

EUROMONEY

Financial Technology Users' Survey

The search for simplicity

***Euromoney's* first financial technology users' survey polled the market to find the software companies that had hit the heights expected of them by an ever more demanding financial services industry. As Jonathan Turton discovered, it's an industry that has never been afraid to get its programming feet wet, but the stakes are getting higher as compliance demands on financial institutions increase.** ● *Research and additional reporting from Erica Mold, Kap Monet and Liz Mundy*

FROM HIS OFFICE on the sixty-ninth floor of the Empire State Building, John Beckett, CEO of Cognotec, looked out over New York harbour. "I was transfixed," he says. "The *Queen Mary 2* was turning out of her berth, and it was so incredibly slow. In the end I had to tear myself away and go home for some dinner."

Moving 150,000 tons of ocean liner in a confined space is an immensely challenging task. "It's kind of like a large bank changing its underlying technology," Beckett says. "It's going to take a very long time, and it needs to be done very carefully."

He's not wrong. Banking is arguably the only large industry that still writes its own software. This has led to such a fragmented financial technology market that some banks can't take it all in, or can't find a suitably high-quality offering for what they want. But sticking your head in the sand isn't going to help when your competitors steal a march on you because they have been smart enough to introduce a new software tool or brave enough to totally reconfigure their core processing. The latter could well be one of the most costly, lengthy and complex projects a bank ever undertakes. This is no six-month job. Andreas Andreades, CEO of Temenos, reckons that it takes about five years to go from a bank's initial requests for proposals to the

final implementation of his company's T24 or TCB core processing systems. One of the biggest challenges, of course, is keeping the bank operational for the entire time. As Andreades says: "If our system falls down, the bank can't open."

Not all projects are quite as involved as this, but even when installing a relatively small and cheap piece of technology, the bank has to be absolutely convinced that the platform is stable and that support is on hand.

Top of the class

The *Euromoney* financial technology users' survey looks at just these sort of issues. We asked users to score providers on the basis of not just their products' usability, but on service levels, return on investment, and API (application programming interface, see box on page 38). Within each particular segment of the business this has given us a listing of companies that excel at what they do. For full details of how the survey was carried out, see the methodology on page 47.

Some of the companies that have performed well, such as Sweden's Algorithmica, are small. Algorithmica has just 20 employees. Others, such as Oracle, are global corporations. But whatever their size, the companies at the top of their class

had to offer consistently good products and services at a price the market felt was justifiable. For more details about some of the companies that did well, see the profiles.

According to the survey, usability and service were the most important factors to clients, with API the least critical. Anecdotally, however, cost appears to be the least important issue affecting banks' choice of technology vendors. Its impact tends to come earlier, when companies decide whether to buy in a new system at all, or whether they can meet their needs in-house. Many banks – of all types and sizes – are running legacy systems that might be up to 30 or 40 years old at their core. Overhauling something so embedded is a mental leap for a bank as well as a physical challenge.

For Scott Abbey, chief technology officer at UBS: "The question of buy versus build is a simple one. It depends which is more efficient and effective." As simple as that. UBS does seem to care more about costs than some other banks. "We've been aggressively managing costs, and are still pursuing that," says Abbey, confident that this has not had a negative impact. Certainly from a client perspective, UBS is doing things right. In *Euromoney's* annual technology awards (November 2003), UBS won 11 of the 45 banking awards and was highly

commended in a further six. “We focus on clients rather than on the competition,” says Abbey. “If someone develops something new, we see whether our clients can take advantage of it before thinking about investing.”

If a bank does decide to install a new system, it might have to consider what the best licensing model is, which might depend on its internal resources. Cognotec, for example, sells FX market data and execution systems that are used by many of the world’s leading banks. Some choose to operate the system in house on a licence basis, others choose the ASP outsourced bureau approach. This latter model was designed with tier-two banks in mind, but some top-tier banks are also interested in the flexibility it affords. Beckert points out that developments in technology mean that smaller banks can compete with – and even outperform – their larger competitors. “I’m not saying they always will, after all some tier-one banks have better technology. The point is that it’s the leverage of that technology,” he says.

The cheap hardware dividend

Heinz Scheiwiller, deputy CEO of Schrodgers in Zurich, expands on this. “As hardware costs have come down, smaller banks can compete on intelligence,” he says. “Ten years ago, we spent as much on hardware as on software and this meant stretching ourselves to the limit; now hardware is so cheap that we can focus our resources on dealing with the complexities.”

In the fragmented technology market that confronts the financial services world, complexity is certainly a major problem, if not the major problem. It can lead some to opt for the package solution rather than a series of best-of-breed products. The goal of having perfectly stable, seamlessly connected best of breeds is still some way off, despite the recent strides that have been taken.

Sometimes the best can be built only in house. Plenty of banks still build their own software, but more and more are recognizing that this is not their core competency. The decision to buy might also be eased by the increasing ability to customize the software.

Customization takes two forms: first in negotiations with the vendor before sale in order to get exactly the system you want.



ILLUSTRATIONS BY DUNCAN SMITH

This isn't just a question of changing the colour of the interface, but can mean addressing a very particular need they have – for example coverage of a particular asset class. The vendor will often accommodate them in this, especially if development costs are shared.

The second form of customization – the API – is carried out by the client, and means that software can be tweaked more substantially. One of the great benefits this can bring is improved connectivity – which helps the bank overcome the complexity problem mentioned above.

Connectivity is a substantial challenge in large banks that might be running several different systems in each part of the business. Some banks choose to consolidate systems to reduce the complexity of intra-system connections. Most are loath to consolidate right down to a handful of systems because it is too high a risk. However, industry onlookers are predicting that some degree of consolidation is both inevitable and desirable.

Strong survivors

Financial services companies are finding themselves at an important juncture. After the overblown promises of the internet-related boom, where every new company claimed to have an astonishing platform that would revolutionize banking, banks became a little wary of the sales pitches, and of course many tech vendors quietly disappeared. But, all this time, the banks have been slowly becoming ever more receptive to what is available and those robust technologies that have survived are in a strong position.

Foreign exchange epitomizes this transition. When the first FX portals appeared on the horizon at the end of the 1990s, the banks were interested but most remained non-committal. It was a question of “if” rather than “when” they would take off. Five years later and the biggest portals, such as FXall, are changing the way banks do business with their clients and counterparties, and even changing the way traders work. Iain Doran, European head of e-commerce and prime brokerage at JPMorgan, points out how jobs are evolving. “The machines quote prices all day, and the traders have to manage around that and be aware of liquidity. It's a different approach to trading.” Doran believes that those banks where traders adapt best will be

Off the shelf gets a proprietary flavour

API stands for application programming interface. Sadly for linguistic purists it has become a geekspeak verb; so banks can “API into another bank” or, as one user puts it: “We just API what we need.” But API matters. Crudely put, it is a method of allowing programmers to develop additional functionality to boost the capabilities of a given piece of software. It is a way for banks to retain proprietary control over off-the-shelf products, and can mean that a lesser product can rival a more expensive one after the in-house programmers have got their hands on it. Any product worth its salt in the financial technology world (and far beyond – Google, for example, offers API tools) will give its users the opportunity to build on top, thereby combining the best of both buy and build worlds.

those that prosper. Investing money is one thing, but investing time in cultural change is also important.

Some industry insiders predict that virtually every bank employee must become a risk manager. Risk management certainly sits ever closer to the core of financial services companies and technology has a vital part to play in this. Looming over all European banks, and the largest US banks, is Basle II. Complying with Basle II's requirements is a technology issue. The quality and quantity of data needed exceeds what many banks have been capable of, and this means turning to technology vendors to help out.

Paul Cartwright, global managing partner, Basle II, at Accenture, explains that there are two situations that the consultancy encounters. The first is where banks have an idea what they need to do but want to do it faster, better and cheaper. The second is those that recognize the opportunities Basle II brings to improve their business. After all, although some of the requirements might seem onerous they are, as Cartwright puts it, “a codification of best practice”, so this is ultimately good for banking. There are a raft of technology companies offering solutions to banks.

“No-one's distinguished themselves yet,” says Cartwright. “SAP has thought it through as Germany was ahead of the curve, so it's had more time.” SAP was involved with Accenture in a project to assess banks' readiness for Basle II. It found that Europe was generally – and unsurprisingly – far ahead of the US banks. But as Cartwright points out, US banks have tended to have stronger risk management systems, so they don't have as far to travel.

Banks face a structural problem when grappling with their data. As they have evolved and expanded their business, each new line has grown into a separate silo, and aligning data across silos is technically and culturally complex. But banks are increasingly seeking a cross-asset view of risk. Cartwright believes that when they have this they will start to get a better idea of where they are actually making money, which might not be where they thought their core competencies lay.

IBM believes that this is an opportunity to transform the business. Being IBM, it has coined a phrase for the new model of banking it would like to see: “on demand”. This is essentially a componentized structure, in which banks assess what they're missing and plug the gap with the appropriate system. If such a system is not available, the bank will probably build it itself. However, the whole concept is far removed from the “heart and lung transplant” as Mark Chetwood, director banking EMEA, puts it, of replacing swathes of banking systems.

Customized suites

Oracle takes a similar stand. David Klebba, senior director, financial services industry unit, points out that no bank would design its architecture in this way today. He sees that applications such as payments that occur across a bank's business lines should be moved to a utilitarian system. Klebba – not surprisingly given Oracle's large-scale products – also points out that some global banks are thinking of moving to suite-type products and will then build the missing functionality themselves. Whether they buy or build what they need will probably still come down to individual banks' preferences. What does seem clear is that componentization will lead to consolidation in the financial services software industry.

Our survey reveals that there are good small companies out there competing ably



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with the larger operations. But traditional aggregators such as Reuters and SunGard are always on the look-out for companies to bring into their stables. Temenos's Andreades believes that those companies that can remain independent and find themselves as consolidators need "excellent products, global distribution, critical mass, and an established client base".

JPMorgan's Doran agrees that a good product is not enough. "Lots of software vendors have something interesting – a clever idea, nicely done. But we have to ask how we're going to get it into the bank. Most companies seem to massively underestimate the importance of this, and are massively underskilled in the complexity of implementation."

So, while many technology companies can take heart from this survey, and many banks can get a new perspective on the market, it appears that there is still some way to go before the *Queen Mary* is going to feel comfortable navigating between the techies' small commercial harbour craft.

Holm



Algorithmica Research

Market-friendly quants

To emerge as the overall best company in our survey meant satisfying customers in a wide range of areas and categories. That might suggest one of the big boys – Oracle or SunGard, for example. But the winner, Algorithmica Research, has just 20 staff.

In 1994, Niclas Holm was a computer science student with a part-time job writing analytics software for Swedbank. "I was surprised to see the relatively simple tools used by their traders and analysts to solve complex tasks," he says. The idea for Algorithmica was born. Holm and Magnus Nyström funded the company themselves and it remains firmly in private hands. Swedbank is still a client.

The core product, Quantlab, provides tools for real-time quantitative analysis, enabling users to price, trade, promote and manage their financial transactions to higher standards. "It replaces the all-too familiar jungle of Visual Basic hacks and spreadsheet add-ins – all of them dependent on different databases and real-time feeds – with one coherent open platform where analysts and traders share the same environment," says Holm.

Grappling with quants is not for the faint-hearted. The trick, Holm says, is to focus solely on that area. "We see many competitors lacking solid market experience – especially in quantitative analytics. This limits their ability to implement ideas and concepts from the market quickly."

Quantitative tools are becoming ever more integrated into the trading sales process. "Gone are the days when analytics software was used only by guys with a PhD in physics – it is quickly becoming an essential part of the trading platform," says Holm. He sees this trend continuing, which means more banks, asset managers, hedge funds and corporate treasuries will be moving to third-party offerings. This is likely to increase functionality and help them control development costs and reduce operational risk.

As well as relying on its in-house brains, Algorithmica has close ties with academia. With the Swedish Royal Institute of Technology it hosts the annual Finanskontakt seminar, a summit for practitioners, students and academics working in quantitative financial analysis. Nor is it afraid of spending money to boost its abilities. In 2001 it merged with Fat Tails Analysis, improving its development capabilities and its consultancy operations.

Algorithmica topped the overall cross-category survey, but it also came top in API. Holm explains the benefits. "Typical Quantlab users include highly secretive hedge funds with extensive development capabilities that appreciate the ability to

create their own solutions on top of the built-in functionality," he says.

Powerful API capabilities do not mean that Algorithmica sells only out of the box. Swedish occupational pension company Alecta had to replace a discontinued niche product. "Only two vendors offered an exact fit, but one of them didn't want to slim down its overall offering. Algorithmica gave us exactly what we wanted," says Tony Persson, fixed-income analyst at Alecta.

Other users talk about the product's ease of use. "We used to need skilled users to make worksheets," says another client. "But we wanted portfolio managers to be able to use it themselves." Now this client uses it in two ways. "It sits at the front end, so analysts use it and portfolio managers use it at the trading desks. We also use the API, and access the functions through the code."

Algorithmica wants to build on its strong client base in the Nordic region. "The next step is for us to focus on the European market, with Germany and the UK looking especially promising," says Holm. And with survey results like these, who could blame him for being optimistic? **Jonathan Turton**

Beckert



Cognotec

Setting the pace in FX

Cognotec began by offering corporate clients real-time information on foreign exchange and money markets. Then the Irish company figured that if people could see the prices, why should they

DID YOU KNOW...

According to research by the Tower Group, Global IT Spending by Financial Institutions is expected to total \$380 BILLION by 2006!

\$223.1 billion for maintenance
\$107.2 billion for new technologies
\$48.9 billion for replacement equipment

The #1 publication outside North America read by senior IT and treasury management executives at global financial institutions is *Euromoney*!

2003 Global Capital Markets Survey

Banks/financial institutions	%	Banks/financial institutions	%
Treasury		IT Services	
Euromoney	53	Euromoney	47
The Economist	48	The Economist	39
Financial Times	45	Financial Times	30
The Banker	38	Wall Street Journal	27
Bloomberg Markets	34	BusinessWeek	27
Wall Street Journal	30	The Banker	25
Institutional Investor	27	Risk	21
BusinessWeek	24	Asiamoney	15
Risk	20	Bloomberg Markets	15
CFO	16	Finance Asia	14
IFR	15	Institutional Investor	13
Asiamoney	14	IFR	11
Newsweek	13	Newsweek	10
Time	12	Fortune	10
Global Investor	12	CFO	9
Fortune	12	Global Finance	9
Forbes	12	Forbes	9
Finance Asia	11	Time	9
Corporate Finance	9	Global Investor	8
Global Finance	9	Corporate Finance	8
Int'l Herald Tribune	8	Int'l Herald Tribune	5
Harvard Bus. Review	8	Euroweek	5
Euroweek	6	Harvard Bus. Review	5
Latin Finance	1	Latin Finance	0

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not be enabled to trade off them.

Thus was born the first automated foreign exchange dealing system. Since then Cognotec has managed to stay at the forefront of foreign exchange trading technology.

Its two core products are Autodeal and Market Rate Manager, which cuts through the fog that often obscures market rate feeds streaming – or stuttering – into banks trading rooms.

CEO John Beckert describes the early years: “We cut our teeth being beaten up by top-tier banks to develop systems to their requirements,” he says. He is careful not to complain about this too much. “It’s good to have leading-edge bank partners because they will always be pushing the limits,” he says.

Cognotec bathes in the luxury of appealing to a wide range of market participants. “Our client base is anyone in the food chain,” asserts Beckert who likes selling the concept of automated foreign exchange trading rather than focusing on selling Cognotec per se. But as the company more or less owns that particular niche, it’s a smart move.

Cognotec topped our survey for its pricing engine, and it is proud of the fact that it can price “almost” as well as the trader – and of course is a lot more consistent, and can handle more deals.

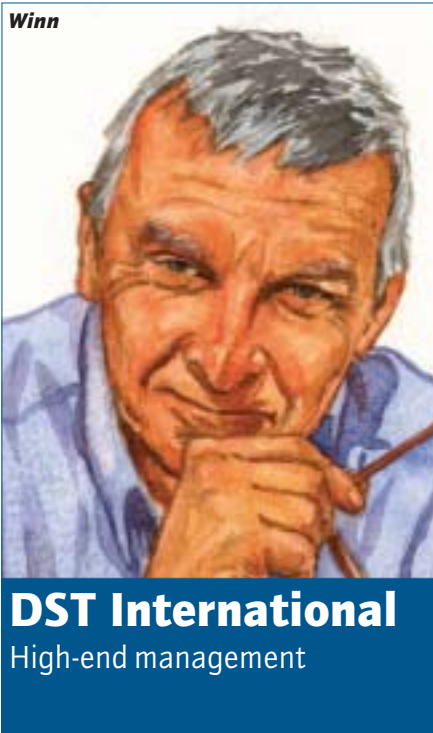
Melanie King, e-business manager for global markets at Standard Chartered in London, is certainly a fan of the Market Rate Manager product.

“We traditionally haven’t had reliable source feeds for all of the currencies we deal in,” she says. “Now we can ensure that we are publishing accurate and representative prices. It has allowed us to expand our currency set.”

JPMorgan liked Cognotec enough to white label its products. This will allow it to supply its financial institution clients with their own custom branded foreign exchange e-commerce platform.

Iain Doran, JPMorgan’s European head of e-commerce and prime brokerage, says: “Cognotec is the only company really doing what we wanted. We don’t want someone learning with us. Our number one consideration was for a product to be up and running.”

Cognotec has been around for 14 years, and there seems no reason to doubt its lead position in the market. **JT**



DST International has over two decades’ experience in developing and implementing asset and workflow management solutions. Its early offerings were institutional back-office solutions but they now include integrated solutions for financial services companies’ front and middle offices. “If our clients need it we want to be the one to provide it. If we don’t yet have it we’ll acquire it and integrate it,” says Kim Holloway, global sales director.

DSTi’s systems are implemented in about 60% of the top 100 fund managers in Europe. In total it has 600 clients, and has offices in 15 of the 60 countries where it has customers. Growth areas include Europe, the US, and China. To accompany this expansion, CEO Mike Winn points out that the company’s flagship product, HiPortfolio, “has been extensively enhanced to meet all the local regulatory market requirements, including being in the local languages”.

Demand for HiPortfolio, the offering for investment administration and securities processing, keeps on increasing. DSTi invests continually in the product – putting in over 30,000 man-days a year. For the latest edition, HiPortfolio/3, it has revamped the technology base and operating model.

Mark Harrison, head of IT at BNP Paribas, is considering upgrading from HiPortfolio/2. One reason for his interest is

enhanced back-up. “HiPortfolio/3 will allow ‘in-flight’ back-ups,” Harrison says. “Normally you need to stop the system to back it up for security and disaster recovery. But this way, the back-up is done while the system is running, making it much stronger.”

DSTi has signed many new clients with its latest edition, including Axa-Minmetals, a Sino-French life insurance firm. DSTi claims to be the first non-Chinese company to enter China’s financial information technology market.

DSTi believes that its products are used most innovatively in the UK. Nick Lucocq, head of UK operations support at Morley Fund Management, uses a relational database program (part of HiReporting) for a variety of data needs, going beyond the standard internal reports for which DSTi developed the product.

DSTi was originally Clark and Tilley, before it was bought by parent company DST Systems, Inc. more than 10 years ago.

Erica Mold

Mightier Gissing

Simplification is crucial

Mightier Gissing’s niche product, ConteX, provides more specialized data distribution than Reuters and Bloomberg. “They have the basic functionalities but we can cater to more sophisticated requirements,” says Richard Gissing, the company’s founder and chief technology officer.

ConteX sits between the bank and external systems. It sends data automatically in the correct formats to multiple vendors, where others would send it to only one. “It simplifies an otherwise complicated process,” says a vice-president at a major bank. “It meets our business requirements quickly, requires less administration and ultimately lowers costs.”

As a niche product, ConteX faces competition from in-house software. However, it often replaces such systems when they prove inadequate. “In-house technology is not flexible. The people that built it leave and protocols change,” says Gissing. Working with an outside vendor means companies can change the software as required, and this, he argues, is ultimately cheaper.

The bank's vice-president certainly believes ConteX provides a function that would soak up too many resources were it developed internally.

Mightier Gissing has a relationship with Reuters, although it amounts to a combination of competition and partnership.

"Mightier Gissing provides alternate contributions systems that interoperate with RMDS, Reuters' data platform," says a Reuters spokesperson. The two companies work on some projects together, and ConteX works on Reuters' platform. On other projects they compete for customers.

Mightier Gissing started as Gissing Consulting in 1991, a boutique consultancy dealing mainly with Reuters' data. In 1996 it began the move towards products with ConteX, which was designed to fill a gap left by the larger data distributors. In 2000 Gissing acquired the resale arm of Mightier to improve its sales skills.

Mightier Gissing's 17 employees service 40 clients, including JPMorgan Chase, Merrill Lynch, ABN Amro, and Royal Bank of Scotland. It is investing in more marketing to promote ConteX and its new products: a fixed-income pricing engine, a real-time Excel plug-in, and a product to ease the integration of Bloomberg to other systems. "There is more money now for IT," says Mike Vieyra, Mightier Gissing's CEO. "We will ride that and expand." **Liz Mundy**

Openlink

A technology agnostic

Openlink proved its flexibility in the 1996 Sumitomo copper trading crisis. JP Morgan, Openlink's largest client, was forced to improve its credit risk exposure software after its involvement. Openlink adapted to meet the changed requirements by developing the risk management side of its software. "We were a small company working with a giant," said Coleman Fung, Openlink's CEO and founder. "We did whatever they asked."

This approach was rewarded. Chase had chosen to use a well-known vendor for its commodities trading when it bought JP Morgan in 2000. "We thought this was the end," says Fung. "But JP Morgan showed Chase our software, and Chase chose to

migrate to Openlink for commodities."

Openlink now has over 90 installations for 50 clients, and 280 employees.

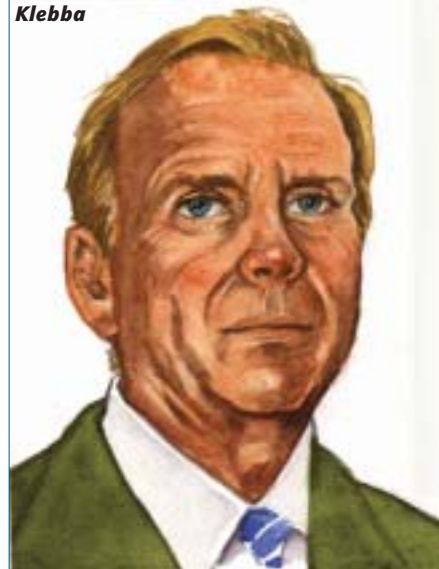
Openlink continues its flexibility as a "technology agnostic". Fung says: "We are not religious about which platforms we adopt; we give our customers a choice." Openlink provides front-office to back-office infrastructure for all asset classes on a variety of platforms. "Our strength is the openness of our system," he says. "Others are too focused – they do one thing well, but that's it."

UK mortgage bank Nationwide Building Society chose Openlink in 2000 to replace its outdated infrastructure. It uses Openlink for every capability and market product. "We wanted a system that was robust enough for straight-through processing and flexible enough to grow with the business," says Kevin Bernbaum, head of treasury control. "With some larger providers there is a major issue if we want to change something. As we get increasingly confident with Openlink we are pushing the frontiers of what it can do and seeking further enhancements. It might not be the biggest kid on the block, but it has a very good product."

Fung founded Openlink in 1992 after spending five months unsuccessfully seeking a single product adequate for all his needs at Fuji Capital Markets, a Fuji Bank subsidiary that he co-founded. He saw a gap in the market and set up his own company, using his knowledge as a derivatives trader at Chemical Bank. "I didn't want to create just another piece of derivatives software, but to make the infrastructure. I started with what I knew and scaled up the business capabilities for multiple markets." Openlink has two franchises: Endur for energy markets and Findur for finance, the same core product with different focuses.

Fung believes banks will increasingly replace multiple products with one system. "Technology budgets are chewed up by maintaining a complicated infrastructure. Consolidating systems gets more mileage from the budget." Openlink claims to have a quiet but effective mentality. "We have never been about marketing, we do not make big splashes. We just work with our customers and deliver what they need," says Fung – a claim backed up by the company's high cross-category score in our survey. **LM**

Klebba



Oracle

Keeping in touch at all levels

David Klebba works for Oracle – the granddaddy of database houses, and in a different league to almost every other company in our survey. "Retention is the name of the game these days," he says, "so customer service takes precedence over organic growth." The senior director, financial services industry, explains that even three years ago financial services firms paid too much attention to sales, and not enough to data. "This is partly because so many sales tools promised so much," he says.

Oracle has been selling its core database product to financial services companies for two decades and now has some of the world's biggest as its clients. Its flagship product, Oracle Financial Services Application, is a suite of tools for performance and risk analysis along with the all-important assessments of customer, product and channel profitability. Customer relationship management is a five-step programme according to the Oracle philosophy. It starts with collating data, and ends with activating sales processes.

Oracle also offers Customer Hub, which it claims provides a 360-degree view of the customer. Core customer information resides in an operational data store but can then be accessed at various end points. Klebba points out that many banks that want simply to change a customer's address might have to go into a dozen or more back-end systems, whereas with Customer

Hub such alterations are done just once.

Bank of Valletta, Malta's largest domestic bank, uses Oracle for its core databases.

"We started with version 5 about 12 years ago," says executive head of IT Victor Denaro, "and as our confidence grew we scaled up." He cites the scalability of Oracle's products as a big benefit, along with its stability and flexibility. Bank of Valletta won an award in 2003 for the world's best customer relationship management strategy from the UK's Institute of Financial Services, and says that Oracle was central to this.

Oracle likes the mid-size banks as clients, and claims it is working hard to create a shrink-wrapped application for smaller banks, to which more tools can be added as and when the bank needs them. It certainly isn't happy merely retaining customers, it wants a bigger share of the banking pie. **JT**

Orc Tireless trader

Orc's latest offering, Liquidator, acts as an electronic trader that operates within client-defined parameters but without further human intervention. "It never gets tired or thinks it has a boring job," says the Scandinavian company's CEO, Nils Nilsson.

Orc specializes in market making, trading and brokerage software across all asset classes. Its products can do pre-trade analysis, execution and risk management but Nilsson explains that Orc's edge is integration. "There are many good risk management packages out there that are much better than Orc, and some pretty good execution tools as well. But we integrate all these things into one single package."

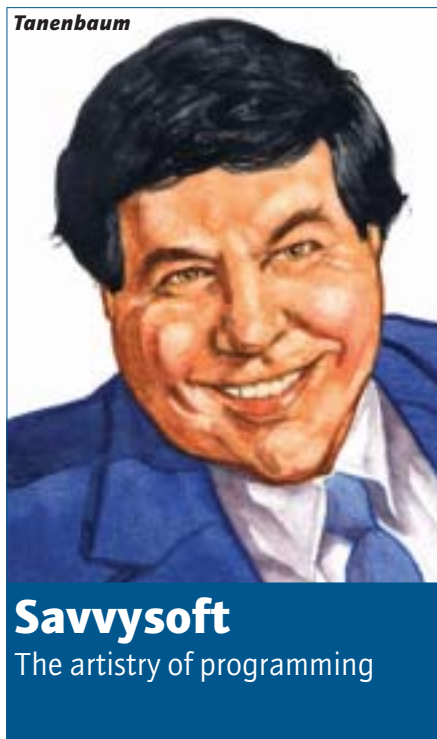
This consolidation makes trading an easier and more efficient process. "We trade in a lot of markets and used to have many different systems," says Luca Lancellotti, front-office applications manager at TradingLab Bank. "We changed to Orc to make the system simpler, and it's much better than what we had before."

Teemu Lahtinen, development manager at Finland's OKO Bank, reiterates the benefits. "We used to have trading systems from different stock exchanges. Orc allows us to

trade on multiple markets with only one system." This has improved the bank's client service, risk management, reporting and internal service from the IT department. "It also makes our traders' lives a bit easier," he says.

Orc's software is not perfect. "It needs to be polished," says Lahtinen. "It still contains small bugs." Orc acknowledges there are sometimes programming errors in complex software but is working with automated testing to minimize bugs. Although Oko Bank uses Orc Broker as its main product, Lahtinen feels it is still geared towards traders. "Brokers have to be creative to dig out the functionalities they need," he says.

Orc has 145 employees and 161 client sites worldwide. It made its first foray into North America in the late 1990s but has found a very different market across the Atlantic. "In America they want service for their money. They don't see a competitive advantage in having what everyone else has," says Nilsson. "In Europe clients prefer products that have been tested." Orc solves the problem with standardized but flexible software. It enables clients to add their own proprietary features through the application programming interface. **LM**



The best thing about his job for Richard Tanenbaum, Savvysoft's founder, is seeing people benefit from the system he devel-

oped. "I feel like a painter or a musician," he says. "They don't want to create something just to have it – they want it to be used, to be enjoyed, to be appreciated." Savvysoft's TOPS product provides nearly 70 models for pricing and hedging vanilla and OTC derivatives. Since its inception, TOPS has processed a few hundred billion dollars-worth of trades.

Tanenbaum was one of four original Bankers Trust members of the first OTC derivatives desk on Wall Street. By 1993 he was a one-man consultancy, and he happened to bump into an ex-colleague who, days later, called up asking if Tanenbaum could build him some derivatives software. Existing offerings were quite simple models built by academics or consultants who lacked marketplace experience.

With a hot product on his hands, Tanenbaum trawled through his Wall Street contacts to see if anyone knew of a firm that might want to buy his system. In 45 minutes he had cleared through the list and generated no leads. This was a little scary. He knew there were people who could benefit from his product but did not know how to connect with them. He then came up with the idea of contacting auditors, who knew of numerous clients that needed it. Since those early days, Savvysoft has been sold mostly by word of mouth.

TOPS certainly generates strong vocal praise. "The support and maintenance is wonderful. We don't have to have a team with high levels of financial engineering skills," says Jerome Montpetit, market risk manager at Export Development Canada (a financial institution providing insurance, financing, and bonding services). Many of Savvysoft's 700 clients approached it because they did not want to dedicate substantial funds to research. Some others already have their own internal systems but with a complicated interface and only basic functionality.

One customer, who uses Savvysoft for pricing and decision support for energy derivatives, acknowledges that "the types of help Savvysoft can give is unparalleled. The guys on the other end of the phone seem like they're members of my own quantitative team."

Savvysoft keeps a close eye on the ratio of customers to software developers as it wants to retain that boutique feel,

especially for support. "We want the people on the phone to be the same people who write the programs, not just some guy sitting on the end of the phone with a user manual," Tanenbaum says.

Savvysoft also provides complementary products, Stars and Turbo Excel. Stars is an integration system – clients can plug anything they want into it including best-of-breed components and easily introduce new instruments. Turbo Excel, released in June, speeds up calculations and spreadsheet integration. and claims to eliminate spreadsheet risk.

Savvysoft operates out of one office in New York. However, it has people on call around the clock to cater for its international clients, and actively encourages them to take advantage of it. If someone phones from Germany and it is 3am in New York, Savvysoft will be there to sort things out, and its customers are understandably very grateful. There aren't many artists or musicians that can offer that level of support. **EM**

Vinciguerra



Sophis It's all in the name

One word crops up time and again when speaking to AXA IM's Odette Cesari: "sophisticated". The head of structured and alternative product talks about her business's needs; about the tools they need; about the complexity of their hedge fund operations and everything seems to be, well

– appropriately for a Paris-based organization – sophisticated.

So the Corsican Vinciguerra brothers obviously knew what they were doing when in 1985 they named their new company Sophis. Hervé, the older of them, was managing a sizeable bond fund at the time for Financière Meeschaert. With the help of his brother, Arnaud, he developed models for optimizing positions on the Matif and for pricing a range of equity derivatives and convertibles. By 1992, all this effort had translated into Risque, which was developed in partnership with CDC and remains Sophis's core product.

Risque is dedicated to the sell side of the portfolio management world but when AXA Investment Management came looking for a risk management product a couple of years ago, Sophis worked with it to develop its new buy-side product, Value.

AXA's Cesari says: "We had a lot of skills and investment processes in our team, which was dealing with hedge funds, OTC derivatives, CDOs and the like. We needed a common tool for two things: to industrialize our fund management processes and to manage risk. It was difficult to find a tool to do this and improve productivity."

The risk management side of the equation has determined the order in which AXA IM is rolling out Sophis Value. "We started with the hedge funds, then securitized products. We're doing the guaranteed funds now, and eventually we'll get to the passive index trackers," says Cesari.

Value's big plus point for AXA IM – beyond its sophistication – is its openness combined with level of innovation. The institution can manage hedge funds with automatic links to the prime brokers. Cesari refers to one particularly complex hedge fund and explains how they simply plugged the underlying model into Value, and away they went. Thanks to API, the team is able to tailor Value to their exact and exacting requirements in those areas where the out-of-the-box functionality is not enough.

Sophis is keen to promote the risk management side of its focus. "It is really our core business," says CEO Hervé Vinciguerra. However, it does offer transaction processing capabilities, and he claims it could be used as the backbone system platform for a financial institution of any size.

Size of client certainly does not seem to be a big hurdle for Sophis. A glance down

the list of some of its 70-plus clients throws up big names like Barclays Capital, HSBC, ING and Royal Bank of Canada as well as some smaller regional operations. Sophis is particularly strong in the hedge fund sector and claims to have "some of the most sophisticated derivatives players in the world market".

All in all, the boys from Corsica have done well. By the end of this year they expect to have 170 employees, and Sophis has offices in the world's biggest financial centres. Ideal for nights out at sophisticated restaurants. **JT**

Gershon



SuperDerivatives Pricing confidence

Walk along New York City's Second Avenue and compare the prices at the mango stalls. They will not vary. Block after block, even when it's \$1.75 this week and \$1.95 the next, the mangoes are all priced the same. But one mango seller doesn't wake up and walk to the next block each morning to check the rate. He's been doing this day after day for years; he just knows.

The day will come when he hands the business down; but his son has not been there each day with him so how can his son price the mangoes accurately?

Exotic fruit and exotic options. Traditionally, both can be difficult to price without years of experience. So many variables come into play that market participants really need a standard pricing reference

guide. “Before SuperDerivatives, there was an art to pricing options,” asserts David Gershon, CEO. “Now traders have us.” SuperDerivatives shows users the market price rather than the theoretical price. Previously, many people didn’t have the tools to price options. “The trader invented the excuse of ‘my opinion’. People could live with the opinions back then,” says Gershon.

Traders can not only price and hedge portfolios accurately, they benefit from smaller bid-offer spreads. In 1999, knockout exotic options used to be off 10 to 12 points on average; today it is closer to five to seven. “It changes the way business is done. It can even help you to decide whether or not you’re going to trade in the first place – you can find out what the market price actually is, how much it’s really worth, and decide to hold or sell,” says Gershon. “More people actually do these sorts of trades today because they can.” There’s more trust in the real market price, which means there is a greater likelihood of deals taking place.

A currency options trader at a global bank confirms this. “Two years ago, exotic options were just 5% to 8% of our business; now they account for 15% to 20%. This is partly because of SuperDerivatives. It is the most accurate independent option pricing system on the market.”

SuperDerivatives claims it is used in over half of all banks that trade options – and that is after just three years in the market. It is used by large global banks as well as by smaller institutions. Clients in Indonesia and Taiwan have purchased the system specifically to develop options markets within those countries. Erich Loh, a trader at OCBC Singapore, explains how it has helped him. “Many customers demanded to be able to trade complicated exotics, and now SuperDerivatives allows us to price them. It is very close to market and counterparty prices, so we now have a common reference.”

Volumes have climbed in all options, particularly exotics, since the 2001 launch of SuperDerivatives. Gershon claims it has revolutionized the FX option world, and soon will have pricing for options in other assets as well. It has just released tools for pricing exchange-traded options in equities and interest rates. “Look at that market a year from now to see what sort of difference SuperDerivatives makes.”

You cannot accuse Gershon of lacking

ambition. He continues, “We’ve changed the FX options market, and will change the entire universe of derivatives soon. We’ll be like the Bloomberg of derivatives. Plus it took Bloomberg 20 years to get to where it is now, and we’ve been operating for only three.”

Maybe it won’t be long before SuperDerivatives turns its attention away from the financial markets and into soft fruit. The mango man’s son can sleep a little easier at night. **EM**

Temenos Core business focus

Temenos, Greek for “sacred space”, is a Swiss-based company – with a CEO and chairman hailing from Greece – that has carved out a lucrative space for itself in the banking technology market.

It sells two core system products: T24, formerly known as Globus (“I really must get used to calling it T24,” says one long-time user), and TCB. T24 née Globus was the brainchild of five Citibankers who in 1990 decided to build the best banking software possible. They had the brains but not the entrepreneurial flair to make any money from this and, after a few false starts, today’s chairman George Koukis bought the product for less than \$1 million. Today, the company has revenues of \$170 million. Three of the original five are still with the company.

Heinz Scheiwiller, deputy CEO at Schroders in Zurich, is pleased with the added functionality that T24 has given the bank. Schroders’ previous core system was discontinued but Globus was more than able to meet the bank’s requirements. It is now piloting T24, which has the added benefit that as each close-of-business processing takes place, no other businesses need to be interrupted.

For Terry Leech, head of IT services at AIB IFS in Dublin, the depth of functionality and the ability to use it in a multi-entity environment, as opposed to just multi-branch, were critical in opting for Globus. “But what swung it for us was the company ethos,” he adds. “They had a very distinct hunger back then.”

TCB – Temenos’s newer product – was

initially developed by IBM for a group of Spanish local savings banks. Temenos bought the software in 2001, partly from the proceeds of its IPO in June that year – one of the last tech companies to go public before the markets were all but closed.

Temenos retains close ties with IBM, however, as TCB, which is aimed squarely at retail banks, requires an IBM mainframe.

CEO Andreas Andreades is in no doubt as to Temenos’s future role in the fragmented market. “We see ourselves with a consolidator role,” he says. Temenos will have to be careful that such a move does not dilute its focus on one core business – something that has stood it in good stead for many years. **JT**

Townsend Analytics Access for all

Since 1985, Townsend Analytics’ (TAL) flagship product, RealTick, has given users access to real-time market data from a vendor of their choice, and can route their trades through numerous exchanges and electronic communication networks (ECNs). Users can manage multiple asset classes on a single platform.

CAI Cheuvreux, the broking and trading arm of Crédit Agricole, uses Real Tick to provide direct market access and execution for institutional clients worldwide. Malcolm Ford, of CAI Cheuvreux’s marketing execution services, says: “Although we primarily trade in equities, our clients want to be able to trade multiple assets, especially cash and derivatives, through one terminal. The utopia would be a multi-asset global solution, and it looks like RealTick is pushing towards that.”

Rustam Lam, managing director of TAL Europe, says: “We wish to level the playing field by providing tools for all the different types of market participants.” Direct access can increase the speed of trade execution and the potential for better pricing by allowing traders to get inside the bid-offer spread. An estimated 30% to 40% of ECN volume is from active traders using direct access and this is steadily increasing, largely as a result of financial software evolution. “Direct market access has been very impor-

tant in the US, and is becoming increasingly important in Europe,” says Lam.

RealTick v8.0 – the latest upgrade – expands conditional trading rules, and includes algorithmic trading models that can evaluate a security’s trading pattern and the trader’s aggressiveness and transform this into a series of different-sized orders. This reduces the number of traditional block trades and increases the number and array of execution sizes, leading to greater anonymity. Lam points out that it has been “a natural evolution to move into algorithmic trading, and it’s something that clients want”.

Townsend lays claim to several breakthrough technological innovations that are now industry standards. These include the first real-time streaming data over the internet, the first integrated solution for Nasdaq trading rooms, and the first Windows-based direct-access trading solution. Townsend also developed the technology behind Archipelago, one of the four original ECNs launched in the US in 1997. **EM**

Devayya



Yolus In and out of the family

Yolus is a re-engineered component of Dresdner Kleinwort Wasserstein’s in-house risk management software. Dresdner provided the firm with venture capital and its CEO, became its first customer, and started spreading the word in the Allianz group. Unsurprisingly, Yolus has taken a

Methodology

The respondent The survey was sent to software companies’ clients as well as to 300 heads of technology at banks worldwide. Each respondent was able to rate up to three software products, including those from other vendors, in every applicable functional category (six categories, and a total of 22 sub-categories therein). *Euromoney* received 130 verified unique client respondents, generating 437 different ratings.

The survey structure Each software product was rated on a 10-point scale for service, usability, return on investment (cost), and application programming interface (network function), together with an overall rating. Respondents were also asked for their perceived weighting for each of these areas. The average weightings were used in determining the overall grade. The scores from these five scales formed the basis for the overall score.

Grades *The product grade*: each software product was given a score out of 100. Ninety-five per cent of the score came from the individual weighted scale scores, with the remaining 5% derived from the

relative weight of respondent numbers for each product in each sub-category.

The category grade: providers mentioned in a majority of each set of sub-categories were rated on all responses within that category and graded. Providers mentioned in a majority of categories were rated on all responses and given an overall grade.

The overall grade: the top vendor for service, usability, ROI/cost, API, and the overall aggregate was identified on the basis of all 437 data points. Providers mentioned in a majority of categories were rated on all responses and given an overall grade.

Important notice

The *Euromoney* financial software user survey is a reference guide to user opinion only and is not a poll or award. We do not claim to have surveyed or to represent the entire client universe, nor have we used the software ourselves. If, as a user, you have your own opinions of these software products we would like to hear them. You can find our survey at <http://www.euromoney.com/oscar/takesurvey/en/ftus>. **Kap Monet**

customer-led approach to its business.

Yolus provides a consolidated real-time view of risk. It collects data from different front-end systems to provide a normalized view of risk exposure.

“This is not just another reconciliation sheet,” says Yolus CEO Robert Devayya. “It gets to the essence of risk management – understanding what your traders are actually doing.” It can be used at various levels: from the risks being taken by individual traders to those of an entire business.

Most of Yolus’s clients are members of the Allianz family of companies: Allianz, Dresdner Bank, and Dresdner Kleinwort Wasserstein. Fimat, the brokerage arm of Société Générale, is Yolus’s first outside client.

Alan Dee, finance director at Fimat in the UK, does not see a problem with using a product with such strong ties to Dresdner. “Nothing has happened to suggest we are a junior partner,” he says. “We click our fingers and they jump.”

Yolus operates a buy-and-build policy.

“We have an out-of-the-box solution that meets 60% of the requirements but clients can extend and customize it to address whatever gives the institution a competitive advantage,” says Devayya. Yolus works in short delivery cycles of 30 to 90 days instead of 12- to 18-month projects. “The users can see progress on their desktops,” says Devayya. “They know at every step of the way what they are getting.”

Yolus has an open standards policy, programming in Java. This means that in-house IT departments can enhance the product themselves. This has caused some problems. “One challenge we faced was scalability,” says Pascal Emile, global head of market risk technology at Dresdner Kleinwort Wasserstein. “There are some physical limitations with Java and we had to work with Yolus on improving the infrastructure.” It rectified the problem, and Dresdner Kleinwort Wasserstein is happy with the result. “The Yolus system speeded up reporting by two or three times compared with the old in-house database,” he adds. **LM**

COMPLETE RESULTS

OVERALL CROSS-CATEGORY

	Grade
Algorithmica Research	93.7
Townsend Analytics	90.4
OpenLink	88.1
DST	86.2
Sophis	82.1
Temenos	74.3

If you would like to add your opinion to our results then please fill in our user survey which can be found at:

<http://www.euromoney.com/oscar/takesurvey/en/ftus>

OVERALL CRITERIA

API	
	Grade
Algorithmica Research	94.5
ROI/COST EFFICIENCY	
	Grade
Savvysoft	97.1
USABILITY	
	Grade
Yolus	95.0
SERVICE	
	Grade
Savvysoft	98.8

TRADING/DEALING OVERALL

	Grade
SuperDerivatives	83.0
Sophis	81.7
Orc Software	77.5
Bloomberg	70.9
GL Trade	70.3
Imagine	64.2
Reuters	63.1

TRADING/DEALING SUBCATEGORIES INTER-DEALER TRADING NETWORKS

	Grade
Mightier Gissing: Contex	89.1
Sophis: Sophis Risque	81.3
eSpeed: eSpeed	81.0
Bloomberg: Tradebook	79.6
GL Trade: GLNet	79.3
Deutsche Bank: Autobahn	75.0
Euro MTS: MTS	73.6
UBS: FX Trader	73.1
SuperDerivatives: SuperDerivatives	71.5
EBS: EBS dealing	68.8

IMPORT MARKET DATA/MARKET DATA PROVIDER

	Grade
Savvysoft: TOPS	94.8
Townsend Analytics: RealTick	93.8
Cognotec: Market Rate Manager	91.2
SuperDerivatives: SuperDerivatives	89.9
Intarget: Inbroker	88.3
OpenLink: Findur	86.3
Orc Software: Orc Trader	84.7
SwapsMonitor.com: FinancialCalendar.Com	83.2
Mightier Gissing: Contex	83.1
Moneyline: Active 8	82.2
Algorithmica Research: Quantlab	81.7
Sophis: Sophis Value	81.0
Temenos: Globus	80.8

IMPORT MARKET DATA/MARKET DATA PROVIDER (CONT.)

Sophis: Sophis Risque	79.8
IT Software: Easy Trade	76.8
Misys: Equation	75.1
Bloomberg: Bloomberg Professional	73.05
Reuters: Reuters 3000XTRA	73.0

ORDER MANAGEMENT CAPABILITY

	Grade
Sophis: Sophis Value	99.1
Orc Software: Orc Broker	86.3
UBS: FX Trader	84.0
Sophis: Sophis Risque	78.5
GL Trade: OMS	74.9
Reuters: Piranha	74.7
Charles River: Charles River Trader	69.2
Orc Software: Orc Trader	69.0
Imagine: Imagine Trading System	61.3

ORDER/TRADE ENTRY

	Grade
Sophis: Sophis Value	84.8
GL Trade: GLWin	83.4
Orc Software: Orc Trader	83.3
Cognizant: NexTrader	81.1
Orc Software: Orc Broker	80.9
Reuters: Piranha	77.6
Front Capital Systems: Prime	77.3
Sophis: Sophis Risque	75.9
UBS: FX Trader	74.9
Deutsche Bank: Autobahn	73.5
Charles River: Charles River Trader	68.0
Imagine: Imagine Trading System	64.1

PRICING ENGINE

	Grade
Cognotec: AutoDeal Plus	97.0
Savvysoft: TOPS	91.9
Algorithmica Research: Quantlab	86.0
SciComp: SciFinance	84.3
Sophis: Sophis Value	82.4

PRICING ENGINE (CONT.)

SuperDerivatives: SuperDerivatives	82.1
Citigroup: The Yield Book	81.3
OpenLink: Findur	81.0
Sophis: Sophis Risque	78.3
Imagine: Imagine Trading System	67.2
Derivatech: Derivatech	67.0
360T: TEX	64.9
Bloomberg: Bloomberg Professional	57.9

RISK MANAGEMENT OVERALL

	Grade
Algorithmica Research	96.2
Yolus	92.2
SuperDerivatives	89.9
Savvysoft	86.31
Application Networks	85.8
Sophis	78.8

RISK MANAGEMENT SUBCATEGORIES ANALYTIC CAPABILITIES

	Grade
SuperDerivatives: SuperDerivatives	91.5
Algorithmica Research: Quantlab	83.0
Sophis: Sophis Risque	81.3
Sophis: Sophis Value	79.4
Savvysoft: TOPS	75.4
Front Capital Systems: Prime	40.0

CREDIT RISK

	Grade
Yolus: Y-RTR	92.5
Calypso: Calypso	85.9
OpenLink: Findur	85.7
Yolus: Y-ERM	79.9
Application Networks: JRisk	79.5
Sophis: Sophis Value	74.0
International Financial Systems: Bankware	71.9
Bloomberg: Bloomberg Professional	70.5
Lombard Risk Systems: Oberon	57.4

FX AND INTEREST RATE RISK

	Grade
Savvysoft: TOPS	93.9
Yolus: Y-RTR	93.8
SuperDerivatives: SuperDerivatives	91.5
Algorithmica Research: Quantlab	86.7
Application Networks: JRisk	85.9
Sophis: Sophis Value	80.5
Sophis: Sophis Risque	69.0
Imagine: Imagine Trading System	63.7

MARKET RISK

	Grade
Yolus: Y-RTR	95.5
Algorithmica Research: Quantlab	94.7
Numerix: Numerix	89.4
Financial CAD: Fincad	87.5
SuperDerivatives: SuperDerivatives	86.7
Sophis: Sophis Value	86.1
Lombard Risk Systems: Oberon	85.7
Savvysoft: TOPS	85.7
Sungard Trading and Risk Systems: Opus	82.4
Sophis: Sophis Risque	81.9
DST: HiRisk	76.2
Murex: MXG2001	66.9
Temenos: Globus	64.8
Imagine: Imagine Trading System	61.6

PORTFOLIO MANAGEMENT OVERALL

	Grade
SuperDerivatives	96.0
Algorithmica Research	95.4
Savvysoft	91.1
Yolus	86.0
DST	84.9
Sophis	82.4

PORTFOLIO MANAGEMENT SUBCATEGORIES

DECISION SUPPORT

	Grade
Algorithmica Research: Quantlab	95.2
SuperDerivatives: SuperDerivatives	93.7
Savvysoft: TOPS	93.3
RBC: Portfolio Analytics	92.7
DST: HiInvest	90.0
Yolus: Y-RTR	88.3
Sophis: Sophis Risque	82.6
Sophis: Sophis Value	81.7
Temenos: Globus	80.8
DST: HiPortfolio	80.8

PERFORMANCE MEASUREMENT

	Grade
Algorithmica Research: Quantlab	96.3
SuperDerivatives: SuperDerivatives	95.5
Sophis: Sophis Value	95.5
DST: HiPerformance	92.1
RBC: Portfolio Analytics	92.0
Savvysoft: TOPS	82.8
Yolus: Y-RTR	80.2
Townsend Analytics: RealTick	78.3
IDS: Caliper	65.2
Sophis: Sophis Risque	62.6

OPERATIONS OVERALL

	Grade
DST	84.7
Sophis	77.7

OPERATIONS SUBCATEGORIES

ACCOUNTING

	Grade
Sophis: Sophis Value	86.5
DST: HiPortfolio	84.5
Sophis: Sophis Risque	77.1

REGULATORY REPORTING

	Grade
STB Systems: STB Superconsolidator	92.3
STB Systems: STB Reporter	90.6

TRANSACTION MANAGEMENT

	Grade
DST: HiBPM	89.9
DST: Open Messenger	87.0
OpenLink: Findur	84.8
Omgeo: MarketMatch	82.7
DST: HiPortfolio	82.5
Intarget: Inbroker	81.1
Omgeo: Oasys Global	81.1
XKO: Diameter	81.0
Sophis: Sophis Value	77.0
International Financial Systems: Bankware	76.7
Omgeo: Automatch	75.4
Sophis: Sophis Risque	74.2
SWIFT: SWIFT Alliance	69.7
Temenos: Globus	60.7
Aperts Software: Aperta VDPS	58.5
Misys: Bankmaster	55.8

CASH MANAGEMENT OVERALL

	Grade
Sophis	82.2
CashTech Solutions	67.1

CASH MANAGEMENT SUBCATEGORIES

CASHFLOW FORECASTING

	Grade
Sophis: Sophis Value	84.3
CashTech Solutions: CashIn	69.2

CASH POSITIONING

	Grade
OpenLink: Findur	88.1
Sophis: Sophis Value	83.7
Townsend Analytics: RealTick	81.3
CashTech Solutions: CashIn	74.7

RECONCILIATION

	Grade
Sophis: Sophis Value	88.1
WM-data: Twin	81.9
CashTech Solutions: CashIn	73.5

CUSTOMER RELATIONSHIPS OVERALL

	Grade
DST	87.3

CUSTOMER RELATIONSHIPS SUBCATEGORIES

CLIENT REPORTING

	Grade
DST: HiBPM	94.4
SPSS: Clementine	81.3
Business Objects: Business Objects	79.4

CRM

	Grade
DST: HiBPM	83.8

LIMIT CHECKING

	Grade
Algorithmica Research: Quantlab	96.7
OpenLink: Findur	87.2
Yolus: Y-ERM	81.4
Temenos: Globus	81.3
Misys: Equation	58.7

BUSINESS INTEGRATION

	Grade
Oracle: Oracle Database	87.4
Sophis: Sophis Value	83.9
Sybase: Sybase SQL Anywhere	74.7
Microsoft: Microsoft SQL Server	73.8
Pervasive Software: Pervasive SQL Server	69.0

SECURITIES PROCESSING

	Grade
DST: HiPortfolio	94.0
Algorithmica Research: Quantlab	86.5
OpenLink: Findur	85.0
Sophis: Sophis Value	81.0

Our suite of TOPS modeling applications is hardly the cheapest, but it won hands down for ROI (Return on Investment) and Cost Efficiency. And we aren't the biggest company, but for Service and Support our customers rated us number one.

How come? For one thing, we're not just software people.

Our president is a leading pioneer of the OTC derivatives business. So we have the know-how, we speak your language, and our solutions reflect this depth of understanding. Which is why Savvysoft also came in #1 in Interest Rates and FX. You see, Savvysoft continually upgrades its products to handle the latest derivatives structures. And our support people don't just "know" the software, they create it. Which means you get people who really can help you, and fast.

Savvysoft products include TOPS for analytics, risk management and more. STARS for enterprise-level portfolio management. And now TurboExcel for running Excel spreadsheets up to 300 times faster. (Honest.) To learn more, please call us at 1-212-742-8677, send email to info@savvysoft.com or visit savvysoft.com.



Savvysoft
#1 FOR ROI
#1 FOR SUPPORT