Jr., president and CEO of UNFCU, how the needs of its members have changed over the years and how the institution is effectively meeting these challenges.

United Nations' staff, retirees and their families overseas are currently driving UNFCU's membership growth, which has been in double digits over the past eight years. As a result, UNFCU is continually enhancing its financial planning solutions, particularly its web-based offerings, to address the unique needs of its members – many of whom are foreign citizens and frequent travellers.

Because UNFCU has one of the highest

adoption rates in the industry, web banking is a very critical component of our product offering. Given these dynamics, we selected TEMENOS T24 and the move represents the natural evolution of our business strategy. In addition to multi-currency, multi-language capabilities, TEMENOS T24 offers an integrated internet front end. Members will be able to see their account balances, in any of several currencies, on a single screen.



Mark Gunning, US regional manager for TEMENOS and Michael J. Connery, Jr., president and CEO of UNFCU

Given the international nature of the organisation and members, presumably UNFCU could only partially meet members' banking needs prior to the recent regulatory change. Can you explain what the new international strategy will mean to them?

Extensive research told us that members were very interested in our operating in foreign currencies. Therefore, we expect the new service to be highly successful.

UNFCU members, particularly those living abroad or travelling internationally, can conduct all of their transactions (loans and deposits) in euros, US dollars or Swiss francs, as well as check their account balances in another currency. They will save time by not having to exchange currency and will also save money

on exchange rate fees and possible currency fluctuations.

We're considered a single-sponsor credit union. It's our mandate to provide our members – the UN community globally - with the financial products and services they need around the world. We focus whenever possible on delivering what our members need and providing them with personalised service. Examples are our youth programme, Start Smart™, and offshore account offerings, which are available through our Investment Centre. We continue to add staff - we now have more than 235 employees - and we provide them with ongoing training and development opportunities.

In addition, UNFCU is also exploring opportunities to establish a presence in other key markets around the world. Our goal is to continually enhance our product and service offerings to meet our members' needs.

What systems were you using previously to support your operation?

UNFCU enjoyed a long-term relationship with the current vendor, XP Systems (a Fiserv company), but we also wanted to incorporate specific requirements for multi-currency expansion, to allow us to fulfil our business plans. We evaluated several different systems which provided multiple currency facilities. TowerGroup helped us with the RFP and helped us come to a conclusion based on the responses. The conclusion was TEMENOS.

What did you see as the key differentiators in your selection of TEMENOS/TEMENOS T24?

TEMENOS is a proven leader in technology with extensive European banking experience. This, together with TEMENOS T24's ability to support all of our core products and system modifications efficiently and in real-time led to our strategic partnership.

Which principal elements of TEMENOS T24 will you be taking?

UNFCU will be implementing the full retail suite of TEMENOS T24 functional modules, including internet banking. Because our members are located overseas, internet banking is a critical component of our product offering. It is currently utilised by 50% of our members on a monthly basis. We anticipate providing more functionality, such as the ability to see positions on one screen, and also envisage the

About United Nations Federal Credit Union

UNFCU is a cooperative financial institution with more than US\$2 billion in assets. It has served the financial needs of the United Nations community since 1947. UNFCU is headquartered in New York City and has liaison offices in Geneva, Vienna and Nairobi.

The National Association of Federal Credit Unions (NAFCU) named UNFCU the 2003 Federal Credit Union of the Year based on its performance, innovative products, outstanding member service and community outreach. UNFCU also received the CUNA Mutual Group and CUNA Lending Council's 2003 Credit Union Excellence in Mortgage Lending Award in the large asset category and the 2004 NAFCU Innovation Showcase Award.

More information is available on the UNFCU website at www.unfcu.org

use of more marketing features. So, for example, members will be able to see if a CD is maturing or access a promotion designed for them. They will also be able to make payments, transfer funds and so on.

Will TEMENOS T24 need to be customised to handle US requirements or UNFCU specific requirements?

UNFCU has seen that TEMENOS has invested substantially in the provision of US requirements. We do not envisage a significant amount of modification to support US compliance. We believe that the major part of the customisation will be centred on the delivery of interfaces to outside systems such as ATMs, credit and debit cards and other peripheral systems. TEMENOS has significant experience in building such interfaces on a global basis and we are confident in their ability to deliver!

Could you briefly talk about your plans for the implementation?

Right now we're getting into a three week process of discovering what TEMENOS T24 can do. Once that is completed, we'll perform a detailed business needs assessment. Implementation should be completed within 12 to 15 months.

Could you sum up the benefits you hope to gain with the implementation of TEMENOS T24?

To sum up, the dynamic partnership we have with TEMENOS complements our mission to provide innovative, financial products and services to members in 210 countries and territories. Operating in multi-currencies via TEMENOS T24's open systems architecture

will enable us to conveniently meet members' demands, subject to receiving the appropriate regulatory approvals of course.

TEMENOS is delighted with the addition of UNFCU to its client list. Andreas Andreades, CEO, comments that the deal is a significant step in the company's strategy for the North American market. 'It confirms our credentials in domestic core processing, where we have made a substantial investment in the 'North American Platform' version of TEMENOS T24,' he says.

And Mark Gunning, TEMENOS' US regional manager adds that he is looking forward to a long, strategic relationship with UNFCU as it expands its global footprint.

Andreas Andreades concludes: 'We are particularly pleased to be working with a credit union in the US, where we see substantial potential for our open systems architecture. We believe we can leverage our expertise, supporting credit unions in Ireland, Spain and Mexico as well as other international financial services institutions, to benefit UNFCU.'



Moving to a financial services grid platform

The world of grid is fast becoming a reality for leading financial services institutions. Oracle 10g grid technology allows these rapidly moving organisations to create a more reliable and flexible information management infrastructure immediately. Resources are consolidated to support collaboration across and beyond the enterprise, improving responsiveness, competitiveness and agility. But is the road to grid computing one which all financial services companies should be taking?

Banks and insurance companies' information management infrastructures typically represent decades of investment to address areas such as new product, service or channel initiatives. The bigger and more diverse the bank, and the more international, the more complex the systems landscape. Discrete systems and infrastructure components have been built up over time to meet a succession of business and technology challenges. Now, in many cases, banks face challenges in the areas of infrastructure optimisation, flexibility, performance management and cost control. Cost and complexity is the order of the day - it is estimated that as much as 80% of a typical IT budget is currently spent on maintaining core operational systems in many banking and insurance companies.

One way of addressing these challenges is by adopting a 'grid' approach. Grid computing has its origins in the early 1990s. The aim was to make better and more cost-effective use of existing computing power and resources, with a view to sharing applications and collaborating through distributed computing. The concept and name are derived from the national electricity grid. Initially given impetus by the international scientific community, the concept gradually gained credence in the commercial world - not surprising, given that technical equipment and resources tend to be under-utilised by commercial organisations in relation to their capacity.

These new models are based on leveraging the basic building blocks of computing - the CPUs, servers and network infrastructure - in order

to create flexible on-demand computing services. We are seeing an evolution from clustered infrastructures to grid computing models, the latter offering the ultimate cost-effective and flexible use of infrastructure to deliver the highest levels of availability and scalability.

The road to the financial services grid platform

Flexible grid infrastructures can start small and grow as a company's business processing requirements dictate. Grids can provide flexible computing power where and when it is required, avoiding the need to hold an overcapacity per processing area (as is typically held for end/start-of-day processing to handle peaks and fallback facilities) as computing resources are provided on a utility basis.

Financial services institutions often have a large number of discrete silos of computing infrastructure, 'owned' by their various lines-of-business, departments and services. Each time new applications are implemented, complete new systems instances are deployed with the associated headroom capacity to handle processing peaks and availability demands. Vanguard institutions, driven by the need to reduce operational costs and improve flexibility and time to market, have adopted clustered 'utility' models, creating pockets of shared infrastructure typically running half a dozen applications. This approach enables lower costs and high availability of applications. For these organisations, the next step is the enterprise utility computing model offered by grid.

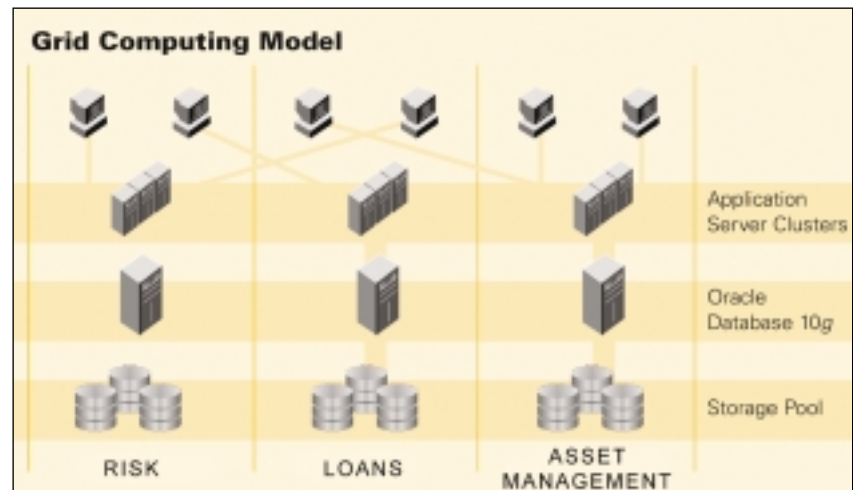
This cluster to grid evolution is not just about utilising hardware better, it is about ensuring that computing services respond better to all front and back office business needs, providing services and computing power when they are needed during the business day and being ready to adapt processing as business needs dictate. The result is the coordinated use of many servers, loosely coupled to enable maximum availability and scalability. Instead of performance, availability and flexibility being constrained per defined business service or 'box', business process capacity and flexibility is supported by an enterprise computing utility. Quite simply, the scale and scope - the raw computing power - becomes instantly available to adopt new processes and adapt old ones as needs change. Change management for IT services in the grid model becomes much less of a constraint on business plans. For example, providing applications to business users is effectively a turnkey operation: the power to support an extended or new service is available on demand. Instead of having systems designed for a single enterprise or line-of-business perspective, collaboration across and beyond the enterprise can be driven and supported. Instead of users functioning in self-contained islands of operation, systems are open and interoperable. Instead of being merely web-enabled, organisational processes are web-centric.

Running multiple applications on a loosely coupled cluster (or ultimately a grid) of servers makes obvious sense. Different clusters can support different environments - allowing the

maximum flexibility of resources. Pooled but distributed - the best of both worlds. Let us consider a typical scenario. Our illustration shows a simple example: three applications on three small servers. Loose coupling ensures that if one server fails, it doesn't affect the others, and there is automatic failover to keep all applications available. It also means that all of the applications have access to three times the raw computing resource they previously had available. Workload balancing becomes a reality: when one application peaks, it can be balanced by another with low demand. If one server fails, there is automatic failover. Instead of users being locked out until the server is restored, the application will continue to run on the available resource. Scalability is built in. Since capacity is better used, further applications can be added to the cluster, or further users to the application, without the need for investment in more hardware. Licensing and maintenance costs are sharply reduced. Above all, running costs remain steady and under control. They are far more predictable. Now that the computing power will scale to meet current and future business needs, the cost of adapting, upgrading, extending or adding applications is no longer subject to periodic spikes when new server capacity is required.

So how can financial services institutions embark on the grid journey? The business case for cluster and grid computing is based upon harnessing four key structural enhancements at the server level: standardisation, consolidation, automation and performance optimisation.

This can be achieved step by step, starting small with non-critical applications as a test bed and then gaining rapid buy-in. Alternatively, the model can be integrated into a wider hardware upgrade programme, or a move to an



Oracle/Intel/Linux grid infrastructure for example. Either way, the model offers a far more efficient use of existing resources, reducing the need for (and thus the capital cost of) new investments. Once operational, the benefits are quickly apparent to line-of-business users. The first thing is to recognise that currently there is an imbalance in capacity (some systems can be stretched to breaking point, while others lie idle) and that this can be cost-effectively rebalanced. This imbalance is doubly wasteful as each system has its own overhead of administration, support, and licence and equipment costs.

The Oracle approach is about pooling and distributing resources - the loose coupling mentioned earlier. It ensures optimised workloads across disparate systems, and enables tighter accountability of operational costs, allowing resources to be accurately priced and cross-charged.

This pooled model is common at the level of storage - today Storage Area Networks (SANs) are a basic building block underpinning many organisations' systems. Oracle 10g moves up to the next level of resource, providing database clusters to pool data management initially for one or two, and ultimately more, enterprise applications. These clusters provide predictable and flexible load balancing and built-in fault

tolerance. Oracle Real Application Clusters (RAC) 10g's built-in failover guarantees database services are available even if one or more servers fail. The end user may not notice any interruption to service at all. Furthermore, during normal operation, Oracle RAC 10g's cluster workload management capability responds to fluctuations in workload to maximise performance.

Close integration of database and application levels is central to the Oracle grid vision.

André Loustau, TEMENOS' chief technology officer, comments on how TEMENOS T24 meets the requirements of the grid scenario. 'When we adopted a shared process model for all of TEMENOS T24's application processes, for both the on-line and close of business workload, we effectively aligned the system with grid-based infrastructures. This model within TEMENOS T24 makes all of the system's application processes a set of shared worker processes. With the loose coupling which exists between the shared worker processes, TEMENOS T24 is ideally positioned to leverage the grid capabilities offered by infrastructures such as Oracle RAC.'

For further information, please refer to the Oracle website on www.oracle.com or email marketing@temenos.com



TEMENOS Client Forum - TCF

- a review by Martin Whybrow of International Banking Systems

This year's TEMENOS Client Forum, held in Prague in June, was the largest to date, with over 400 attendees from across the globe. The show presented an excellent opportunity for users, new and old (as well as some prospects), to hear about the direction of the company and its products, learn more about partners and their solutions, and listen to leading industry experts.

Chairman, George Koukis, welcomed attendees with an upbeat opening address, in which he set out the challenges going forward and his commitment to ensure that any issues were addressed. He said that the company had built very solid foundations over the first ten years and now had customers in 104 countries, with the continued proud record of no one ever having replaced TEMENOS GLOBUS. He concluded that the aim was now to build a \$1 billion company.



Updates on TEMENOS T24 were provided by CEO, Andreas Andreades, and banking services vice-president, Adrian Hadley. TEMENOS T24 had been made generally available in April, with three pilots under way, including Schrodgers in Zurich and Hatton National Bank in Sri Lanka. Details of two significant benchmark tests, carried out with Oracle and HP, were also announced. On the delivery front, TEMENOS

was now pushing through its project managers for PMI certification, said Andreas, and had also assigned around 80 technicians to speed up the resolution of issues. The company would also be strict with regards requests for changes, he said, thereby protecting the integrity and robustness of the TEMENOS T24 core. On the second day, there was a strong focus on TEMENOS CoreBanking, with insights into the status and progress of the mainframe-based retail solution. The audience was told that the 'internationalisation' of this was more or less complete - so too seamless integration with TEMENOS T24. Daniel Martínez Batanero, director of planning and control at RSI in Spain, set out the rural banks' experiences with the system. On the TEMENOS T24 front, there was a similar user perspective from Stewart Cooper, operations director at Dunfermline Building Society.

Among the non-TEMENOS specific speakers, Karina Robinson, senior editor at The Banker magazine, ran through the challenges facing today's banks, from risk management to credit derivatives to economics. Octavio Marenzi, president and CEO, Celent Communications, then spoke about a subject dear to the hearts of TEMENOS and users - real-time core processing as a replacement for traditional batch processing. And George Alford, senior banking advisor to the UK's Financial Services Authority, gave a hard-hitting wake-up call on the subject of senior management responsibility, including anti-money laundering.

Three key partners of TEMENOS also contributed interesting presentations. IBM (Vikram T. Lund, chief strategist, global banking), Microsoft (Steve Axelrod, industry manager, wholesale banking) and HP (Patrick Campbell, worldwide alliances director, finance industry) provided complementary views of



the market and the application of technology to address some of the issues.

With a wide range of breakout sessions and plenty of one-to-one dialogue, it was a busy couple of days. Of course, business was mixed with pleasure. It was good to catch up with old friends and make new ones. There was a lively reception on the first evening in the heart of this most beautiful of cities, and an entertaining dinner, complete with an impromptu speech, at George's request, from one of the longest-standing users, Ian Cookson, head of technology and special products at EFG Private Bank in Luxembourg. Ian reminisced about the very first Globus user group meeting (six users in a room at the Novotel near Amsterdam airport, with a less than friendly then-owner of the system!).

The over-riding opinion was that the current event had been a great success, with no little thanks due to the TEMENOS team who had worked so hard behind the scenes. The opening addresses were also broadcast live to TEMENOS' offices around the world, with George thanking all staff for their hard work over the last twelve months.

The level of attendance reflected the interest from the users in the direction of their company and systems. Put a date in your diary now for TEMENOS Client Forum 2005, in Monaco on 14 and 15 June!



TEMENOS CoreBanking – Underpinning innovative customer-focused strategies

Spanish banks have emerged as a market-leading force in the development of innovative customer acquisition, retention and maximisation programmes, using sophisticated micro-segmentation techniques to effect tailored product, pricing and loyalty strategies. Such an approach requires an equally innovative approach to technology and for one major Spanish banking group, Grupo Caja Rural, a brand new solution was developed to support these customer-focused strategies. This solution became TEMENOS CoreBanking. Since its implementation, the benefits achieved by members of the group have been truly impressive.

Grupo Caja Rural consists of some 75 Cajas (rural savings banks) with 4002 branches across Spain. The Cajas have specific geographical remits within Spain and can compete locally among themselves on price, and breadth and quality of products and services offered, but not nationally with other Cajas or the national Spanish banks. With a 7% market share of deposits, 5% of loans, 13.5% of Small-Medium Enterprise (SME) business and 10.5% of branch offices, Grupo Caja Rural is the fifth largest banking group in Spain. Collectively, its branches have around 6.5 million customers and handle over 4.6 million transactions each day.

As early as 1993, Grupo Caja Rural realised the importance of focusing on a customer relationship-building strategy. Its member banks were successful and growing but, to maximise this growth, they needed new products to offer their existing customers and to attract new ones. Banking in Spain in the 1990s was (and still is) an extremely competitive business. Prior to the 1980s, centralised control of the government and civil service had meant that Spain had lagged behind in deregulating its financial markets and in developing new kinds of financial institutions. During the 1980s, a remarkable economic, financial and social transformation took place, leading to Spanish banks not just catching up with other European financial institutions, but taking the lead in innovative strategies, designed to give them an edge in a highly competitive market. In a world where every bank was offering the same kind of services and products, the way

these were delivered and the speed with which they could be introduced, as well as the rates at which they were offered, would become the principal differentiators. To deliver on these commitments required a modern, flexible, customer-centric core banking system. This, Grupo Caja Rural did not have.

Traditionally, core banking systems directly linked product to process to channel. This meant that, when banks introduced new products, a development project would often be required to enable them to sell and process the product. The advantage of this approach was that banks had the opportunity to introduce new products and services without the costs of changing the whole software environment; the downside was that each product and each channel became separated from the other services offered by the bank. This reduced the ability to cross-sell to existing customers or even to offer some of the more complex linked products.

So, through its collectively-owned IT company, RSI (Rural Servicios Informáticos), which had been developing and running systems for the group since 1986, a totally new solution was developed in conjunction with IBM, based on the most modern concepts and techniques and using the latest technology. This became TEMENOS CoreBanking.

José Luis Rodríguez Paradelo, head of TEMENOS' Spanish office, explains what the Cajas Rurales wanted to achieve. 'The Cajas Rurales needed to differentiate themselves in the eyes of their customers from other Cajas operating in their region and from the local

branches of national banks. They needed a banking system that would enable them to compete and that was sufficiently versatile to reflect the different requirements of the regions in which they were operating. They also needed a system which allowed for the rapid development of new products and one which provided the widest possible business information, so they could see the latest status of their customers and develop customer trend analyses and simulations. Many of the Cajas were small, with a limited capacity to invest in systems, but collectively, through RSI and the TEMENOS CoreBanking precursor, they were able to acquire a flexible, modern system which allowed them to focus on the customer.'

The new system was rolled out across the group, to widespread appreciation. Its rich functionality which included retail banking, insurance, payments, assets, liabilities, portfolio management, foreign exchange, internet access and multi-bank operation was particularly well received. The Cajas Rurales were now able to offer their customers a much wider range of services than was previously possible, leading to a rapid growth in member banks' businesses. 'The banks saw benefits in three areas,' says José Luis. 'Firstly, in the capacity to be competitive



José Luis Rodríguez Paradelo, head of TEMENOS' Spanish office

and in the ability to grow. The new, centralised system enabled even the smallest of the Cajas to compete on an equal technology footing with its larger competitors in areas of new opportunity such as e-business and e-insurance. The flexible systems infrastructure supported the introduction of innovative product strategies, without lengthy delays. Thanks to the modern architecture and development tools, new applications could easily be added to the core banking platform and, by the end of 2002, the average time to market for a new product or service had fallen to 16 days, from 62 back in 1998 – that’s a 74% reduction! By way of example, between 1998 and 2002, Caja Rural de Granada saw deposits rise by 75% and commissions on services double, alongside the addition of non-traditional products such as mutual funds, unit-linked products and pensions. Staff were able to be more productive too – in 1998, almost seven minutes was spent with each customer, resulting in the sale of 1.1 products. By 2002, with the new system in place, in a little over five minutes, 3.2 products were being sold.’

administrative tasks in the branch offices have been greatly reduced. Employees can therefore focus on the commercial task of selling more products and services to their clients, supported by TEMENOS CoreBanking tools. The average number of products sold to each client has increased by 300%. As a result, the profit in branch offices has increased and customer retention is much better.’

Secondly, the Cajas also noted a marked increase in client satisfaction.

Vicente Matoses, general manager of Caja Rural de Granada, explains how his bank has increased its share of the SME and professionals market to 14%. ‘TEMENOS CoreBanking gives us an extraordinary capacity to identify and analyse the needs of groups of professionals and small firms. The ‘Product Build’ facility then permits the rapid design of specific products and services. Thanks to the flexibility of TEMENOS CoreBanking, our branch offices can easily adapt the appropriate parameters for each customer.’

Thirdly, thanks to the new core banking system, transaction costs have been driven down year

Joaquin Año, general manager of Caja Rural de Valencia, sums up the impact of TEMENOS CoreBanking for his own bank’s growth. ‘In the last three years, we have almost doubled in size, through our own organic growth and as a result of the takeover of four other regional rural savings banks. This process has been rapid, with no negative effects for our customers. We have been able to retain all of the products and services of the banks we absorbed and our operational cost has been notably reduced. TEMENOS CoreBanking has been key in this process, together with the high level of professionalism of our own team.’

So what of future plans? Says José Luis, ‘We are making continuous improvements to the system in terms of performance, operational efficiency and new functionality – e-banking, credit cards, ATMs, POS, and bancassurance are such areas of development. Plus, the requirements of IAS and BASEL II are also being addressed. In short, we will make sure that through TEMENOS CoreBanking we help Grupo Caja Rural to remain at the competitive edge of the banking industry in Spain.’

“The average number of products sold to each client has increased by 300%. As a result, the profit in branch offices has increased and customer retention is much better.”

*Miguel Angel Calama, general manager,
Caja Rural Ciudad Real.*

Miguel Angel Calama, general manager of Caja Rural Ciudad Real, also found that the new system provided improved cross-selling support. ‘TEMENOS CoreBanking gives our branch offices the ability to sell their clients related financial products. In addition,

on year. This means that the Cajas can in turn offer their customers competitive rates. ‘In 2002, the group achieved an IT costs-to-assets ratio of 0.11%, making it one of the most efficient retail banking operations in Spain,’ adds José Luis.

EVENTS DIARY

Gartner - Oracle Event

Milan, Italy
14 October 2004

Sibos 2004

11-15 October 2004,
Georgia World Congress Center, Atlanta,
USA

China Meeting

27-28 October 2004,
Shanghai

FinanzForum

2-3 November 2004,
Zurich, Switzerland

BAI Retail Delivery Conference & Exhibition

16-19 November 2004,
Las Vegas, USA

eMerge Nairobi

17-19 November 2004, Kenya

FT - IBM - TEMENOS Beaujolais Breakfast Briefing

18 November 2004,
London

Announcing:

TEMENOS Client Forum - TCF ™ 2005



**Tuesday 14th
Wednesday 15th
June 2005**

**Grimaldi Forum Monaco
Conference Centre**

**TEMENOS is pleased to confirm the dates and venue
for the TEMENOS Client Forum 2005 meeting.**

The TEMENOS Client Forum provides an excellent opportunity for delegates to meet with TEMENOS representatives, hear the latest TEMENOS news at both company and product levels, and meet TEMENOS business & alliance partners such as **IBM, Oracle, Hewlett-Packard, Microsoft** and many others.

In addition to the main conference programme, delegates can book one-on-one meetings with selected TEMENOS teams and visit the exhibition area to find out more about complementary technology and products, as well as see demonstrations of these.

We suggest you put these dates
in your diary now!
It really is an event not to be missed!




More information on the TEMENOS Client Forum 2005 will
become available early next year so watch this space!!

Dominique Wavre



*A stunning
performance from
Dominique Wavre
creates front page
news...*



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