



MARKET VIEW
FROM
BIG BLUE



Welcome to the very first issue of

MARKET VIEW FROM BIG BLUE

What is “Market View from Big Blue”? The purpose of the newsletter is to keep IBM and its Business Partner Community informed about what is happening in the local IT market. The newsletter provides a summary of the most important news that could have an impact on conducting business in Africa

How often will “Market View from Big Blue” appear? The newsletter will be updated and shared once a quarter

What separates “Market View from Big Blue” from the other newsletters available? The newsletter will focus on local content that will keep you informed about the latest technology trends, as well as provide actionable implications on how to better address the presented market opportunities

Is this another “IBM confidential” document?
No. Market View from Big Blue can be freely shared internally as well as with IBM Business Partners and IBM clients.

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Executive Summary

POLITICAL OUTLOOK

- Elections in April 2004 confirmed the popularity of the ANC
- A reshuffle of key ministers kept reformers in the government but pointed to a shifting of priorities: Key policies will be aimed at creating jobs through higher growth and investment and tackling inequality by promoting black economic empowerment (BEE).
- Fiscal policy relaxed slightly to increase government spending on infrastructure, social services and empowerment programmes.
- Black Economic Empowerment (BEE) is a key focus area of government

SOCIAL OUTLOOK

- Uplifting the poorest has moved to the top of the policy agenda – Government is tackling the problem through social spending & a public works programme
- Black businessmen, the middle classes & those with formal jobs are doing well, but the unemployed (estimated at 40%) have seen little relief
- Real state expenditure on social services has risen by an average of 4% annually over the past decade
- Anthony Kinghorn and Malcolm Steinberg of HIV Management Services report that: that projections indicate that within 3 years almost 250,000 South Africans will die of AIDS each year: This figure will rise to more than 500,000 by 2008

ECONOMIC OUTLOOK

- 2004 was an excellent year for the rand which rallied to a 6-year best of R5.665 against the greenback
- Most market commentators are upbeat about the prospects for the South African economy for 2005
- South Africa's GDP grew 2.6% in 2004 and is forecast to grow 3.2% in 2005
- Conservative government fiscal policies have reduced the double-digit inflation that South Africa experienced in the 1980s. Inflation was 1.4% in 2004 and is forecast at 3.0% for 2005
- Analysts say the continued growth of the South African economy depends on several factors, amongst them the continued development of its abundant natural resources, continued private sector confidence, the productive management of labour relations, and political stability

TECHNOLOGY OUTLOOK

- According to BMI, the outlook of South Africa's IT industry looks cautiously promising depending on the stability of the rand/dollar exchange rate
- Following 2004's 'tech resurrection', with a return to positive IT spending growth, IDC is predicting a 'tech realignment': "2005 will be a year of enormous turbulence in the IT market with lots of consolidation and realignment in many sectors
- According to a report by the department of trade & industry, the biggest investment opportunities lies with call centre services; distance education; grid computing; IT enabled learning, education and training; public service delivery through IT and wireless technologies
- IDC predict overall IT spend for SA to grow by 7% for 2005, however, many large corporates may well take advantage of the impending telecommunications / networking liberalisation initiatives, which if the case, could push overall ICT spending up significantly



MARKET VIEW
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TECHNOLOGY



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2005 should be a reasonably strong year for PC vendors

IDC predicts WW growth of PC shipments to reach 10.1%

Drivers behind PC demand include wireless technology & continued vendor price war

Linux is expected to reach 10% market share of new desktop operating system sales

Emerging markets will account for more than 60% of PC market growth

By 2008, at least 80% of PCs will ship with hypervisor technology

75% of PCs shipped WW will be lead-free by 2007

HARDWARE PREDICTIONS:

PC MARKET

With PC replacements still in full swing, 2005 should be a reasonably strong year for PC vendors. However, the end of the replacement cycle is likely to strain viability in 2006 and beyond.

Third quarter results and ongoing commercial activity in the PC market has led IDC to predict that total shipments will reach 195.1 million units in 2005 on growth of 10.1%, with the total shipment value growing by 3.9% to \$201 billion (The Technology Group, 2004). According to IDC, PC spending in South Africa, will reach \$1.1bn in 2005

Other drivers behind the PC demand will include: Improved consumer confidence; low prices; demand in notebooks - pushed by wireless technology; and the SMB spending spree. According to BMI, the biggest obstacle to this growth remain "good enough computing", however, a stronger economy should reduce its magnitude.

In 2005, several vendors will release desktop environments that mimic the Window's interface, establishing Linux as a low-cost alternative to Windows. The trend builds slowly, but it is expected that by year end, Linux will approach 10% market share of new desktop operating system sales. "Microsoft isn't exactly under siege, but the lights start burning late in Redmond (Techtarget Group, 2004).

Gartner predicts that by 2007, 3 out of the top 10 PC vendors will exit the market and that emerging markets will account for more than 60% of PC market growth. The viability of this has already been proved by IBMs sale of its PC business.

By 2008, at least 80% of PCs will ship with hypervisor technology. Hypervisors will make PC virtualization more secure, facilitate images deployment & enhance PC management & support. Virtualisation promises to offer improved security & ease of OS migration. Complexity, inefficiency & cost will however be barriers to widespread adoption of PC virtualization

The Restrictions on Hazardous Substances (RoHS) directive passed by the European parliament will have a global impact. Gartner predicts 75% of PCs shipped world-wide will be lead-free by 2007.

HARDWARE PREDICTIONS:

SERVER & STORAGE MARKET

Gartner predicts significant disruptions in 2005 & beyond

According to Gartner, demand for computing power & storage continues unabated. In the server & storage marketplace, changes in market dynamics will cause significant disruptions in 2005 & beyond

Linux & Windows will become more significant factors in mission-critical applications

Traditional computing paradigms will suffer incursive threats as Linux & Windows become more significant factors in mission-critical enterprise-wide applications. Furthermore, the pressure to deliver availability & performance, reduce costs, improve service & minimize risks has never been higher.

Linux is maturing at a faster rate than any other operating system

Gartner predicts that by 2010, Linux will offer greater overall innovation & functionality to Windows. Linux is maturing at a faster rate than any other operating system. For the time-being, Linux will be deployed in horizontal scale-out architecture such as rack-mounted servers & blades. In time, however, it will be deployed in symmetric multiprocessing servers.

Companies will use partitioning technologies for Windows server deployments

On the Intel front, the vast majority of Intel servers are underused & therefore clients are going to leverage partitioning technologies to reduce their hardware spending (and space) significantly. According to Gartner, "there's little reason why they shouldn't consider partitioning as a consolidation solution for underused servers & small workloads". It is predicted that by 2008, 80% of the Fortune 1000 companies will use partitioning technologies for Windows server deployments.

No single vendor will be able to dominate the Unix market

By 2009, it is expected that IBM, HP & Sun Microsystems will equally share 95% of the Unix market. Gartner believes that no single vendor will be able to dominate the Unix market.

80% of deployments will be scale-out or scale-up servers

Through 2008, 80% of deployments will be scale-out or scale-up servers. For the 9th consecutive quarter, the analysis of global server shipments by price band (from sub-\$5,000 servers to those costing more than \$500,000) shows a polarizing effect that's influencing server procurement.

Data loss due to recovery will decline to mere seconds

Gartner states that by 2008, companies will be able to recover from storage to any point in time. Data loss due to recovery will decline from 24 hours to mere minutes or seconds.

IDC predict storage prices to drop even more in 2005

"Enterprises should see storage costs fall even more in 2005, thanks to a continuing commoditization and lower priced, high-capacity drives making it to market. In 2005, for instance, 20% of the total terabytes of storage capacity will be made up of low-cost arrays that, while accounting for a large slice of units shipped, will make up only 11% of storage revenues" Frank Gens, IDC (TechWeb, 2004)

“Instead of a swell in software spending lifting all boats, the recovery in software is turning out to be spotty, with only certain sectors and companies benefiting” (CNet News, 2005).

Growth still exists, but is harder to find

The performance of several software providers in 2004 is a barometer of the ability of the industry to sustain growth

Areas of software investment includes security & management

The software industry still faces difficulties in 2005

SOA, SOBA & SODA are among the most significant shifts in IT

Software comes closer to meeting the agility demands of today's business environment

SOFTWARE PREDICTIONS:

According to JP Morgan, the software market overall is expected to grow more slowly this year as compared with last year, even though some areas will remain hot. Based on its surveys of chief information officers' at large companies, JP Morgan expects spending on software in 2005 to grow in the range of 4% to 7%, which is a slowdown from the 8% to 10% spending growth seen in 2004.

“The market has begun to mature with most subsectors decelerating,” said a report released by JP Morgan in January, which said software is no longer a high-growth industry. This "means that growth still exists but is harder to find."

According to Infotech (2005), the performance of several software providers in 2004 however is still a barometer of the ability of the software industry to sustain growth even though the worldwide economy is struggling. Examples of these companies that made it big in 2004 -- and are forecasted to do better in 2005 -- are Microsoft, IBM, Oracle, SAP, Computer Associates, Electronic Arts, People Soft and EMC.

Key areas of growth for Middleware are expected to be in Security, Collaboration, and Integration (WSIS). Other areas of software spending will include: Security, management, infrastructure and analytics software. (CNet News, 2005)

Because of the relative ease of copying software -- the software industry still faces difficulties in 2005. Ronald Chua, chairman of the Business Software Alliance, said copyright protection would still be an issue in 2005. However, he expects increased awareness from companies and end-users on the importance of using licensed software in 2005.

Changes in the field of software are often summarised as the maturing of service-oriented architecture (SOA). According to Gartner, SOA, together with the emergence of service-orientated business applications (SOBAs) and the new frameworks for creating & maintaining software systems known as service-orientated development of applications (SODA), are among the most significant shifts in IT. “In the world of SOA, each element in the processes becomes a service. This increases the agility of the software because it's now easier to re-arrange the process or determine who will actually perform each step in the process. (Gartner, 2004).

“Major changes are happening in the software industry that go well beyond technical issues. They have the potential to impact everything from IT governance to procurement. The major benefit of these changes is that software comes closer to meeting the agility demands of today's business environment” (Gartner, 2005).

80% of companies will outsource at least one function by 2005

The trend to reduce scope & duration is driven by the need to regain control of own IT strategy

Offshore growth will exceed that of general outsourcing

Offshore outsourcing provides access to worldwide resources

BTS are set to show modest, but steady growth

One of the key issues affecting the services market is web services

SERVICES PREDICTIONS:

According to META Group, 80% of organizations will outsource at least one function by 2005. Of that group 70% indicated that they will renew their outsourcing contracts, however, many will reduce both the scope & duration of the original agreement.

“Vendor performance may factor into the decision to cut back on existing outsourcing agreements, yet the trend is really driven by the need for companies to regain control of their IT strategy & architecture” (META Group, 2004). Despite the reductions in scope & duration of outsourcing, META Group believes that outsourcing will continue to grow as a viable option for organizations seeking to remain competitive during the next decade.

META Group further reports that offshore growth will continue to exceed outsourcing generally as most organizations will put an offshore outsourcing strategy in place by 2005/06. “Offshore outsourcing provides access to worldwide resources otherwise unavailable to most enterprises”

According to Forrester, e-learning plays an integral role in business strategy. While many firms adopted e-learning technologies to educate their workforce to gain a competitive edge, savings on travel costs remains one of the largest benefits. Supporting this point of view is research by Datamonitor that says the global e-learning market for higher education is set to grow with a healthy CAGR of 12% through 2008.

According to IPR, business transformation services are set to show modest, but steady growth. “Following the period of extensive infrastructure build-out seen from the late 1990s until the bursting of the dot.com bubble, firms now need to leverage their existing infrastructure. Client’s focus has shifted from deployment to optimisation that will bring real cost savings. This will continue to call for the integration of disparate systems to perform seamlessly.”

BMI-TechKnowledge reports that the key issues affecting the services market over the next couple of years are:

- Web Services will be key to market growth
- Outsourcing will increase its share of the overall services marketing, contributing to 39% of revenues by 2008
- The impact of wireless technology is not expected to provide any significant impetus before the end of 2008
- Vertical markets like distribution, manufacturing & communications represent a balanced opportunity for vendors



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SECTOR / INDUSTRY

SMALL-MEDIUM BUSINESS SECTOR

In 2005, SMBs will be looking with increasing interest at a variety of new IT services

Replacing or upgrading PCs remain the #1 priority

The 6 trends that SMBs will be focusing on in 2005 are VoIP, mobility, RFID, security, utility computing & servers

“While large companies have made more decisions about their strategies for the obtainment of IT services, medium-sized companies of between 100-999 employees generally show greater plans & interest in a host of IT services including having budgeted for new services” (IDC, 1004).

Recent research by Forrester suggests that the top priority for SMBs remain replacing or upgrading PCs. Other priorities that were identified include improving their security environment & deploying or upgrading major application software packages. Forrester further believes that Linux has made few inroads in this segment and that they will rather focus on upgrading their Windows desktop OS.

According to the Information Technology Solution Providers Alliance (ITSPA), 6 trends will play an important role as SMBs adopt new technologies to stay competitive with larger corporations. These 6 trends for 2005 are:

- **IP Telephony (VoIP)** – the technology increases worker mobility, as employees no longer need to be at their desks to make phone calls. The use of this technology will continue to increase as companies decide to invest in technology that will save money in the long run
- **Mobility & wireless networking** – Growing worker mobility & less-expensive, lighter hardware have increased the demand for wireless networking (Wi-Fi)
- **RFID** – According to IDC, growth in the RFID marketplace is expected to grow significantly through 2008. Automotive, consumer packaged goods, defense, pharmaceuticals, retail & security will be among the first to adopt this technology.
- **Security** – Security continues to be an issue for all businesses & will continue to be a concern as SMBs move to wireless technology. “Digital security remains a prime area where SMBs need to be proactive & vigilant” (ITSPA).
- **Utility Computing** – Paying-as-you-go computing services are an appealing model for SMBs & will grow in popularity in 2005. While the technology is not perfect, it is continuing to evolve. The model is ideal for SMBs not only because they can save money by only spending on the technology they are currently using, but also because it will ensure they have access the latest technologies.
- **Servers** – As servers become more central to their operations, SMB companies are demanding compact & efficient servers that provide optimum performance.

FINANCIAL SERVICES SECTOR

Financial institutions will implement process & technology changes in more manageable chunks

A rapid growing number of financial services companies are investing in IP telephony services

Technology spending by the banking industry will increase 4.4% over 2004

2005 will see a slight increase in IT spend in the insurance industry

BPO spending for core insurance services will grow at a modest rate through 2006

The securities industry is resuming growth in IT spend at a more measurable rate

Offshoring adoption continues to be dominant in the Financial Sector

Global financial institutions are expected to spend \$362bn on technology investment in 2005. According to TowerGroup(2004), "financial institutions will implement process & technology changes in more manageable chunks, and employ business process management networked services as pivotal elements for strategic transformation"

An end-user study by analyst firm, Fros & Sullivan indicates that a rapid growing number of financial services companies are migrating towards IP telephony networks. "The key challenge for financial services businesses is to prioritise technology purchases as the economy turns around". According to analysts, cost saving is the number one reason for investing in IP telephony. Improving productivity & internal communications are further reasons to invest in these solutions.

Some of the sector highlights are:

- **Banking** – TowerGroup projects that technology spending by the banking industry will represent at least 4.4% increase over 2004 levels. Consumer banking will continue to command the greatest share of overall IT spend across all regions
- **Insurance** – 2005 will see a slight increase in total IT spending for property & casualty insurance, reflecting the pent-up demand for new technology, while life & annuity will remain flat as insurers work hard to capitalize on existing investments.

Celent predicts BPO spending for core insurance services will grow at a modest rate through 2006. The analysts say that lingering questions about business process outsourcing have prevented rapid adoption in the insurance industry, despite current deals, success stories and a general understanding of the potential business benefits. (Tekrati, 2004)

- **Securities & Investments** – As the global securities industry recovers from the after-effects of the technology bubble, it is resuming growth in IT spending at a more measurable rate. Through 2008, TowerGroup projects IT spending to rise across the global securities industry at a CAGR of 4%.

According to Zinnov Research, offshoring adoption continues to be dominated by the combined banking, financial services & insurance industry. Zinnov analysts say "the industry is suited for outsourcing due to the large transaction volume, structured decision making, and reliance on the rules-based process metrics. The analysts note that outsourcing in this domain has transitioned from transaction processing to business transformation." (Tekrati, 2004)

INDUSTRIAL SECTOR

The industrial sector in SA is regarded as the major generator of economic growth in SA

As the industry moves into 2005, manufacturers' focus turns to increasing revenue opportunities

The process manufacturing industry is starting to show signs of recovery

Due to competitive pressure, firms need to out-innovate its competition

Consolidation, security & new technologies remain the key drivers of the industrial sector IT spend

The industrial sector is regarded as the major generator of economic growth in South Africa, however, according to the OECD (2005), "a skill shortage – fuelled by the brain-drain that has hit the country in recent years – has constrained the expansion of the industrial sector."

According to IDC (2004), the manufacturing sector's cost-cutting initiatives of the past three years are paying off. Now, as the industry moves into 2005 manufacturers' focus turns to increasing revenue opportunities through innovation and customer loyalty. "This change in strategic direction is driving demand for more strategic applications that can support innovation creation and competitive advantage." With the gradual recovery in the market and this fundamental change in mindset, IDC anticipates that the discrete manufacturing market will not only offer volume IT opportunities, but in 2005 growth opportunities will return to this industry, and those IT suppliers that can truly support the individual requirements of the diverse manufacturing sub-industries will win"

The process manufacturing industry continues to face many ongoing business challenges but after a three-year downturn, this industry is definitely showing signs of recovery. It is evident that controlling costs is one of the main areas of IT focus, as reducing both operational and IT costs continues to be an overriding goal. Process manufacturers have continued to show the most dynamism in 2004 with regards to IT spending, and focus on the implementation of new strategic applications that can help organizations attain innovation, which is needed for growth, will pervade.

As competitive pressures grow, firms in the industrial sector must squeeze costs out of the supply chain, increase customer responsiveness, out-innovate competition, and wrap products with value-added services (Forrester, 2005).

According to IBM EMEA Market Intelligence (2005), some of the key drivers for the industrial sector, by industry, are as follows:

- **Automotive** – production overcapacity; consolidation; quest for faster time to market; build-to-order concept; brand/customer control; after sales services; regulatory compliance & new technologies such as telematics and RFID.
- **Aerospace & Defense** – time to market; management of data; security; improving customer demand (aviation); customization of products and restructuring/resource alignment.
- **Electronics** – commoditization, convergence of appliances, demand driven supply networks; return from R&D, regulatory compliance & new technologies
- **Chemicals & Petroleum** – lack of inventory control; political instability; new technologies (seismic systems); innovation and health/safety compliance.

COMMUNICATIONS SECTOR

This is the most exciting period in the history of the SA Comms Sector

Comms experienced a growth rate of more than 15% in 2004, however the future outlook is much more modest

Growth in Comms will come from WAP-enabled services for mobiles & ADSL for fixed line

The key IT drivers include automation, integration & outsourcing

The key challenges that IT will need to address include reducing costs, billing & customer care

“This is the most exciting period in the history of the communications sector in South Africa, while our country is striving to come to terms with communications as a socio-economic vehicle that can also help cohere the different strands for our society” (intermedia, 2004).

Commark (2004) outlined in a recent report that the South African communications sector over the last 10 years have developed into a substantial sector. It is estimated that the sector experienced a growth rate of more than 15% in 2004. It is also larger than mining in terms of contributing to GDP. The report, however, warns that “while innovative product and services offerings & growth in disposable income should support healthy growth in the communications sector, the outlook is much more modest than past growth trends due to market saturation and the end of statutory roll-out obligations.” The planned introduction of the Second Network Operator (SNO) has not been accounted for in a significant way as it is assumed to displace current business by the current operator.

It is expected that mobile data subscribers will experience growth over the medium-term as business users migrate to SMS and WAP-enabled services due to increased mobile data demands and needs. Another area expected to exhibit strong growth is asynchronous digital subscriber line (ADSL) broadband. Telkom has already rolled out about 22 000 broadband connections in the past 2 years (Commark, 2004). Market Intelligence Center supports Commark’s view. In its 2005 forecasts it predicts that, “as broadband penetration rates increase and with ever rising transmission speeds, in 2005 service providers are expected to more aggressively rollout triple play data, voice and video services to raise average revenue per user (ARPU).”

According to IDC, the key drivers for the telecommunications sector in 2005 are:

- Business process automation;
- Front- to back-end integration;
- CRM;
- Analytic applications;
- Billing; and
- Outsourcing.

The key challenges for the communications sector, as identified by Gartner, are:

- Reducing costs;
- Increasing revenue through new services;
- Fraud management;
- Revenue assurance;
- Billing;
- Sales force automation;
- Customer care;
- Network management; and
- Workforce management.

PUBLIC SECTOR

GOVERNMENT SEGMENT

Government will continue to provide brighter growth potential than other vertical industries

Integration & consolidation as well as training will pick up as growth areas

Government is hesitant to spend on traditional workstations but is looking at server consolidation

Open Source is making inroads, but the Microsoft agreement only ends end of 2006

Short-to-medium term solutions include ERP, security & wireless solutions

In the latest government report, BMI states that the government sector will continue to offer brighter growth potential than other vertical industries. The main driver behind this growth is citizen centric systems. Total government IT expenditure in South Africa was R5bn in 2003 & will grow at a CAGR of 9.1% to reach approximately R8bn by 2008. "Spend in government is becoming more important due to the e-government drives in all worldwide regions & the need for governments to affectively address the needs of their citizens" (BMI, 2004).

Looking to the future, BMI predicts the following trends & developments in the SA government's IT activities:

- Governments will take time to view IT as mission critical;
- Driving government IT adoption will be ITs ability to enhance productivity & manage costs;
- Governments will scrutinize solution capabilities in making IT spending decisions & find price less relevant;
- Governments will increasingly look inward to meet customer's needs;
- Integration & consolidation efforts will pick up; and
- Training will grow in importance.

In general, government is hesitant to spend on traditional workstations as high-end PCs are mostly used in this space due to cost constraints. Server consolidation, however, is taking place, especially at metropolitan levels. According to BMI, a lot of 4-way servers have moved into national departments & the trend is expected to continue in provincial departments. Several departments are also further expanding servers with external storage options (small SANs).

In upgrading their IT infrastructures, government departments are increasingly considering open-source software, however Microsoft still has enterprise-wide agreements for the desktop environment until the end of 2006 (BMI, 2004). Windows also remain the de-facto brand in system infrastructure software.

According to BMI, the short-to-medium term solution priorities include:

- Electronic Service Delivery;
- Electronic Procurement;
- Knowledge Management Systems & Collaborative Technologies;
- ERP;
- Security; and
- Mobile and Wireless Solutions.

PUBLIC SECTOR

HEALTHCARE INDUSTRY

It is predicted that healthcare unbound will experience slow growth at first, but then surge to \$34bn by 2015

Government will increase health care IT spend by 50% over the next 5 years

CRM & ERP are poised to show significant benefits to the healthcare sector

A slow but steady uptake of wireless applications are expected

RFID is set to take off by 2007 as a security measure against counterfeit drugs

IT management will become an integral part of the clinical management process

By 2015 Forrester projects that 60% of all patients discharged after a lengthy hospitalization, 40% of all chronically ill & 12% of all seniors will adopt healthcare unbound technologies & services. Healthcare unbound is Forrester's term for technologies in, on & around the body that free patients from formal institutions. It is expected that healthcare unbound experience slow, but steady growth through 2008 & then surge to \$34bn by 2015 (Tekrati, 2004).

INPUT says Medicaid & electronic records management are the primary drivers for a projected 50% increase in government spending on health care IT systems over the next 5 years (Tekrati, 2004).

The latest Datamonitor CRM & ERP market analysis shows these applications poised to offer significant benefits to the healthcare sector. "Whilst clinical applications will take up much of the budget & most attention, ERP and CRM will make a significant contribution to automating operations & ultimately to improving patient experiences" (Datamonitor, 2005). According to the report, the following combination of factors is causing this relative rapid growth:

- o Rising costs & spending;
- o More demanding customers; and
- o Second generation technologies.

Celent predicts a slow, steady uptake of wireless applications in the life/health insurance market. The analysts say that Sales Force Automation, real-time electronic policy application submission and real-time communications are likely to drive initial wireless adoption among life/health carriers. Celent predicts that the adoption rate for wireless projects by this market segment will reach 30% by 2007.

The growing number of counterfeit drugs is forcing pharmaceutical companies to take drastic action to ensure authenticity. According to research by IDC (2004), "the adoption & common use of RFID at the case & shipping pallet level is increasingly likely by 2007, and would help secure the integrity of the drug supply chain."

In a recent article by PRWeb (2005), it was noted that as information technology is recognized as a vital part of hospital operations, consuming a higher percentage of the organizations budget, IT management will become an integral part of the clinical management process & member of the management team.



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**EMERGING
TECHNOLOGIES**

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MOBILE & WIRELESS

A healthy percentage of solution providers plan to deploy, service and/or support wireless technologies

"2005 promises to be a year of even more rapid evolution & change than 2004"

Gartner predicts that all types of mobile handsets & PDAs will continue to evolve rapidly through 2006

Email is the most common business application mobile users' use on a daily basis

The impact of RFID is expected to be enormous, immediate & global

Security & interoperability remain two of the main industry challenges

According to *VARBusiness'* recent State of Technology survey, healthy percentages of solution providers plan to deploy, service and/or support wireless technologies. Those include e-mail and Internet access, sales-force automation and technical-support automation

"2005 promises to be a year of even more rapid evolution and change than 2004" (IDC, 2004). According to Gartner (2004), "The combination of wireless and mobile computing will drive the most fundamental changes to enterprise data collection and distribution capabilities that have occurred in a decade.

Gartner furthermore predicts that all types of mobile handsets and PDAs will continue to evolve rapidly through 2006. They expect that:

- Key innovation areas will include media services, improved imaging (1 megapixel or higher resolution), software platform enhancements for media and messaging.
- Messaging will be a key application with increased numbers of devices having e-mail clients software and keyboard hardware support.
- The smartphone will emerge as a significant enterprise device category.
- Imaging devices will pose corporate and social challenges, spawning futile attempts at prohibition.

Email is the most common business application mobile users' use on a daily basis, according to the Yankee Group 2004 Corporate Wireless Survey. "The key for IT decision-makers is not whether wireless email is necessary, but how wireless email can be deployed and managed cost-effectively.

Deloitte Touche (2005) predicts that the impact of RFID is expected to be enormous, immediate and global, with literally billions of RFID tags being deployed in 2005. "RFID will initially be based on closed-loop, proprietary networks, but will eventually spill out onto public networks, creating a huge amount of data traffic – and a healthy opportunity for network operators."

The top industry challenges, as identified by MobileTrax (2004), are:

- Interoperability
- Security
- Useful, relevant location based services
- The mobilization of Enterprise Business Processes
- Next generation messaging
- Ubiquitous worldwide rollout of Wi-Fi
- Use of IP standards for wireless voice & data
- Real-time Supply Chain Management using RFID
- Implementation of Virtual Secure Networks

OPEN SOURCE SOFTWARE (OSS)

LINUX

Linux will be on a third of all servers shipped by 2008

2005 may well be the year when Open Source & Linux make a strong play for the desktop space

Significant Linux desktop & server growth is predicted for the SMB market

Open Source will become respectable for big businesses

2005 will be a landmark year for Open Source

The worldwide Linux marketplace will exhibit a CAGR of 26% from 2003-2008

According to an article in the Inquirer (2004), IDC are predicting that Linux will be on a third of all servers shipped by 2008. This means that Linux will take \$9.7bn from the \$60.8bn market.

Linux.co.za (2005) is of the opinion that Linux already achieved good market share in the server space and therefore 2005 may well be the year when Open Source and Linux make a strong play for the desktop space. "In the same way the skills gap will be bridged in the IT market itself, as Linux and Open Source Software becomes more mainstream, so the user's familiarity with the alternative will grow."

In a report by AMI-Partners (2005), they predict significant Linux desktop & server growth in the SMB market over the next 5 years. The key findings include:

- o Linux desktop shipments are expected to grow at a CAGR of 39% worldwide, over the 5 year forecast period.
- o Linux desktop installed-base growth will be driven primarily by medium businesses over the forecast period, advancing at a rate of 23%.
- o Linux is expected to represent 6% of the SMB desktop installed base by 2008.
- o Server shipments are expected to grow at a CAGR of 34%, accounting for approximately 6% of the total SMB server installed base by 2008.

The Linux Insider (2004) reported that in 2005, Open Source will become respectable for big business. "It is true that many big businesses already have respect for Open Source Software...however, many big companies still have policies against using any Open Source Software." Although open source doesn't solve every problem, 2005 might be the year when open source infiltrates the enterprise IT mainstream (InfoWorld, 2005).

Analysts at research firm, RFG, believe that 2005 will be a landmark year for open source. Their key predictions for open source include:

- o Increased viability and opportunity for professional services based on new open source business models
- o Countering tactics aimed at slowing migration to Linux
- o Continued Linux growth in established industries, including government, oil and gas

IDC (2005) has said the Linux marketplace will grow on a compound annual basis by 26% from 2003 to 2008. At least some of the growth in Linux can be attributed to security and quality concerns some have with Microsoft applications and operating systems (Linux Pipeline, 2005).

VOICE OVER INTERNET-PROTOCOL (VoIP)

VoIP will be the fastest growing technology application among South African companies in 2005

VoIP will boost revenues made by vendors in the mobile & telecommunications sectors

To focus purely on the cost advantage is to miss a major dimension of the potential impact

VoIP made the shift from an emerging technology to a viable business solution

Deloitte's feel that the VoIP industry is in for a rollercoaster year

SPIT is another area that will have to be addressed in the future

February 1 rings in the much-anticipated liberalization of the South African telecommunication industry. According to a survey by World Wide Worx (2004), VoIP will be the fastest growing technology application among South African corporations in 2005. The survey revealed that VoIP take-up among corporates in South Africa is expected to increase from 31% to 78% this year.

"South African companies are going to flock to voice communications making use of Internet standards and this is going to significantly boost revenues made by vendors in the mobile and telecommunications sectors" (The Notebook Company, 2005).

The shift of voice communication towards VoIP has primarily been driven by its potential to reduce costs associated with voice services. However, according to Gartner (2004), to focus purely on cost is to miss a major dimension of the potential impact." Gartner is of the opinion that telephony will come together with email, IM and other communications centric applications. "Telephony and messaging software vendors will compete for the same market..."

A new study by IDC shows that after years of hype, VoIP has made the shift from an emerging technology to a viable business solution. According to IDC, the fastest growing VoIP market is hosted IP voice services for business customers. IDC believes "that the business market is ripe for adoption of VoIP and the features and functionalities that it promises."

Deloitte Touche (2005) however, feels that VoIP will remain a niche product in 2005, but its importance to the global voice market will grow substantially. Deloitte Touche is of the opinion that the VoIP industry are in for a rollercoaster year. To lessen the troughs, the industry needs to address the following 3 challenges:

- **Improving quality** - Although VoIP quality will continue improving, it still fall short of some users' expectations, creating a slightly negative image in the marketplace.
- **Delivering greater value** – VoIP is currently most economical for VoIP to VoIP calls. To become mainstream, VoIP must deliver value to a wider range of call routes.
- **Achieving profitability** – Selling at a loss is one way to gain market share, but to ensure continued funding, all VoIP businesses must demonstrate improving profitability.

Another key issue that will need to be addressed is spam. According to an article in VoIP News, Spam over Internet Telephony (SPIT) may become the latest information age nuisance as the VoIP era arrives. For the time-being, however, "a company would rather receive SPIT than miss a potential business opportunity."



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