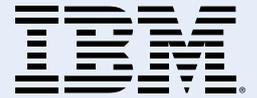


VISION

TRANSFORMING YOUR BUSINESS WITH NEW IDEAS | SUMMER 06

In association with IBM



VIRTUAL REALITY

Arden Dies works round the clock with confidence thanks to virtualisation

HIGH FREQUENCY

Revolutionise your supply chain with radio frequency identification

LEGAL EMAIL

Making sure your email system is on the right side of the Data Protection Act

FROM THE EDITOR



When I started in computing, everything was centred around mainframes – one server large enough to fill a room – allowed hundreds of people to apparently work on their own ‘virtual’ computer, while in the background it ran tens of other programs. Then came the PC, and suddenly everything was distributed. Instead of one server there were processors on everyone’s desk. But now companies have the option of using a single server if it suits their business needs.

Take Arden Dies, a small engineering company in the North West that has consolidated its computing needs. Where it had 50 servers, it now has just three that do the work of many, using a technique known as virtualisation. Aside from the obvious reduction in hardware costs, using virtualisation has allowed the company to save money on maintenance, as its servers can now be remotely maintained from IT manager Nick Spence’s kitchen at home. It has given Arden Dies the ability to be back up-and-running in minutes rather than days if anything goes wrong.

Virtualisation is not for everyone, but unlike the mainframes of yesteryear it’s not proprietary – it all runs on Intel PCs – and can be implemented for a fraction of the price of a mainframe.

■ Marcus Austin, managing editor

CONTENTS

Summer 2006



15 SOCIAL CLIMBER
How a social networking website coped with phenomenal growth

16 THE X FACTOR
Get to know IBM System x server technology and what it can do for your business

04 NEWS
Most businesses guess ROI; Cost of computer crime on the increase; Businesses neglect consumers

07 NEWS ANALYSIS
Alan Edwards of Orange Information Systems on the rise in demand for the personal touch

08 VIRTUAL REALITY
How virtualisation enabled Arden Dies to reduce down time

12 FIRST SERVICE
Trailfinders uses technology to give customers the personal touch



VIRTUAL VISION

Want more details on the subjects covered in this issue? Then visit www.ibm.com/businesscentre/uk/vision, where you can also browse through articles from previous editions covering a wide range of technology issues relevant to your business.



HUNGRY FOR MORE?

Back issues of Vision

Catch up with some of the subjects covered in previous editions of Vision by browsing online or requesting back issues at:

ibm.com/businesscentre/uk/vision

18 TAKING OFF

Better data handling has proved to be the key to success for First Choice Mainstream Holidays

21 STAYING LEGAL

Archiving emails is becoming increasingly important for both business and legal reasons

24 HIGHER FREQUENCY

A look at the many benefits that radio frequency identification (RFID) technology can bring

27 VIRTUALISATION

Find out about virtualisation and what it can do for your company

28 ASK THE EXPERT

Speed up your accounts system; consolidate your printers; save money on password management

31 OPINION

Why you should consider server consolidation for your business

**IBM UP FRONT**

There is a distinct travel industry theme in the latest issue of Vision. First of all we highlight how small travel retailer Trailfinders (page 12), working with IBM Business Partner Sire Technology, was able to build a server and storage solution that helped them improve their ability to keep in touch with their valuable client base, built up over the last 35 years.

Meanwhile, WAYN (page 15) went from just 40,000 users of its travellers' website to more than four million in less than eight months. To cope with the speed of change, it needed a server that could scale quickly and work reliably, and, just like its sponsor's site Friends Reunited, it chose IBM servers.

We also look at First Choice Mainstream Holidays (page 18), which needed to be able to drill down into its vast database of customers and holidays to generate key business intelligence to help it respond dynamically to market conditions. It found a solution through IBM Business Partner Panacea using a pSeries Unix server, which has helped it increase its margins to 5 percent from the industry average of 4 percent.

■ David Stokes, Vice President, SMB, UK, Ireland & South Africa, IBM

Produced by: Crimson Impact Tel: +44 (0)20 8334 1600
info@crimsonimpact.com www.crimsonimpact.com

publisher: Abba Seal
managing editor: Marcus Austin
contributors: Steve Shipside, Ambrose McNevin
project manager: John O'Toole
art director: Jaqui Owen
production editor: Ian Whiteling
production executive: Thomas Hulatt



IN BRIEF

RoHS DIRECTIVE IS COMING INTO FORCE

The European Union (EU) will be making the RoHS Directive law on 1 July this year. RoHS stands for "the restriction of the use of certain hazardous substances in electrical and electronic equipment" and this Directive will ban the placing on the EU market of new electrical and electronic equipment containing more than the agreed levels of lead, cadmium, mercury, and other harmful chemicals.

POPULARITY OF LINUX ON THE INCREASE

Linux servers now represent 12.2 percent of all server revenues, according to analysts IDC's latest Worldwide Quarterly Server Tracker. Linux servers posted their 15th consecutive quarter of double-digit growth, with a year-on-year revenue increase of 17 percent and unit shipments rising by 14.4 percent.

FIVE MILLION .CO.UKS

Internet domain name registry Nominet has revealed that the number of web addresses ending with .uk has now passed the five million mark. The five millionth domain name – www.hosepipebanbuster.co.uk – was registered earlier this month by an irrigation company based in Hertfordshire. Half of all .uk domain names link to ecommerce or business information sites.

MOST BUSINESSES GUESS ROI

The majority of companies rely on estimates and intuition when calculating IT return on investment

Only 11 percent of businesses in the UK measure the Return on Investment (ROI) of their IT spending, according to the e-skills UK quarterly *ICT Inquiry*. Those companies that do calculate ROI tend to be predominantly medium-sized and large organisations, which are themselves in the IT sector.

The other 89 percent were able to provide an insight into the likely impact on productivity for certain types of IT expenditure, but the survey found this was primarily through the application of "informed guesswork" or "personal intuition" as opposed to any defined process of measurement.

Staffing remains an issue for many organisations, with two-thirds saying the level of IT user skills among the entire workforce has a large impact on productivity. But the "single most defining impact on productivity" comes from the availability of PCs, according to half of the survey's 1,000 respondents.

Offshoring is surprisingly low down on the list of IT priorities, with 97 percent saying they do not offshore any IT or telecoms activities and 98 percent of those saying they would not consider doing so over the next two years.

However outsourcing is moving up the IT agenda, with 16 percent of companies – compared to five percent in the previous quarter – saying they anticipated an increase in IT outsourcing spending.

Internet grows in importance as place to shop

A tenth of all UK retail sales are now made online, according to the IMRG's May 2006 survey. The poll suggested that over half of respondents intend to reduce their high-street spending in 2006, while 45 percent are planning to increase the amount they spend online.

The survey also attributed a "huge importance" to the internet as a source of product information on goods that consumers intend to buy on the High Street.

Every respondent said they researched home appliances online prior to buying them on the High Street, compared with 94 percent for consumer electronics, 52 percent for garden furniture, 49 percent for DIY goods and 44 percent for travel.

Companies go online to shop around

Businesses are using the internet to reduce costs and 80 percent are spending more time looking for the best deals than they did two years ago

Over half of businesses find that the internet makes it easier for them to compare prices, according to research commissioned by Visa Europe.

Business travel, in particular, has undergone a revolution in recent years as companies take advantage of budget airlines and hotels.

Researchers found that 57 percent of small businesses claimed to be economising by using budget hotels, with 48 percent saying they saved by using budget airlines.



Photo: iStockphoto.com

Favourite online purchases among companies were travel and transport, hotels and accommodation, IT and technology.

Items that are least likely to be sourced online were stationery and office supplies, staff refreshments,

courier services, professional services and marketing materials.

Commenting on the findings, Visa Europe's Gabriele Cappelletti said: "Our research indicates that business people in organisations of all sizes are beginning to adopt a similar approach to corporate spending as they have in their personal lives – namely they are keen to have greater control over what they spend and buy as cost-effectively as possible."

The cost of computer crime is on the increase

The Department of Trade and Industry's Security Breaches Survey 2006 reveals the effect that illegal attacks on IT systems are having on the bank balance of British businesses

The financial impact of computer crime on UK companies has risen by 50 percent over the past two years, according to the Department of Trade and Industry's Security Breaches Survey 2006.

Large firms were found to have reduced the financial impact of attacks on their systems by 50 percent, compared to two years ago

by investing in security technology. However, the cost associated with security incidents has risen since the last survey. In 2004, the average cost of a UK company's worst incident was roughly £10,000; it is now £12,000.

"Large businesses seem to be reaping the rewards of higher investment in security and better security controls.

Although the individual cost of computer crime to small businesses is lower, it is a greater overall hit. They tend to have less effective controls in place," said Chris Potter, a director at PricewaterhouseCoopers, which conducted the survey.

The good news is that after big rises since the mid-1990s, the number of companies affected by security incidents

appears to have stabilised. Some 62 percent of UK companies had a security incident in the last year, down from 74 percent two years ago. Large businesses have also seen a reduction, down to 87 percent from 94 percent.

The 2006 figures still remain higher than in 2002, so it is too early to assume the reduction represents a long-term downward trend.



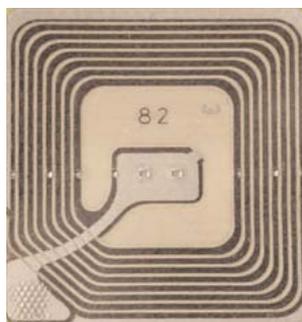
Make sure you're RFID compliant

IBM Express Managed Services provides an efficient, cost-effective solution

Businesses can now adopt a no-risk, low-cost radio frequency identity (RFID) strategy with IBM Express Managed Services (IEMS). This enables compliance with customers' RFID mandates by adopting a packaged, managed services approach based on low initial outlay, ease of deployment and low total cost of ownership.

"If you have a lot of revenue tied up in a client who then mandates you to use RFID, you must comply or face losing the business. IEMS for RFID allows you to keep that customer without lengthy procurement, installation and integration headaches," said Ed Booker, Business Manager, IEMS.

With deployment times as short as 30 days and contracts available from just



one year, companies can adopt the latest RFID technology at fixed initial and ongoing costs.

IEMS for RFID is easy to learn and use. It enables businesses to convert existing barcodes to generate and attach electronic tags to multi-item cartons and pallets that track the movement of finished goods as they leave the warehouse and enter the recipients supply chain.

"To ensure RFID mandate compliance, information is

taken from the company, processed at a secure IBM data centre and passed back through a secure virtual private network. From there, the company prints an RFID label and attaches it to goods for dispatch. The information can be easily converted to email to notify customers of shipping dates and other details," added Booker.

IEMS is delivered through IBM's Business Partners as part of the dedicated Integrated Partner Team which offers a wide range of products.

The IEMS suite comprises good-value packaged, managed services, including RFID, email security and recovery, web security and online backup.

■ See feature on page 24

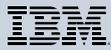
Probrand gets OGC approval

The Government's OGC Buying Solutions has appointed Birmingham-based IT value added reseller Probrand as one of just six Catalyst framework suppliers of IT goods and services into the Public Sector.

Probrand has been leading the way with its 'home built', cutting-edge IT procurement technology, described as the Government's answer to complying with the Gershon report on 'joined up' government.

Procurement solution, The IT Index, forms the basis of Probrand's entry into the Catalyst framework and has one of the largest IT product ranges in Europe. It has saved Cheltenham Borough Council, among others, a day a week in working hours and around 20 percent on purchases of IT consumables.

In the private sector, companies like Geest, Coffee Republic, British Bakeries and Marks & Spencer have adopted The IT Index as a best practice approach.



Get faster access to key information

Save time and money with IBM's latest data storage solution

IBM has launched a new mid-range storage system designed for companies that need faster access to their business-critical information. IBM System Storage DS4700 Express, a high-bandwidth storage system featuring four gigabits per second technology, expands upon IBM's leadership in high-bandwidth storage technology and in helping customers to build information on-demand environments, such as streaming video solutions and image and record archiving.

The DS4700 also enables companies to lower their costs by accomplishing more work with less storage infrastructure through faster data access and faster backups, as well as faster restoring, copying and mirroring of data. It includes 16 disk drive bays inside the controller and up to eight host ports, reducing the need for a switch to be incorporated into the network. The system comes in two versions: Model 70 and Model 72.

BUSINESSES ARE NEGLECTING CONSUMERS

Research by IBM raises serious questions over North American and European companies' commitment to understanding their customers

The general public believes companies are increasingly acting without understanding their needs, according to the recent IBM Global Business Services Consumer Experience Survey.

The study, which questioned more than 700 consumers and business leaders in North America and Europe, also revealed that companies admitted to this negligence.

Of the 100 or so business leaders who took part, some 79 percent said they take significant marketing actions without clearly understanding consumer expectations. What's more, only 17 percent said they consider emotional factors at all when making consumer-related decisions.

This suggests that in-depth consumer understanding and proactive management of key interactions represent a big opportunity for differentiation in today's competitive and price-driven marketplaces.



Three quarters of the business leaders surveyed said they act on an operational basis, such as: "What can be made faster or more efficient?" rather than focusing on what consumers value most. Also, companies put inspirational and emotional brand messages into the market, but often fail to deliver on emotional promises when they interact with consumers.

Business leaders reported being twice as likely to improve internal call centre operations, rather than investing in forward-looking

goals, such as predicting loyalty, face-to-face interactions or measuring business outcomes to provide fact-based information that drives improved business decision making. This can result in business leaders having little or no insight into how consumers rate services that may have a huge impact on customer experience.

- A copy of the report can be downloaded from www.ibm.com/services/cfestudy
- See News Analysis, page 7

IN BRIEF

WORLD RECORD IN TAPE STORAGE

Researchers at IBM's Almaden Research Center have managed to store 6.67 billion bits of data onto a test tape – that's 15 times the current industry average. When this new technology become widely available in products, which is estimated to be in around five years' time, a standard data cartridge should be able to hold up to 8 terabytes of information – equivalent to the text in 8 million books.

CHIP AND PIN DIVERTS FRAUDSTERS ONLINE

Criminals are increasingly turning to telephones and the internet following the introduction of Chip and PIN technology, according to new research from the UK payments group the Association for Payment Clearing Services.

SIMPLE PROBLEMS PUSH STRATEGY DOWN IT AGENDA

Small businesses spend £30,000 a year on solving basic IT problems, according to research by the Yankee Group. The study also claims that this largely unnecessary spend is weakening the UK economy. What's more, since conducting basic computer tasks takes up so much of IT departments' time, they spend only 10 percent of their time strategy planning.

PERSONAL SUPPORT CAN BE A PRICE WORTH PAYING



“Cultural differences” have forced companies, in some cases as large as Powergen, to bring their support and call centres back into the UK. However, **Alan Edwards**, sales director at Orange Information Systems, argues that this is not getting to the heart of the real problem – customer service

We’ve been told that call centres and customer relationship management (CRM) would take care of customer needs. But, in reality, a call centre only makes sense when manned by people who understand the problems of the customer, which is rare in the commercial world.

Typically the scope of problems being dealt with by a commercial call centre will be beyond the range of the operators concerned. Ideally, what they should do is act as the first line of problem-solving, taking out the easily answered questions that don’t require expertise and referring on the rest. To do this they rely on a tight, procedure-driven process of questions and answers. When this is about an item of consumer electronics, then this may be all you need, but the system is not flexible enough to get to the root of complex problems in a hurry. Under these circumstances, particularly for a business, being caught in a call-centre procedure is the last thing you want.

LOW PRICES, POOR SUPPORT

Often the problem starts with the buying strategy of the company making the purchase. It can be tempting to deal directly with big catalogue companies when it’s time to buy PCs, as the low margins make for an attractive initial costing. The catch is that sellers working on a 1 percent margin don’t have the means to provide the help you need when the purchase goes wrong. This is when you encounter call centres.

This approach is fine if you’re buying a thousand PCs and only one is faulty. Sooner or later the call centre will find the answer to the problem and, in the meantime, the core business goes on regardless.

Smaller operations, however, rarely have the luxury of redundancy in their IT systems and typically purchase on

“In a high volume/low margin situation, a call centre is often the only support the manufacturer can afford to provide”

*Alan Edwards, sales director,
Orange Information Systems*

a rolling basis, where every item is key. Consequently, problems require an instant response from someone who knows the business concerned.

THE RELATIONSHIP MATTERS

Without going into the rights and wrongs of individual companies and their call centres, the best way to protect yourself is to consider the kind of relationship you’ll need after you have made a purchase, and factor this into the cost when looking

at the cut-throat pricing. For most companies, the answer to the relationship question couldn’t be simpler – they want an instant response with personal service from someone who understands not only the technology, but also their business. They want someone who will shoulder responsibility for a problem and interact with the big manufacturers on their behalf, because they have more pressing things to do than sit on the end of a phone answering question after question in the hope that they will eventually be passed on to someone who really understands the issue.

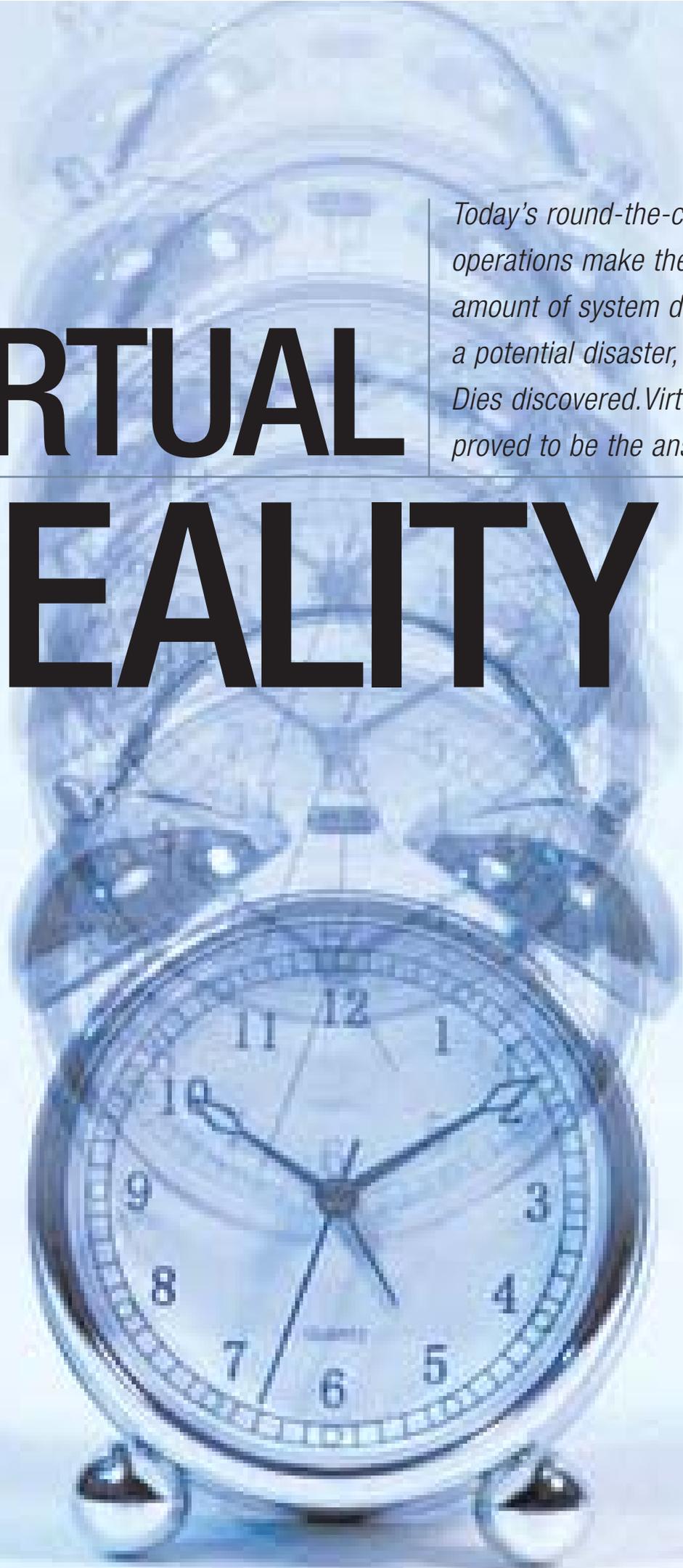
THE PERSONAL TOUCH

In short, the problem is not the promise of CRM, it’s the fact that in a high volume/low margin situation, the call centre is all too often the only support that the manufacturer can afford to provide for its customers.

For some, that may be a price worth paying, but for others it isn’t. This means that for all the advances in automated and outsourced customer care, there is an equal and opposite move back towards more personal business partnerships. Trust, technological expertise and the personal touch are more in demand than ever, and you’re unlikely to get that kind of reassurance with an 0800 number being answered on the other side of the planet.

Today's round-the-clock operations make the smallest amount of system down time a potential disaster, as Arden Dies discovered. Virtualisation proved to be the answer

VIRTUAL REALITY



Customers are becoming more and more demanding and discerning, while businesses are finding it increasingly difficult to keep up. Nick Spence, IT manager at Arden Dies, paints a familiar picture of the ever-accelerating pace of customer demand. "Like a lot of industries, we find our clients are putting us under ever more pressure to perform," he says. "To stay ahead of the game we have to respond with an ever faster turnaround for jobs."

Faced with shrinking margins and growing competition, Arden Dies has trimmed time and wastage to the bone by operating an automated, on-demand service. "As a die maker we make the die boards that are used to make boxes and packaging," explains Spence. "The customers create a design and email that file to our computers, which then open it and use our CAD/CAM [Computer Assisted Design/Manufacturing] software to feed the laser and engraving machines that produce the packaging and embossing on boxes." From the customer emailing requests, to making the finished product takes less than two days, and that's a turnaround the customers expect to see fulfilled regardless of what time of day or night or day of the week the order is made. In a 24/7 world there's no time for systems to sleep and that readiness to deliver is key to Arden Dies' success.

Such an unforgiving schedule means there is little room for manoeuvre if anything goes wrong. As Spence puts it: "Five years ago we could survive without a live system for half a day and make up the production time later. Now, in many cases, we're delivering jobs within 24 hours. This means we need a system that's just never going to go wrong."

WHEN THE WORST HAPPENS

The problem is that, in the real world, things go wrong. What's more, with an automated, end-to-end system, if a link in the chain breaks, the jobs fail to roll off the line. In the case of Arden Dies, it was clear that if the central server failed to feed the factory floor machines with instructions, then the whole process would be endangered. And this is precisely what happened.

"The server had run faultlessly for years", recalls Spence, "and then one night it didn't." Arden Dies had protected its business with backup systems, but once these came

HINTS AND TIPS ON fault-tolerance

Jamie Marshall of Dataplex Systems offers advice on how to determine whether your backup and recovery systems will really do enough to save your business in a crisis:

- 1 Identify your core services, as this is the area of critical importance to your business.**
- 2 Recognise the value of the work and data flow, and consider how these services would be affected if the information stopped flowing. What would happen, for example, if the database skips a beat or a tough winter causes the water pipes to burst?**
- 3 Make sure your backup system can cope and consider whether it needs to be off site in case of physical damage to your office.**
- 4 Assess how long the recovery systems you have in place will take to get the main system up and running again off the backup. Then determine whether this is an acceptable delay from a business point of view. Costing down time is a great incentive when it comes to planning fault tolerance.**

into play they raised questions. Not about whether they worked, because they did, but about whether they performed well enough for the essential business promise of the company. "We had RAID arrays to protect the database, but two disks failed in the same evening so we had to go to the backup systems," says Spence. "The production has manual systems, too, so we managed to fulfil the orders, and the backup option meant we got the system up-and-running. But while switching to backup cost us two hours, it took at least a day to restore everything on the clients' side, and we realised that, at today's pace, that just wasn't acceptable."

Arden Dies found itself facing the ugly fact that where once it was enough to have

fall-back systems in case of failure, now those fall-backs have to be at least as fast as your first choice front-line system if you want to keep your customers happy.

A SYSTEM THAT CAN REPAIR ITSELF

What Arden Dies needed was something that would not only protect their precious database, but also route the workflow around any failures in the system. In a dream world you might say it wanted a system that could repair itself without the Managing Director (MD) and his technical staff having to get up in the middle of the night to man the pumps and get the system going again after a failure. The good news was that this dream was not implausible – after all there are any number of solutions being touted as the answer to the MD's sleepless nights. Being a more technically savvy company than most, with its own software division and hardware expertise, Arden Dies considered the options, from clustering to remote hosting, before approaching IBM partner Dataplex Systems to compare notes.

"We could see immediately that external hosting wasn't what they were after," recalls Jamie Marshall of Dataplex Systems. "For a start, the company's MD and staff were very hands on and preferred to have their systems accessible. What's more, the communications cost involved in linking a large data flow to a remote host would have been considerable. They had a set budget and their thinking was leading them towards server clustering as an option."

Server clustering means that servers work as a team to protect crucial applications, with the ability to swap the entire process, data and all, over to the working server in case of one going down – a process known as 'failover'. "Arden Dies could have bought a server cluster to protect the database and that would have worked, but we looked at the whole system and identified that the database was not the only link at risk in the chain," recalls Marshall. "With a cluster, the issues are that you can only afford one or two, so they could only protect the database. But what about mail sweeper? The system works by servers sitting there receiving emails, and if that server fails there is no email. Clustering the lot would mean buying 'enterprise' editions of software and operating systems, which sends costs through the roof. Plus when the cluster

failover it can be instant or it can take 10 seconds – long enough to stop interactions with the client. It would be like momentarily hitting a pause button and we wouldn't know how that would affect factory floor machines – would they reset and start over, for example?" Dataplex also noted that, as long as the computer system remained housed in Arden Dies' single computer room with water pipes running through it, there was always a risk. "The company had alerting and monitoring systems watching everything from workflow to temperature, but those systems wouldn't move the servers out of the way if something went wrong," says Marshall.

THE VIRTUAL SOLUTION

There was, however, a way around all these problems that wouldn't obliterate the budget, could guarantee workflow, and end managerial sleepless nights. What Arden Dies needed to do was go virtual. Virtualisation technology gets away from the risks of a single device failing by not only spreading critical applications across different servers, but also by being able to switch them dynamically across a network so as to instantly re-route round any damage.

"Instead of buying five servers and five operating system licences, you can opt for a virtualisation solution, such as IBM's VMWare, put it on a multi-processor server and install multiple operating systems," explains Marshall. "If a virtual server has a blip or a hard drive fails, you don't have to be there repairing damage until late at night. Instead you can pick up the virtual servers on server one and dynamically move them to server two without shutting down. It typically takes 10 to 20 seconds to move a virtual server from one physical server to another, but that time isn't down time – you can make this move remotely and in the background so that even someone working on the application at the time won't know that it has taken place. It also gives you multiple options for moving server applications around and shutting down physical servers for maintenance so you can cycle tasks."

The system Arden Dies chose sits on two sites: one main, one failover. It uses an IBM DS4300 Turbo as a centralised storage system, with three IBM x366 servers running a VMWare ESX server. The choice of hardware was carefully scrutinised by Arden Dies, with Marshall pointing out: "We had a choice of servers but

EXPERT COMMENT



Philip Laws
Internal Account Manager,
B2NET

Virtualisation helps companies simplify their IT environments, resulting in better cost control and the more dynamic allocation of resources. Software, like IBM VMWare, achieves this by creating virtual services out of companies' physical IT infrastructures, which enables administrators to allocate these virtual resources quickly to the parts of the business that need them most. This results in increased server/resource utilisation, performance and security, as well as minimal down time, reducing the cost and complexity of delivering leading-edge services.

we went with the x366 because we believe it's the best of breed thanks to the x2 architecture being lifted straight from mainframe experience, which to our mind makes it far superior to off-the-shelf, chip-set performance." The DS4300 Turbo was an obvious choice since Arden's budget was fixed, and in terms of 'bang for buck' it is simply the best and most cost-effective solution there is.

"Once the penny dropped about virtualisation as a backup system we also started to appreciate all the benefits of server consolidation that come on top of that," recalls Spence. "Getting rid of our old servers and replacing firewall servers, email servers, etc. with three physical machines means things are much easier to manage. I can also control every single server thanks to a system of alarms and updates, which keep me right on top of things all from my kitchen at home."

FAULT-TOLERANCE AND FLEXIBILITY

To give a further layer of protection and make the systems safe from pretty much anything but a meteor strike, Marshall recommended housing the two principal servers in the existing computer room, but putting a third failover server into a room 300 metres away on the other side of the plant. "That way if the temperature in the server room goes through the roof in the middle of the night you can log on from home, shut down the hot machine and switch everything over to the other one," Marshall explains.

The result is high-end fault tolerance at a great price. "It's cheaper to buy two big servers and virtualise 50 servers on it than to cluster all your server applications," notes Marshall. "Plus you scale the performance of those servers to your needs."

Virtualisation also excels when it comes to flexibility, and that's very good news for upgrades and expansion. As Marshall points out: "The new version of VMWare doubles your virtual processor capacity, so unless the business gets absolutely massive, I don't see Arden Dies outgrowing it – it could double in size before having to look at hardware upgrades."

In addition, it makes it easy to mix and match or progressively migrate to different operating systems. "One good thing is that in the past we've always used Windows systems, but now our websites are going over to Linux", notes Spence. "With virtual servers it doesn't matter what operating system you choose, so we can switch over progressively to Linux, one server function at a time as we wish."

SWEET DREAMS

Spence is emphatic about the benefits of virtualisation. "It's fantastic!" he says. "If someone comes to me now and says they need a new server for something, I can simply say: 'No problem', and five minutes later they've got it. We're very happy as it's all so much easier to manage – even from home." Which means that it is possible for MDs to sleep easy at night, even when their job is to promise – and deliver – 24/7 service.

■ For more on virtualisation, see page 27

NEXT STEPS: CONTACT

Jamie Marshall – Dataplex Systems
jamie.marshall@dataplex-systems.com

Philip Laws – B2NET
plaws@b2net.co.uk

FIRST SERVICE

Travel business Trailfinders is using technology to further its philosophy of delivering the best possible customer care, while giving it the edge over its competitors

Skim through the business pages and you could be forgiven for thinking that the only way to succeed is by slashing margins, ramping up sales and attracting new clients. Preferably with no time wasted looking after customers. It's refreshing then to find that even in the cut-throat world of travel there is still room for a different approach – one that uses technology for customer retention, not net-based churn.

Established in 1970, Trailfinders has been a leading name in independent tailor-made travel ever since. If you're planning a round-the-world gap-year trip, then Trailfinders can help. And you'll probably find the person behind the counter has been there, done that, and can tell you where to head for. An emphasis on training consultants and a commitment to customer care are evident throughout. At the same time, the savoir faire of the consultants is only of interest if they can come up with great deals. The reason for Trailfinders' success is that it delivers both quality service and deals to equal anything else on the market.

The secret lies in the partnership between Trailfinders and Sire Technology. The two companies work closely to anticipate

opportunities and challenges, such as managing the storage of details of every single customer, or real-time displays of information and offers to each individual shop to enable them to make the right offering at the right price at the right time.

These demands are further complicated by Trailfinders' philosophy that nothing can be updated, changed or replaced if it causes even the slightest interruption of service by sales staff. Since 1996, it has been Sire's job to cherry pick the best new technologies to answer these needs, without breaking the sales team's stride.

PEAKS AND TROUGHS

To achieve this, Sire and Trailfinders work together to make the most of the seasonal nature of the travel business, with an annual cycle of phased analysis and implementation. "The annual cycle springs from the rhythms of Trailfinders' business, but we harness it to ensure we don't make changes or updates to systems during the busy phase," explains Barry Kiddell, Sire's sales director. "For the first four months of the year, the systems are at their busiest coping with the forthcoming holiday season, so during that time we monitor and analyse trends and usage with an eye to predicting requirements for the

EXPERT COMMENT



Richard Stringer,
Managing Director,
ICM Computer Solutions

Increasingly, customers are looking to replace their aging direct attached storage technology with efficient, flexible and fail-safe storage solutions by implementing a storage area network (SAN). There is a trend towards the consolidation of servers while ensuring the protection of data and the continuity of business operations. Companies want to increase the utilisation of resources and require minimal disruption from planned down periods together with non-disruptive backup solutions.



following year. The next step is a four-month planning phase looking at new technologies with Trailfinders to find out what might be beneficial, and help maintain its competitive edge. Finally we start implementation in the third and fourth quarters.”

So what have the seasons brought for Trailfinders? Sire’s technical director Russell Cook replies: “One of the biggest issues has been ensuring the system itself is flexible enough to handle growth and can be updated to accommodate new technology without hiccups. That has meant a switch away from the original mix of Unix and Windows, and onto Linux. This required a lot of coding and rewriting of scripts to get all the in-house applications transferred smoothly. But thanks to the lead period of analysis and planning, the system went live before Christmas and did so faultlessly. It sailed through the first big seasonal test and the flexibility of the new approach is such that we were able to take Trailfinders’ old server system units and load them up as a backup.”

STORAGE MATTERS

The operating system is only a snapshot of the whole picture, however, and one of the

biggest demands Trailfinders makes on its technology is in terms of storage. The travel company sets its store on returning customers rather than client churn. The aim is to keep in touch, and when you have a client base going back 35 years, that means a vast amount of data to store.

Trailfinders has switched from traditional attached storage devices to the SAN [storage area network] system, once reserved for larger scale environments,” explains Cook. “The company’s SAN 4500 system, coupled with IBM x445 servers, simplifies and adds flexibility to its storage options by treating storage servers as if they were internal hard drives. Not only is this faster, but it also allows immediate backup by rebooting the system from the stored data, which was not an option with the old attached tape drives.” There’s no point storing data if you can’t archive and retrieve it, so Sire also delivered the means to do that. “We provided a full document management system so that everything coming in through Lotus Notes – all documents and faxes – is archived automatically, which improves customer service a hundredfold,” says Cook. “By setting Trailfinders’ search criteria and adapting it based on customer and consultant needs, the company is getting a much improved hit rate on documents, resulting in far better ‘recall’ of customer interaction.” As a side benefit, Trailfinders can also shred some of the tons of paper records that otherwise had to be stored and accessed.

SAFETY NET

Next steps will include the deployment of Blade centres in line with the philosophy of combining tried-and-trusted technology with an architecture that allows for painless expansion and an improved monitoring and backup system.

As befits a company that goes the extra mile in protecting its own customers in case of the unexpected, Trailfinders is a great believer in safety nets. “It uses IBM Director to monitor its systems and Tivoli Storage Manager for backups, which can be installed, configured and ready to back up data across the company in under an hour,” observes Cook. “This is a growing part of its business as tape drives are decommissioned due to being costly and slow to get systems up and running following a failure.”

Technology is also finding its way into the shops themselves, with in-store LCD displays combining the latest deals with images to make wanderlusting customers’ mouths water. Naturally, the deals are synchronised with the images, the prices have to be relevant to that shop, and they must be delivered in the best time frame to generate sales. It’s another perfect example

EXPERT COMMENT



More and more of our customers are finding that they are requiring greater and more flexible data storage.

Consequently, they are coming to us for effective solutions to satisfy this need, which meet the performance, scalability and data-availability requirements of their business-critical applications.

George Galloway, Sales Manager, IT Professional Services

of the Trailfinders ethos of using backroom power to improve the experience of customers in its stores.

This is what makes the company so interesting. It’s not that it ignores the internet, it’s just that it views it differently from most organisations. The company’s online Viewtrail service (allowing individual itineraries and bookings to be checked on the web) shows that it is happy to use the web to enhance the customer experience, yet it resists the rapid-churn sales process normally associated with dotcom travel. Which is perhaps what happens when you have a four-month analysis and planning period on which to base your next step.

NEXT STEPS: CONTACT

Barry Kidell – Sire Technology
 bkidell@sire.co.uk

Expert comment details to be supplied

Expert comment details to be supplied

SOCIAL CLIMBER

Designed to help travellers develop and maintain a network of contacts, the website WAYN has experienced phenomenal growth, using the latest technology to keep one step ahead

WAYN – short for where are you now? – was founded in September 2002 to help young backpackers keep in touch with their friends and the people they meet on their journeys. It was the brainchild of Jerome Touze who came up with the idea of visualising all his contacts on a world map while driving up the Pacific highway in California. The website was launched in May 2003 and from there things have grown – slowly at first, and then phenomenally quickly from February 2005. The original three founders have now been joined by 19 staff and the site has more than 4.2 million active users.

MAKING CONTACTS

As well as helping travellers stay in contact with each other, WAYN can also be used to meet new people. Typically, at anyone time you may have 100 contacts in your address book, but you probably only keep in touch with five or six. With WAYN, users are encouraged to keep in touch with many more people, log their trips, add favourite places, review locations and then link their friends with other people's in order to form larger social networks.

The website was set up with £10,000 seed funding from the founder of Friends Reunited, Stephen Pankhurst, which WAYN promptly spent on an IBM server. As co-founder Peter Ward explains: "We thought it was important to host right from the start rather than outsource." WAYN chose to go with IBM because its IT director had been systems manager at



EXPERT COMMENT



*Della Golding,
Senior Account Manager,
Trust Co*

As WAYN discovered, coping with sudden rapid growth often requires a complete system solution involving a new server and storage infrastructure. To ensure the best possible performance from the new system, we have found that implementing a server/storage combination from a single manufacturer such as IBM is the most effective route to take. This approach can also help to reduce costs compared to mixing server and storage technology.

Friends Reunited and had noticed that IBM servers were, according to Ward, "the most robust and reliable". In addition, Ward had worked at Accenture and had been impressed by IBM Business Partner Basilica, which had worked with him on an advanced multimedia showcase, becoming a preferred supplier because of this work.

WAYN's one server performed well until the site achieved 45,000 members in March 2005, and at this point things began to change. Ward describes the site as reaching "a critical mass, at which point it started to explode". Over the next 12 months, WAYN's membership grew to 4.2 million. To cope with this increased demand, it had to invest in more hardware.

Basilica's strengths in consultancy and in the implementation of infrastructure solutions meant it could help WAYN with both its hardware choices and in its ongoing IT strategy. "We were aware that the exponential expansion that WAYN was experiencing

would require an innovative open approach to its platform solutions," recalls Sam Gillman, IBM Business Unit Manager at Basilica. "Our advice was to use a solution utilising IBM's DS4300 Storage, x336, x346 and x366 performance-leading Enterprise X Architecture (EXA) servers, which provide real flexibility for growth, along with strong business continuity benefits."

FURTHER EXPANSION

WAYN is currently looking at an Open Source platform for further expansion. Basilica's help has, once again, proved invaluable. "It has enabled us to get where we are now, and is helping us expand further," says Ward. "Basilica's expertise in Open Source databases has helped direct our thinking. What's more, the Open Source solution actually allows us to spend more on hardware as we're not constrained so much by the licensing costs that can cripple the budget."

NEXT STEPS: CONTACT

Sean Devlin – Basilica
sean.devlin@basilica.co.uk

Della Golding – Trust Co
della.g@trustco.co.uk

IBM SYSTEM X AT A GLANCE

X86 SERVERS FOR WINDOWS AND LINUX

	X100 MODEL 8486EDG £399	X100 MODEL 8486EEG £399	X226 £399	X3500 X236 £399
USEFUL FOR	File/print serving, applications and businesses upgrading from desktop to server-based networks	As previous model, but includes Windows SBS server pre-installed	Remote office, file and print, retail applications and collaboration	Remote office, file and print, retail applications and collaboration
FORM FACTOR/HEIGHT	Tower	Tower	Tower, rack 4U	Tower/5U
PROCESSOR (MAX)	Intel Pentium 4 processor 631 (3.0GHz, 2MB)	Intel Pentium 4 processor 631 (3.0GHz, 2MB)	Intel Xeon processor, up to 3.20GHz/800MHz front-side bus, supports Intel Extended Memory 64 technology	Dual-Core Intel Xeon processor 5060, up to 3.2GHz and up to 1066MHz front-side bus
NUMBER OF PROCESSORS (STD/MAX)	1	1	1 to 2	1 to 2
L2 CACHE	256MB/8GB PC2-4200 DDR II via 4 DIMM slots	512MB/8GB PC2-4200 DDR II via 4 DIMM slots	Up to 2MB L2	
MEMORY1 (STD/MAX)	2 PCI, 2 PCI-Express	2 PCI, 2 PCI-Express	512MB/16GB1 PC2-3200 DDR2	2x2MB
EXPANSION SLOTS	2 fixed Serial ATA (SATA)	2 fixed Serial ATA (SATA)	6 total/3 PCI-X, 2 PCI, 1 PCI-Express	1GB/48GB Fully Buffered DIMM 667MHz via 12 DIMM slots
DISK BAYS (TOTAL -HOT-SWAP)			9/6 up to 6 hot-swap SCSI, up to four simple-swap Serial ATA (with adapter)	3 PCI-Express, 2 PCI-X and 1 PCI
MAXIMUM INTERNAL STORAGE	80GB	80GB	1.8TB Ultra320 hot-swap, 1TB SATA	8 - 8
RAID SUPPORT			IBM ServeRAID-7e (integrated RAID-0 or RAID-1), optional RAID-5	Integrated RAID-0, -1, -5, -10
SYSTEMS MANAGEMENT	IBM ServerGuide	IBM ServerGuide	IBM Director, Diagnostic LEDs, optional Remote Supervisor Adapter II, Automatic Server Restart, Alert Standard Format 2.0, ServerGuide and optional Remote Deployment Manager	Automatic Server Restart, Predictive Failure Analysis on hard disk drives, processors, VRMs, fans and memory, light path diagnostics with side viewable panel, integrated IPMI System Management Processor, IBM Director, optional Remote Supervisor Adapter II SimLine and ServerGuide
OPERATING SYSTEMS SUPPORTED	Windows Small Business Server 2003, Microsoft Windows Server 2003 Standard Edition/Enterprise Edition, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, Novell NetWare	Windows Small Business Server 2003, Microsoft Windows Server 2003 Standard Edition/Enterprise Edition, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, Novell NetWare	Microsoft Windows Server 2003 SE/EE, Windows 2000 Server/Advanced Server, Windows Small Business Server 2003, Red Hat Linux Advanced Server 2.1, Red Hat Linux Professional 7.2 and 7.3, SUSE LINUX Professional 8.0, Novell NetWare and OS/2	Microsoft Windows Server 2003, Windows 2000/Advanced Server, Red Hat Linux, SUSE Linux, Novell NetWare, VMware ESX Server, SCO OpenServer, SCO UNIXware
WARRANTY	1-year on-site limited warranty	1-year on-site limited warranty	1-year or 3-year on-site limited warranty	3-year on-site limited warranty

THE ESSENTIAL BUSINESS TOOL

IBM System x is the entry-point server range designed to be an vital part of your business. It's fast, reliable and great value, with specifications that are hard to beat, and is available nationwide

through IBM's extensive partner network, usually within 24 hours of ordering. The range features IBM-exclusive technologies that help you cut management and maintenance costs significantly, reduce server failures and speed-

up recovery time should the server fail. Plus the latest range features processor enhancements that make the servers up to 62 percent cheaper to run than competing products. The latest System x servers use Intel's dual-core processors which provide almost twice the performance, while remaining the same size, and running at the same speeds as the previous processors. System x servers can be bought in two pre-configured formats or built to order and come with a wide choice of operating systems. For more details, visit www.ibm.com/servers/uk/eserver/xseries/

If you're a datacentre owner or use rack-based systems, you will know that one of the major headaches and expenses is in keeping your servers cool. Since 1994, electricity costs have nearly doubled and the trend is for costs to rise even further. However, the latest range of processors in the new System x servers reduce costs while providing more processor power. With the new range of power-saving rack servers, the performance improvements of the new chips enable you to dramatically expand your performance, while keeping the

EXPERT COMMENT



Tim Hall,
Head of Marketing,
Computacenter
Direct

We're finding that those of our customers who previously wouldn't have considered IBM as a supplier of Intel servers are increasingly specifying the System x platform. We believe that the quality and reliability of the server range is making people realise that they can gain a real price/performance benefit.



X306 £399	X3550 X336 £399	X336 £399	X3650 X346 £399
Web serving, network infrastructure and load balancing	Dynamic web content serving, file and print, and distributed database management	Dynamic web content serving, file and print, and distributed database management	Microsoft Exchange, WebSphere, SAP, Citrix, DB2 and Oracle
22" depth/1U	Rack/1U	Rack/1U	Rack/2U
Intel Pentium D (dual-core) (2MB or 4MB/up to 3.6/800) or single-core Intel Pentium 4 (1MB or 2MB/up to 3.6/800), both support Intel Extended Memory 64 technology	Dual-core Intel Xeon processor 5080, up to 3.73GHz and up to 1066MHz front-side bus	Intel Xeon processor, up to 3.80GHz/800 MHz front-side bus and dual-core Intel Xeon processor 2.8GHz	Dual-Core Intel Xeon processor 5063, up to 3.20GHz and up to 1066MHz front-side bus
	1 to 2	1 to 2	1 to 2
	2x2MB	Up to 2MB L2 per processor core	2x2MB
	1GB/32GB fully buffered DIMM 667 MHz	Up to 16GB PC2-3200 DDR II	1GB/48GB fully buffered DIMM 667MHz via 12 DIMM slots
512MB/8GB PC4200 DDR II via 4 DIMM slots	2 PCI-Express (x8) half-length, full-height or optional riser card for 1 PCI-X (64-bit 133MHz)	1 PCI-X (64-bit 100MHz) and 1 PCI-X (64-bit 133MHz) or 1 PCI-Express x8	4 PCI-E or 2 PCI-X and 2 PCI-Express
2 PCI-X 64-bit/100MHz or 1 PCI-Express x8 and 1 PCI-X 64-bit/100MHz	2-2 or 4-4	2/2/0, 2/0/2 or 4/4/0	8 - 8
Up to 2 simple swap Serial ATA, or 2 hot-swap Serial ATA or Serial Attached SCSI hard disk drives	293.6GB hot-swap SAS or up to 1TB simple-swap SATA	600GB Ultra320 SCSI or 500GB simple-swap SATA	1.8TB hot-swap SAS
Integrated ServeRAID-8e, ServeRAID-7i for simple-swap Serial ATA hard disk drives	Integrated RAID-0, -1, -10, optional RAID-5, -6	Integrated RAID-1, -1E, optional RAID-5	Integrated RAID-0, -1, -10, optional RAID-5, -6
Automatic Server Restart, IBM Director, ServerGuide, Remote Deployment Manager, Wake on LAN, optional Remote Supervisor Adapter II	IBM PowerExecutive 2.0 (included with IBM Director), Integrated Service Processor, Diagnostic LEDs, drop-down light path diagnostics panel, Automatic Server Restart, optional Remote Supervisor Adapter II SlimLine, IBM Director, ServerGuide and optional Remote Deployment Manager	Integrated Service Processor, Diagnostic LEDs, drop-down light path diagnostics panel, Automatic Server Restart, Alert Standard Format 2.0, Remote Supervisor Adapter II SlimLine (optional), IBM Director, ServerGuide and Remote Deployment Manager (optional)	IBM PowerExecutive 2.0 (included with IBM Director), Integrated Service Processor, Diagnostic LEDs, drop-down light path diagnostics panel, Automatic Server Restart, optional Remote Supervisor Adapter II SlimLine, IBM Director, ServerGuide and optional Remote Deployment Manager
Microsoft Windows Server 2003 Standard Edition/Enterprise Edition/Web Edition, Windows Small Business Server 003, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, Windows 2000 Server and Advanced Server, Novell NetWare 6.5	Microsoft Windows Server 2003, Windows 2000 Server/Advanced Server, Red Hat Enterprise Linux 3.0, SUSE Linux Enterprise Server 8.0 and 9.0, TurboLinux Enterprise Server 8.0, Novell NetWare 6.5 and VMware ESX Server v2.5	Microsoft Windows Server 2003, Windows 2000 server/Advanced Server, Red Hat Linux AS/ES/WS 3.0 for x86/EM64T and AS/ES/WS 2.1 for x86, SUSE LINUX SS/ES 8 ES for x86/EM64T Novell NetWare 6.5 and VMware ESX Server v2.5	Microsoft Windows Server 2003, Windows 2000/Advanced Server, Red Hat Linux, SUSE Linux, Novell NetWare, VMware ESX Server 2.5
1-year or 3-year on-site limited warranty	3-year on-site limited warranty	3-year on-site limited warranty	3-year on-site limited warranty



THE SERVERS WITH POWER SAVING

same rack infrastructure and reducing power needs. If you're using standalone servers, you can reduce the number of servers, while maintaining performance and cutting power requirements. In summary:

STANDALONE SERVERS offer

- 48% fewer servers
- Equal performance
- 62% power reduction

RACK SERVERS offer:

- 90% more performance
- The same cabinets
- 28% power reduction

The servers will use Intel's new Bensley server platform, which supports its dual-core Xeon 5000 series and Xeon 5100 series chips.

The servers also feature IBM PowerExecutive software that calculates energy consumption as real workloads are running. The data gathered also allows performance delivered and electricity consumed to be calculated, so server rooms and datacentres can be designed efficiently and economically. By the autumn, PowerExecutive software will

be enhanced to allow users to set a predefined power usage cap for a server or group of servers.

The Bensley platform also supports Intel's virtualisation technology, as well as its fully-buffered DIMM technology for more memory capacity. It also features its Active Server Manager technology to ease data centre management and its I/O Acceleration technology to speed up application responsiveness and server input-output performance.

EXPERT COMMENT

Our customers are very discerning. They demand

and expect the best server performance at the right price, backed with a high level of reliability, comprehensive server tools and market leading power management technologies. The System x platform is proving to be the answer to satisfying all these needs.

Colin Blumenthal, Managing Director, Complete I.T. Limited

TAKING OFF

Implementing a scalable solution to data-handling problems in the 1990s has proved to be the route to success in the new millennium for holiday company First Choice



You might expect blue sky thinking from a holiday company, but even the most ambitious wouldn't have predicted First Choice's growth over the last decade. First Choice Mainstream Holidays, to give the company its full name, now operates 32 Boeing aircraft flying to 81 airports where 5,000 hotels and resorts await the four million holidaymakers who chose the company last year alone. This growth has been achieved in the face of stiff competition in which the advent of online travel agencies

and instant price comparison means it's never been easier or cheaper to take a break.

"The customer has become very good at spotting a bargain", observes David Wheatley, MIS director for First Choice. "With a host of online holiday offers, we had to become pricing experts, optimising margin at all times, while staying competitive. Our margins leave no room for error."

When your competition is only a click away, remaining competitive in such a fast-moving and price-conscious market means getting the right information to the right decision maker in the right timeframe. But with thousands of offers, 300 retail outlets and millions of actual and potential customers, there's a risk of drowning the company in data. Or as Wheatley puts it: "Given the sheer volume and complexity of data within our business, we needed something to make sense of all the aspects, risks and relationships in order to manage our pricing and smooth the curve."

In 1995, First Choice partnered with Panacea Ltd to address the problem of managing its business intelligence (BI). They decided to implement an enterprise-wide data warehouse based on Business Objects software. "First

Choice wanted to draw information back from hundreds of sources into a data warehouse where it could be inspected and analysed back at head office," explains Barry Wakelin, Panacea's business development manager. "Business pressures meant the process had to be as near to real-time as possible."

SCALABLE AND ROBUST

The chosen solution was an Oracle 9i database and IBM pSeries model 650 Unix server platform. "We needed a scalable and robust storage system backing up the BI and we preferred to go with 'best of breed'

IN BRIEF

■ **Holiday company First Choice needed a way of translating its vast and complex collection of data into understandable business intelligence, so that it could rapidly respond to changes in demand.**

■ **Panacea came up with a robust IT solution that could grow with First Choice and rapidly provide clear graphical representations and reports of buying trends.**

■ **The power to adapt quickly to changing market conditions has been the driver behind First Choice's phenomenal success.**



Last February, IBM conducted a survey in which it found that enterprise-wide security, business continuity and access to capital come top of the mid-market's main business concerns. But many companies can't afford the cost or the complexity of top-end tools designed for big businesses.

The answer is IBM's Express Advantage, which brings FTSE100 tools within reach of smaller companies. This product range has

products off the shelf rather than a bespoke solution, as we believed it would give the best scalability,” explains Wakelin. “From there, a lot of the job was about education. The issue was getting into the company and consulting with users about who might want it, how they would use it and what could be delivered to them. It soon became clear that the main problem was a lack of visibility – head office couldn’t get a realistic picture of the performance of store managers, the number of people dropping in for quotes, or even one region’s behaviour compared to another, because figures from outlets didn’t come in at the same time. This meant there was no quick way of analysing costs against those of competitors.”

What emerged from the consultation process was that, where traditional analysis was based purely on reports, there was now a need to provide both accountancy-style forms and also graphical displays to help rapid analysis of what was and wasn’t selling. “With graphs we could show daily norms and trends as they happened, all backed up by reports and the ability to drill down further,” says Wakelin. “Furthermore, we made it possible to get information back so quickly that prices could be modified within two hours with immediate impact on the retail outlets.”

The results were immediately apparent. “We know our most profitable stores and staff. Footfall data helps us optimise staffing and gauge our sales conversion rate,” says Wheatley. “Much of what we suspected about our retail operations performance was born out by the data available to us. Having the intelligence enabled us to implement initiatives with certainty. We can now demonstrate the

effectiveness of any new programme. The business knows what’s in the system. If we have a business problem we have the ability to get answers. Now every decision we make is based on rational, sound information.”

THE THIRST FOR DATA

What has become clear, 10 years on, is that providing information leads to a hunger for more. That initial process of education has transformed as users learn and think of new

EXPERT COMMENT



The key to the success of First Choice’s business intelligence solution is that it’s both scalable and robust.

The combination of reliability and growth potential means all the focus is on business benefits, which is where it should be.

Francis Toye, Director, Unilink Systems

ways of asking questions and demanding detail. “Users now issue increasingly complex requests for ever more detailed information and quicker report creation,” notes Wakelin.

This is where the scalability of the original system comes into its own. The growing use of broadband accelerates the flow of data around the regions, while modular Blade servers and virtualisation not only increase the computing power of the system, but also make it flexible enough to apply muscle where it’s most needed. “Virtualisation means

we can switch capacity when required, such as for their month-end finance, which needs more resources that can later be switched back to daily duties,” explains Wakelin.

This power and flexibility is a keystone to the company’s BI, because encouraging the demand for information has proved the means of keeping ahead of the competition. “Every time we power up more processing capacity, the teams write more sophisticated business queries,” Wheatley observes. “Knowing that the tolerance is just over an hour, we try to keep the speed of the responses running faster and faster. We want our teams to challenge themselves and the business. Our appetite for information grows.” As does the company itself. Where average industry margins are below 4 percent, First Choice is on target to achieving margins of 5 percent by 2007.

THE KEY TO SUCCESS

Implementing a BI system back in the mid-1990s is proof of serious forethought, but no one was ready for the degree to which it has become crucial to the company’s success. “We knew that the solution would provide us with unprecedented insight into our business, but we couldn’t predict the impact it would have or the shift in culture within our organisation,” says Wheatley. “The BI solution continues to enable us to take on new challenges and drive the business to new performance heights.”

The key was in realising 10 years ago that a company like First Choice may make its money selling holidays, but it thrives by lightning analysis of the market. BI isn’t just a tool for improving profit, it is also the reason for First Choice’s survival. As Wheatley concludes: “This tool is the sum total of our organisation. We have structured the intelligence system closely around our business and made it incredibly relevant and meaningful to our operations. This speaks volumes about the flexibility and importance of the solution. Simply put, it’s what drives us.”

now been expanded to include bundles of hardware, software and services, ranging from email backup to grid technology.

The aim is not just affordability, but also making planet-sized packages manageable with an emphasis on appropriate functionality and systems that are pre-configured for your company. For example, the Express Advantage bundles mean you can savour the power and security of big business tools such as Tivoli

previously reserved for larger enterprises. Available from IBM Business Partners, Express Advantage delivers a simplified product set at a lower price with a ‘pick ‘n’ mix’ approach to bundles and services, so you can cherry pick just what you need, with financing options to suit your budget.



NEXT STEPS: CONTACT

Barry Wakelin-Panacea
bwakelin@panacea.co.uk

Expert comment details to be supplied

STAYING LEGAL



For a growing number of businesses, storing emails is not only a wise precaution, it's also a legal necessity. Setting up effective archive policies and building for the future can help you stay within the law

For how long does the law say you must keep your emails? The answer is that it depends on which law and which type of business you operate.

Depending upon your industry, you will be required to store your emails for days, weeks, months or even years. By one estimate there are around 15,000 pieces of legislation pending in the US alone relating to how information must be maintained, stored and accessed. While we're not so hampered by legislation in the UK, we still have our fair share of laws that control email use, including the Data Protection Act, Freedom of Information Act, European Directive on Data Retention, European Banking Capital Accord (Basel II), Regulation of Investigatory Powers Act, Human Rights and the Turnbull report. And if you have major financial dealings in the US, then the Sarbanes-Oxley Act will also come into play.

But even if you're not affected by the law, it makes good business sense to archive your emails. For example, what happens if a customer comes to you in six months time querying an invoice, and they have an email from one of your employees that gives a much lower price? Would you be able to locate the original? Alternatively, if an employee sues over sexual harassment via email, would you be able to track the message down if it was a year old?

In addition, many of the laws require you to be able to access the information quickly, and some could potentially involve you retrieving data frequently. Traditionally, however, data archiving consists of putting your tapes in the hands of an archiving company, which can



EXPERT COMMENT



Richard Bates
Technical Director
Silverstring

Your email policy has a direct impact on your ability to secure critical information, recover backed-up or archived data and present an email trail to authorities for compliance or legislative purposes. The solutions we recommend are based on IBM's Tivoli software and provide proactive monitoring of all backup procedures, such as tape rotation and fault recognition tasks. This approach allows companies to focus their technical resources on more valuable front-line business issues and to save costs on administration staff.

TOP TIPS for email archiving

- 1** *Make sure that your anti-spam and anti-virus software and firewalls are completely up to date.*
- 2** *Establish an email usage policy that is enforceable, easy-to-grasp and regularly reviewed. This may include limiting the size of file attachments on emails.*
- 3** *Establish retention procedures that determine primary and secondary storage platforms for email. You must clearly define end-point destinations and choose the best and most cost-effective platform for your archives. You also need to put in place procedures on how email data moves through your organisation.*
- 4** *Put processes in place that ensure that you are archiving the latest version of all emails and attachments.*
- 5** *Make sure that you have allocated enough storage capacity for effective email archiving. This may need to be carried out on a departmental basis in order to keep control on asset and maintenance costs.*
- 6** *Establish the length of time over which you need to retain your emails. It may be cost-effective to categorise your emails by department or by subject matter.*
- 7** *Ensure you have the latest information on compliance and directives, establishing which legislation you need to comply with for email archiving.*
- 8** *Choose an email archive platform that delivers security and accessibility, that is easy to install and manage, and that offers low total cost of ownership.*

then take up to two weeks to retrieve the data, and at a cost for each tape retrieved.

The sheer mass of email is also a daunting prospect, as we rely so heavily on it. Even when you remove all the spam, phishing and personal emails that clog up your email server and network, you are still left with a burgeoning amount of business-critical data.

In 2003, a Berkeley Business School survey put worldwide email storage at 400,000 terabytes. With conservative estimates putting total storage capacity growing at over 100 per cent per year, it is clear we are entering petabyte (1024 terabytes) territory for email storage alone for large organisations.

FORMULATING AN EMAIL POLICY

When considering how to archive your emails, the first thing to do is think about your email policy for administration and compliance

reasons. On the administration side, you may need accurate email storage to resolve disputes with suppliers or customers or simply solve discrepancies in accounts. With respect to compliance, would you be able to comply with an audit request from HM Revenue & Customs about information that included all of your emails?

Start with defining a usage policy. Distributing hilarious mpeg attachments of footballers holding handbags or photos from the staff day out must be controlled. A usage policy should also cover things such as personal email storage – are staff maintaining their own email records on their desktops? – and access controls – are those people accessing emails at a server level authorised to do so?

This must be followed with a retention policy. This involves processes and procedures involving choosing a platform for primary

EMAIL AND THE LAW

THE LEGISLATION THAT COULD AFFECT YOUR BUSINESS

■ UK DATA PROTECTION ACT

Covers e-privacy, stating data should be stored accurately and personal data must be secured and shared only with caution and permission, and must be shown to the subject on request.

■ UK FREEDOM OF INFORMATION ACT

Applies to public sector companies and those working with the public sector. It gives people the right to request data on a range of subjects, and may cover email.

■ SARBANES-OXLEY ACT

Applies to the US private sector, forcing companies to reveal their internal controls and auditing procedures, insisting that companies show how their data is secured. It affects European subsidiaries of US firms operating in Europe, as well as European company subsidiaries operating in the US.

■ DATA RETENTION DIRECTIVE

A European law ratified this year, this is thought mainly to affect internet service providers and telecoms companies,



but its powers can affect companies that store data such as emails.

■ BANKING CAPITAL ACCORD

The European Banking Capital Accord (Basel II) requires companies to show they can continue operating following an IT failure. It also covers email archiving.

■ OTHER LEGISLATION

The Regulation of Investigatory Powers Act covers the obligation to divulge information; the Human Rights Act covers an individual's privacy; and the Turnbull report covers directorial duties in business.

storage for fast access, through to a final destination for email archiving. It must cover access and authentication restrictions. Also, remember that your retention policy may be dictated by compliance issues, depending on your industry. Email policies can be highly beneficial, especially if they are enforced, so try to keep them simple and regularly reviewed.

In storage terms, back up and recovery and archiving are often lumped together as if they were the same thing. This is not the case. Your backup and recovery plan may be fine, but this does not cover archiving. Your backups should enable you to retrieve the most up-to-date copy of an email after your exchange server crashed, while email archiving involves retaining a permanent record of your emails that is accessible and secure.

There are three choices when it comes to email archiving: on-site storage, remote management, or a mixture of the two. Remote management options include renting disk space at a secure data centre and transferring your emails there for safe archiving. Or you may opt to archive your emails onto tape and store them with a third party. In a hybrid model you would store your emails at your site and make a mirror copy for remote storage.

To date, the answer for on-site email archiving has tended to be to add more storage capacity to the exchange server. However, this won't solve your problems and will lead to higher costs and management headaches. It will do the job, but it doesn't amount to a storage policy, nor does it amount to a satisfactory email archiving strategy.

BUDGET AND RETRIEVAL SPEED

There are two basic hardware options for archiving: disk or tape. The one you choose depends on your budget and the speed of retrieval that you'll require. Disks are the fastest and most expensive, and are best used for short-term email archiving. Tape is slow, but it's cheaper, has huge capacity, and is robust, so it's ideal for long-term storage.

To manage email archiving and retrieval, you'll need a dedicated software package. Ideally it should process emails and any associated attachments, and choose which emails to store offline and which to keep online. Ideally it should index the information

EXPERT COMMENT



Phil Latter, Omicron Solutions

Email archiving is an vital part of any company's IT strategy. As a result, the responsibility of storing emails is far too important to be the sole responsibility of a company's individual employees. We recommend organisations to define email policies both for archiving and retention. They should also develop a solution to satisfy these policies that are based upon the legislation and/or regulation that relates directly to their industry. The required solutions should be flexible, secure and have capacity, both locally and off-site, to meet that strategy.



email archive solutions

REMOTE MANAGEMENT

Later this year, IBM will be launching Express Managed Services, a packaged services suite to handle your email archiving. There's also IBM Server, Storage and Data Services, which is a hosted service that can take care of your data storage needs.

ON SITE STORAGE

IBM has both disk and tape dedicated storage systems for on-site storage. The IBM System Storage DS4700

Express attaches directly to your server or runs on your storage area network, and can be dedicated to email archiving. It's easy to install and manage, and has a 33.6 terabyte capacity, which should easily accommodate a year's worth of email. For business continuity and disaster recovery, the product also offers scheduled point-in-time copying of email data. www.ibm.com/storage/disk/ds4000/ds4700

Meanwhile, IBM System Storage TS3100 and TS3200 Express are compact tape-library solutions that will store up to 35.2 terabytes of data per tape, and can handle up to 22 and 44 tapes respectively. www.ibm.com/servers/storage/tape/ts3100

SOFTWARE

IBM DB2 CommonStore for Exchange Server www.ibm.com/software/data/commonstore/exchange/

within the email, regardless of email or attachment format.

- A good backup package should:
- Have the ability to archive only the least-used data
 - Improve email system performance
 - Provide a security and audit ability
 - Comply with document retention needs
 - Increase operational and administration efficiency

Above all, the software should allow you to select and adopt the most appropriate archiving approach for your business.

Email has pervaded every aspect of business. The old adage of never put anything in an email that you wouldn't put on a postcard is amusing but impractical. Your email archiving policy should reflect the importance of the information that today's emails contain.

NEXT STEPS: CONTACT

Phil Latter – Omicron Solutions
latterp@omicronsolutions.co.uk

Richard Bates – Silverstring
richard@silverstring.com



A HIGHER FREQUENCY

Imagine there was a way to scan in goods to your business, a pallet at a time, and all in just a few seconds. Meet radio frequency identification, the answer to your stock control nightmares

RFID HOW IT WORKS

■ **Radio Frequency Identity (RFID) is based on tags that are attached to goods and which transmit at radio frequencies in the low, ultra-high frequency and microwave ranges, depending on the transmission distance required.**

■ **RFID tags can be either passive, semi passive or active. Passive tags can be described as read-only as they have no power source of their own. Semi-passive tags have batteries that power the chips in the tag allowing them to be read, while active tags require a power source and transmit information and can be updated.**

If you asked most retailers what their biggest problems were, stock control would probably be in the top five. That's because keeping track of stock can be a major headache. It simply has a habit of disappearing – it gets lost in transit, it shrinks and it gets forgotten about. So any technology that helps you put the 'control' back into stock control has got to be a good thing.

Radio Frequency Identity (RFID) technology is one of the latest solutions that helps retailers do just that. It's based on electronic tags that are attached to goods and are readable using wireless technology. This means that, unlike bar codes, you no longer have to see the object to catalogue it.

An RFID reader should be able to read a whole box of goods without the box being opened, and in the future this should extend to an entire pallet of products. In addition, some types of RFID tags will also be able to tell you how long goods have sat in the warehouse, who manufactured them and when they were made. You will also be able to establish the exact provenance of every individual item, because not only does each tag identify the item's type and manufacturer, as with a barcode, it also carries a unique number, meaning that no two tags are the same.

RFID technology is currently being used or trialled by a number of large manufacturers and retailers as a means of either tracking high-value goods or streamlining their supply chains. The applications it is used for span everything from tagging of livestock and pets

to keeping track of goods for enhanced supply-chain management.

For most businesses, RFID is being used to save time, money and waste in supply chains. By tracking inventory from leaving the warehouse to its arrival at its required destination, companies can be constantly informed of the whereabouts of their goods. RFID also makes for more efficient handling as containers of goods can be instantly measured upon arrival, and the information immediately transferred to supply chain IT systems without the need for physical counting, listing and input.

THE NEED FOR STANDARDS

Despite the obvious benefits of using RFID, there remains a lot of confusion in the marketplace about the solutions it can provide. The way your company uses the technology will depend upon your industry and the main business benefits you require. These will range from asset tracking and

EXPERT COMMENT

image
to
come

The key to RFID is the unique tags that are attached to goods for scanning. To be in a position to implement this technology on demand, we recommend using a printer that can handle your existing barcode production requirements, but can also be seamlessly upgraded and adapted to produce RFID tags when needed.

Gillian Hennessy, Director, Moorgate

operational efficiencies to security and automation of warehouse operations.

However, as with many new technologies, a lack of industry standards are proving a barrier to adoption. Standards are required to avoid interoperability issues, and because radio transmissions are involved, potential interference problems need to be resolved. Fortunately, moves towards standardisation have begun, with bodies such as the Massachusetts Institute of Technology's efforts to have the electronic product code for passive tags adopted. Advocates say this will lead to the development of software for single-item tagging.

CUSTOMER MANDATES

The standardisation of RFID is also being driven by the bigger retailers, pharmaceutical firms, government agencies and larger manufacturers, as they start to prescribe the technology as part of their terms and conditions of trade and issuing deadlines as to when these must be met. Most notably, US retail giant Wal-Mart is insisting its suppliers

ADVANTAGES OF RFID VERSUS BAR CODES		
	BAR CODE 	RFID 
PERFORMANCE	Can read codes only when products are close to the reader in a specific orientation, and only in open environments	Read/write is possible even at long distance and when tags are not visible (through paint, mud, plastic, wood, etc)
EFFICIENCY	Ability to read one tag at a time	Ability to read multiple tags simultaneously (no line of sight required)
MEMORY	Limited amount of data can be assigned	Significantly higher data capacity to capture detailed information on goods
FLEXIBILITY	Static information	Potential for dynamic read/write capacity
RELIABILITY	Can read only under operator supervision and in clean/controlled conditions	Tags can be read/written automatically and are less susceptible to dirty environments
ROBUSTNESS	Labels easily damaged	Tags are less susceptible to damage and are reusable
CUSTOMISATION	Standard label shape	Possibility to physically customise tag materials/shapes to specific processes
AUTHENTICATION	Tags can be copied and are not item specific	Tags are specific to one item and can not be copied

HOW RFID TECHNOLOGY CAN HELP YOU AUTOMATE YOUR SUPPLY CHAIN

PROBLEM

Goods are delivered to your warehouse every day. It takes, on average, 15 minutes to scan in and tag each box on a pallet and then five more minutes to place the goods on the shelves. Sometimes the boxes are just scanned in unopened and you never know if the boxes contain all of the stated goods or not.

Pallets are then made up for each shop from the goods on the shelves. At any one time you don't know exactly where each item is and the only way of doing a true stock check is to close down the warehouse and physically go through each box.

SOLUTION

With RFID technology, you know in real time exactly how much stock you have in the warehouse at all times, and a stock check can be done in seconds.

From a product assembly or packaging line, each item will be fitted with an RFID tag. This will have a unique identifier – an electronic product code – in its memory.

This means that each item can be automatically identified, counted and tracked. Pallets, cases and containers can also have their own unique tags.

When goods leave the assembler or manufacturer, an RFID reader at the loading bay sends a radio signal to the tag and 'wakes it up'. The tags then transfer their unique electronic product codes to the reader. From here, the information is sent to a computer which then moves the data via the internet to an Object Naming Service, such as the IBM Operations Centre.

When the goods arrive at a distribution centre, an RFID reader scans the packages, crates, pallets or containers.



This means there is no need to unpack and count the contents.

If you are transporting your goods directly to a retailer, then when they arrive the retail systems are updated to include each item allowing retailers to locate their inventory accurately and at low cost.



IBM Express Managed Service for RFID

IBM Express Managed Service (IEMS) for RFID is designed for users who want to avoid the risk and cost of long, complex RFID deployments. It's based on IBM's alliances with leading RFID infrastructure suppliers built over many years, covering tags, tag printers, readers and software.

As a 'slap and ship' (the tags are printed and stuck on goods just before distribution) managed service, it enables manufacturers and other suppliers to respond rapidly to RFID tagging mandates from their major suppliers and customers without the burden of large capital outlays on technology and

the disruption of existing processes.

IEMS is a flexible and modular offering that can be deployed in as little as 30 days. Investments are based on a known fixed cost both initially and on an ongoing basis, with contracts available from one year.

IBM EXPRESS RFID SERVICES BENEFITS INCLUDE:

- Rapid compliance with trading partner needs
- Standardised offering to facilitate deployment and fit with market needs
- Low-cost, low-risk implementation
- Low technical skill requirement for in-house personnel

- Fully upgradable without requiring an application change
- Improved shipping accuracy enabled by better track-and-trace capabilities
- Rapid return on investment due to speed of deployment and exceptionally low start-up and running costs
- Better collaboration with trading partners by helping them benefit from warehouse and transportation efficiencies

SYSTEMS REQUIREMENTS AND PROCESSES

IEMS runs on AIX, Windows XP, 2000 and NT, and Linux. The system works by

converting existing barcodes into tags which transfer product data when close to an RFID reader. The tagging process begins with staff scanning the barcodes on products. Once transferred to the IBM Operations Centre, RFID tag information is produced and sent back to the customer for printing from an RFID printer installed by an IBM Business Partner. IBM Express RFID Services includes the supply of the barcode scanner and the printer. The operation is managed across a firewall-protected virtual private network allowing monitoring and analysis to be carried out from the IBM Operations Centre.

adopt RFID on all products supplied. Other organisations adopting RFID policies include the US Department of Defense. In the UK, research is underway examining the potential for RFID adoption in the aerospace industry, where it is being considered for the tracking of everything from aircraft components to

in-flight meals. Sensitive markets such as pharmaceuticals are also adopting RFID as a counterfeit prevention measure.

TRY BEFORE YOU BUY

RFID has evolved as a supply-chain solution for both business-to-business and business-

to-retail suppliers. The closer tracking of goods means less shrinkage and greater logistical efficiency, while the wireless technology streamlines stock control processes. Analysts are predicting that by 2009 RFID will cover everything from single-retail items to high-value products.

QUESTIONS to ask your RFID supplier

- 1 *What hardware, software and networking products come with your RFID package?*
- 2 *Which industry standards does your RFID system conform to?*
- 3 *Can I choose the components I need?*
- 4 *How flexible is the system? Can I adjust it to suit my customers' changing needs?*
- 5 *What are the ongoing software license costs associated with the RFID system?*
- 6 *How long is the average installation time for your RFID system?*
- 7 *Am I tied into a long-term contract?*
- 8 *Is your RFID system upgradable?*
- 9 *What internal resources will I need to commit to the RFID system to make sure it works efficiently?*
- 10 *In the event of problems, what kind of local support can I expect?*

The biggest down side to RFID is the cost of adoption, particularly while the standards are still not set. It's possible to spend tens of thousands of pounds on implementing an RFID system that works perfectly reading tags from one supplier, but can't read the tags from another. The good news is there are managed hosted solutions available that allow you try out RFID technology without having to buy the hardware and the software licences (see box above).

NEXT STEPS: CONTACT

Gillian Hennessey – Moorgate

gillian@moorgate.co.uk

DEMYSTIFYING TECHNOLOGY



WHAT IS VIRTUALISATION?

WHAT IS VIRTUALISATION?

It is a technology that allows you to run a number of operating systems on a single server simultaneously. This means that at any one time a computer – providing it has the necessary amount of disk space – can be running several versions of different types of operating systems, such as Linux and Windows, all at the same time.

WHAT ARE THE BENEFITS?

- Virtualisation reduces your hardware costs by using a smaller number of larger, more powerful and more cost-effective servers.
- The cost of managing your computer system will also be lower because there are fewer servers to monitor.
- Server utilisation increases because a single server is running several applications rather than just one, sharing resources and cutting down the number of wasted cycles on the main processor.
- The flexibility of your computer system improves because additional 'virtual servers' can be brought online in a matter of minutes.

HOW DOES IT WORK?

Virtualisation uses software to create the illusion that each operating system is running on its own virtual machine with its own dedicated hardware – despite the fact that each operating system only 'owns' a part of the hardware platform. It then apportions small time slots of processor power to each virtual machine, and swaps between them. This means, for example, that you can move your old legacy accounts system, which you know only runs on Windows NT, onto a much faster machine. This cuts the time of the end of month reconciliation job. You can also run your web server, which runs best under Linux, on the same machine concurrently.

ISN'T THAT HOW MAINFRAME COMPUTERS WORKED?

Essentially it is. Virtualisation – under its different guises and names – is something IBM has been specialising in for decades. Hardware-level virtualisation was pioneered on IBM mainframes in the 1970s, and then more recently Unix/RISC system vendors began with hardware-based partitioning capabilities before moving on to software-based partitioning.

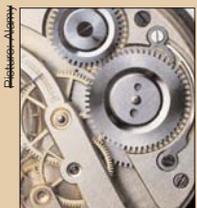
SO DOES IT JUST WORK WITH WINDOWS?

No, most virtualisation systems will work with multiple operating systems. The software IBM recommends for virtualisation – VMware – will handle many different operating systems, including Windows, Linux, Free BSD, Novell, Solaris and more. For example, you can run several versions of Linux at the same time each in a safe, separate, virtualised environment. So if you needed to move to the next version of the Apache web server or a new version of Linux, you can create a 'virtual machine' with the new versions and test how it works on a "live" machine without having to buy a test server. Then when you've tested it, you can switch between the versions in seconds, or return to the old version if an error occurs.

DOES VIRTUALISATION WORK ON ANY SERVER?

Yes in theory, any server can run virtualisation software. Intel-based servers are particularly useful for virtualisation as they're so flexible, cheap and readily available. However, the best results can be achieved with blade-type servers, which have virtualisation built-in to their design. For example, IBM's BladeCenter H features Advanced Management Module, which allows the user to manage an entire chassis of servers from a single point. It also has built-in capability to virtualise not only the processor's workloads and the individual servers storage, but also the network interfaces using Cisco's VFrame software.

SCENARIO HOW GOING VIRTUAL CAN HELP



Company X has 15 servers, and each one does a different dedicated job. There's a web server, email server, domain name system (DNS) server, accounts server, several database servers, file/print servers and business applications. The DNS server runs on Linux, the file/print servers run on Novell, the applications run on Windows XP and the rest run on Windows 2000. Expansion over the next year means you'll need two more servers for the database, and to build them and commission them you'll need a test server. Half of the servers run at less than 15 percent capacity. With virtualisation the entire system could be reduced to just one IBM System x server running 15 virtual machines. This will cut server costs, power costs, management costs and no new servers would be need to be bought.

NEXT STEPS: CONTACT

IBM BladeCenter and virtualisation

www.ibm.com/systems/uk/xbc/virtualization.html

IBM and VMware

www.ibm.com/servers/eserver/xseries/vmware.html



From how to speed up a retail accounts system to saving money on printers and password management, our team addresses your business problems...

ASK THE EXPERT

Picture: Alamy

THE PANEL



JOHN WALTERS

John is Commercial Director of managed services company Art of Computing. The company's focus and expertise is in implementing and supporting infrastructure consolidation technologies.



ASGHER ALI

Asgher is Sales Director at leading IT infrastructure and services company Axia Computer Systems, where he specialises in infrastructure and security in the business sector.



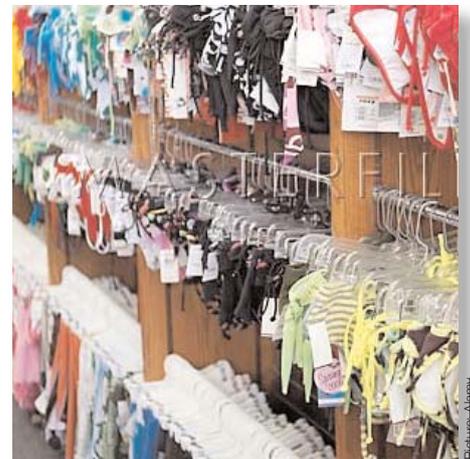
BARRY WAKELIN

Barry is Business Development Director at IT solutions provider Panacea. He has worked in the industry for more than 20 years in a number of roles, including Technical Director, and also writes for various IT publications.

Q I run a small retail chain that uses Sage accounting. However, my system is starting to slow down, particularly when I carry out a stock consolidation run at the end of the trading week. The system often only just finishes mid-way through Sunday evening, and if it crashes we're lost for a week. We are expanding to take on another three shops and are considering Sunday trading. How can we solve the problem?

A BARRY WAKELIN The simple solution is to update your server. If you are going to be taking on the stock of three more shops and you're planning on running 365 days a year, then you'll need to move your current batch system to a real-time system. Although this will involve extra expense in the short-term, the long-term results will more than pay for the upgrade.

With a real-time stock-control system you can react instantly to sudden changes in demand and see at all times what your best-selling and least-successful items are. By knowing what's selling well you can stock-up when you need to, rather than having to wait until the end of the week, which may be too late. Plus if you link the



Picture: Alamy

system to an intelligent point of sale (PoS) system, you can offer customers a service that enables them to find out where and when stock will be in next, or give them the option of being able to order while they're still in the shop, so you avoid losing the sale to another retailer.

IBM System x servers are robust and fast enough to do most of what you want, and they have functions like Predictive Failure Analysis and light path diagnostics, which can predict and identify components that need maintenance up to 48 hours in

advance, potentially eliminating unscheduled down time.

Which model you choose really depends on what other systems you're running on your server and in your organisation, and what extra data requirements the three new shops will add to your system. You should also look at building extra capacity into the server configuration you choose, so that if you acquire more shops or choose to expand your business onto the web, you're not constrained by your IT needs, or hampered by unnecessary additional hardware costs.

Your current configuration also, worryingly, makes no mention of any backup facilities. Should your server crash then what is there to replace it? What happens if your system fails mid-reconciliation or if your store is flooded or has a fire. At the very least you should be running some sort of regular back up that's ideally held off-site. Or you should have a second remote server that mirrors the main server, which can be switched in should the first one fail. If you do decide to move to a real-time system, then you will need this anyway.

Q We have a network of retail shops and a head office with about 70 PCs and an ever-expanding network of printers. In fact, there seems to be almost as many printers as PCs, and we've seen our print costs gradually rising. What can we do to cut down paper and consumable bills?

A **JOHN WALTERS** In our experience, the issues that we encounter with printers are very similar to those that you get with both networks and servers. A 70-PC network with a mixture of printers that have grown organically is not unusual, and most businesses with a similar setup are looking to consolidate, just as you would with servers.

The first thing you should do is to 'own' a strategy. A printout is either a liability or an asset, so you need to know what is the cost and the value to the company of the piece of paper you're printing. Is it necessary to your business? In addition, it's essential to identify the cost of the images and other assets.



We have recently worked with a large retailer and have put a network of colour printers into each shop. Instead of point-of-sale (PoS) materials coming from head office, the documents are produced centrally and then networked to the shops for printing on either pre-printed or blank paper.

Although the costs were higher initially, the company is now saving around £1,000 a week in courier and other related costs. In addition, each shop can now produce PoS material for instant promotions that are 'in shop', just by logging into the central system and using standard templates. The templates have also saved the retailer money, as by using them it's possible to regulate the amount of ink coverage used.

We also try to get companies to look at the alternatives to print, particularly colour printing. A PDF can be used instead of a printout in many cases, which not only cuts print costs, but also saves on transport, plus there's the ability to add security to a PDF.

After you have established a strategy, the next thing to do is a print study. We use questionnaires to establish printer use and individual users' needs. From the results of this we produce recommendations on a printer strategy.

As mentioned earlier, printer consolidation is a good way of reducing costs. Workgroup printers should be able to take over the workload of five or six machines comfortably, and if you standardise on one model, you will save money on consumables and spares. As well as greater workloads, the latest printers also have functions that are intended

to save time and money. Models such as the Infoprint 1422 include duplex paper handling, which can help cut paper costs by up to 50 per cent. The only supply item on the 1422 is a toner cartridge, which is available in a high-yield version to help minimise down time.

In addition, the 1442's print darkness settings can help save as much as 50 per cent on toner use and, IBM offers a cartridge return programme to reduce supply costs further.

Q We're a small call centre company of 25 employees, but on top of this we hire around 500 people on short-term contracts that typically last three to six months. Each temporary staff member is given a password to log on to the company network and to access the networks of all the organisations that we're running the call centre for. We seem to spend hours of IT time resetting passwords and managing users who are having difficulty logging on. How can we alleviate the problems?

A **ASGHER ALI** Remembering and managing usernames and passwords can certainly be very frustrating, but there are also major financial implications. IBM research has shown it can cost more than £200 per user, per year to deal with, and can also mean lost productivity and weakened security.

The rash of high-profile identity theft cases has alerted companies to the need to protect their customers' confidential information. However, the consequences of all this extra



security has added hidden costs to the companies' bottom lines.

IBM also estimates that up to 40 per cent of helpdesk costs are password related. But, according to Stuart McIrvine, IBM's director of corporate security strategy: "ID management software that automates the process and coordinates changes can halve such costs."

A Gartner study in 2004 revealed how a large US beverage producer cut its IT service desk costs by more than \$600,000 in a year just by using automated password reset software. However, this is not getting to the heart of the problem. Rather than having lots of passwords, there should be just one that allows entry into all affiliated networks. To this end, IBM has pioneered 'federated identity management', which allows individuals across multiple organisations to use the same user name, password or identification to sign on to the networks of more than one enterprise and conduct online transactions.

"If you took a laptop and plugged it into an ethernet port in a company, it might be able to connect to the network even though it is not authorised," says McIrvine. So IBM and Cisco have developed a solution that uses IBM's Tivoli middleware and Cisco routers. Before allowing people to log on, Cisco's access control server goes to Tivoli to see whether the firewall is switched on and all anti-virus patches are in place. If it finds a particular signature is not up-to-date or the latest patches have not been applied, the user can be quarantined, granted limited access or blocked. Tivoli can even go into that machine and implement some of the patches to try to get the machine to meet the security requirements of the company.

NEXT STEPS: CONTACT

John Walters – Art of Computing
www.artofcomputing.com

Asgher Ali – Axia Computer Systems
a.ali@axia.co.uk

Barry Wakelin – Panacea
bwakelin@panacea.co.uk

Steve Rickless – Tripleplay Services
steve.rickless@tripleplay-services.com

PROBLEM SOLVED: DIXONS GROUP

THE WORLD CUP PRESENTED ELECTRICAL RETAILER DIXONS WITH A GREAT CHANCE TO PROMOTE THE LATEST TV TECHNOLOGY. IBM PARTNER TRIPLEPLAY CAME UP WITH THE IDEAL SOLUTION IN JUST FOUR WEEKS



Dixons Group wanted to show the advantages of High Definition Television (HDTV) in 200 of its shops for the start of the 2006 World Cup. It was looking for a solution that could be installed within four weeks, would fit in with its current set up, and be competitively priced. Dixons was also looking for a solution that could promote HDTV in-store over standard computer network and conventional TV aerial cables.

Tripleplay Services (www.tripleplay-services.com) is an IP-to-TV solution provider based in London that specialises in developing cost-effective video-based solutions for IP networks that run on Linux. Its solutions are targeted at 'captive communities' such as hotels, universities, hospitals, retailers and corporate TV environments. It provides scalable and affordable IPTV, video-on-demand and digital signage solutions.

Founded in 2002, Tripleplay specialises in all aspects of video delivery. Its products are built around standard-based hardware from IBM and software to ensure its clients benefit from any new developments in technology, and can leverage IBM's extensive support network

in the case of a hardware failure. Current clients include Standard Chartered Bank, Sheffield Hallam University and Patientline, a hospital systems provider.

Tripleplay's Chief Executive, Steve Rickless, explains: "The solution designed for Dixons uses an IBM server, because of its throughput, the solid platform IBM provides and the reliability of its products. In addition, IBM delivered on an aggressive timescale and was very competitively priced."

As part of the solution, Dixons wanted a system that would enable it to show customers the advantages of buying high definition TV, while ensuring the solution could support its existing TV offerings. It also wanted a platform that could be easily expanded to support the rapid developments in interactive and high definition TV. The solution had to provide minimum disruption to stores and operate with their existing TV distribution network already in place in Curry's stores.

Tripleplay's solution is based on an IBM x226 System X server running Linux, which delivers the video feeds. This is then distributed through IP set-top boxes over the in-store conventional aerial system and ethernet. The servers are all remotely managed through Dixons network, so that Tripleplay can monitor their condition and update the applications operating on the servers.

Linux was central to Tripleplay's solution. "We chose Linux for our development platform, because it's standard-based, flexible, cost effective, can easily integrate third-party solutions and is well supported by IBM," says Rickless.

Tripleplay is currently investigating how to extend the solution into other customer environments.

“Consolidation is about cutting down the number of separate machines so that they can be taken care of more easily, quickly and cheaply”

Tim Phillips, IT Manager, Arden Dies

LESS IS MORE

If your company could benefit from saving money, time and resources, then it's time you gave serious consideration to implementing server consolidation, says **Tim Phillips**

The force driving server consolidation is actually the old story of hidden costs of ownership. Tumbling hardware prices have helped

create the impression that growing businesses can answer their computing needs simply by buying more servers and setting up a new one for each application. But having taken this route, companies are faced with high administration costs, hours wasted updating software, and the problems of having different versions of operating systems and applications running on different machines. Not to mention the simple fact that multiplying the number of machines scales up the cost of taking care of them. No company can afford to waste money and man hours, and that's why it pays to look at whether your server set up can be simplified.

THE VIRTUAL APPROACH

Consolidation is about cutting down the number of separate machines in the company so that they can be taken care of more easily, quickly and cheaply. Commonly this is done by a technique known as virtualisation, in which the job of the old physical server is done by part of another server set up so that it looks like a separate device to the system. With the advent of Blade Centres, for example, where you can have huge power in a small space, it becomes easy to have half a dozen servers running out of a single box. If this sounds like putting all your eggs in one basket, then think again because the process of consolidation and virtualisation allows you to build in sophisticated safety features, such as failover.

With failover, the entire application or process, complete with its data, can be swapped over to a different server if the original one crashes or fails. Techniques

such as load balancing, where you divide a task up between two or more servers, mean you can protect your system far more efficiently than having a series of dedicated servers.

GREATER CAPACITY AND PERFORMANCE

Load balancing uses a virtual server to direct tasks to a number of physical servers, which increases the capacity of the servers and can help companies get greater performance out of existing set-ups. It also provides solutions that would be difficult to achieve with a traditional server arrangement. For example, we have a client that has to test software before implementing it to make sure it works on a variety of different servers. We virtualised the test servers, and now all they have to do is recreate an 'image' of the server in order to run the tests – a lot easier than building or buying a set of test machines themselves.

There's a serious security benefit to be gained too. A series of dedicated servers leaves you open to downtime since the failure of any one of a series of separate devices will bring the whole system to a halt. In a virtual server system, the failed server can be bypassed with the workload simply moved to a 'mirror' machine. Mirroring, clustering and other virtualisation techniques also mean your other servers can be in different locations, so you could have a single data centre or simply spread your data and servers around to protect the system from fire or physical damage.

Add to this the fact that fewer servers also means fewer licences for the operating system, and consolidation brings with it the promise of less wasted time, greater security and reduced costs.

Server consolidation is much more than a technical issue. It's about getting more from your money and manpower – and if that isn't a management goal, what is?