RFG Predictions for 2005 (Part Two of Three)

RFG believes 2005 will be a year of growing demands on IT, yet without appropriate corresponding budget increases on the operations side. Close scrutiny on major initiatives will continue, and in some cases expand, as legislation enacted years ago, such as the Sarbanes-Oxley Act of 2002 (SOX), now requires a higher level of compliance. In addition, security attacks will continue as they did in 2004. Budgetary and resource constraints, financial reporting, regulatory compliance, and security initiatives, therefore, will dominate many, if not most, IT-related discussions. Perceived and real financial benefits will continue to drive outsourcing, presenting ongoing staff management and motivation challenges to IT executives. All of this points to a year in which IT will continue soul-searching with regard to its core competencies and mission in the enterprise.

Business alignment and demonstrable value of IT initiatives, in part through metrics and service level management, will continue to gain momentum in the enterprise. Vendor consolidation will accelerate in all product sectors during 2005, emboldened by the Oracle acquisition of PeopleSoft. Such consolidation has both positive and negative potential for enterprises. However, in response to the consolidation of vendors and the desire to gain better control of vendors across the board, more and more IT executives will seek to create or enhance vendor management offices (VMOs). In addition, IT executives will look to their VMOs as one method to help them cut the cost of development and operations.

Enterprise Telecommunications

Data and voice telecommunications equipment and applications residing on the customer premise and connected to a corporate, a public, or a virtual private network (VPN).

Lead Analysts: Ken Landoline, John Stehman

Three significant events will likely occur in most enterprise environments in 2005. First, Multi-protocol Label Switching (MPLS) will finally achieve significant enterprise growth as the service providers improve their delivery and pricing models and offer more enterprise-friendly SLAs. IP-based applications, including both voice and data, will be able to take full advantage of the excellent traffic engineering characteristics of MPLS along with its superior quality of service (QoS) metrics to assign, deliver, and maintain the required service levels. However, frame relay (FR) technology is far from obsolete. FR will still remain the choice of many enterprises because of its competitive pricing and proven reliability. Consequently, it will represent a safe technology choice – for at least another few years.

The second major event in 2005 will be the increased uptake of various types of VoIP services as enterprises begin to migrate traditional voice calls onto IP-based infrastructures. Enterprises will install VoIP solutions at many branch offices to offset voice and data costs and expand their use of VoIP for campus environments. Although VoIP will take root in many enterprises, it will still not replace existing voice architectures until enterprises are comfortable with its pricing model, return on investment (ROI) and QoS. Still, VoIP services will achieve strong growth in 2005.

The third major event will be significant reductions in traditional, landline-based voice services. This will occur as enterprises continue to embrace and increase their usage of mobile cellular networks for voice services and transition to VoIP. A key result of these events will be smaller monthly service revenues for traditional voice service providers as enterprises continue to move more voice services into different technology areas. This transition bodes well for wireless service providers including Cingular Wireless, Sprint, and Verizon Wireless. It is also a positive event for many VoIP providers including AT&T, Global
Crossing, Level3, and Vonage, to name just a few. In addition, both Sprint and Verizon will become much more aggressive as they attempt to capture enterprise voice and data revenue at the expense of AT&T and MCI.

MCI will also be affected by the industry rumors that continue to claim that they are up for sale. Consequently, numerous IT executives will be reluctant to sign any multi-year agreements with MCI until their fate is known. The bottom line is that there is a strong probability of consolidation or fallout in the service provider ranks in 2005.

In general, 2005 will be a good year for those enterprises negotiating new data and telecom service contracts. This is especially true for multi-year contracts because of the increased competition from the existing service providers. However, service contracts greater than two years will still represent an enterprise risk because of the changing and emerging technology solutions and downward price fluctuations. RFG believes many IT executives will take advantage of multi-year service provider pricing offers, but they will also be forced to consider technology refresh and upgrade requirements carefully for the contract term selected. This is especially true for existing Frame Relay networks, which are now well into the maturity cycle of their lifespan.

Service level agreements (SLAs) will finally become one of the key differentiators for winning enterprise business, and AT&T's and Sprint's aggressive movements in this area have set the bar for other service providers to beat. The key metrics that enterprises should consider are network latency, packet errors and retransmissions, and overall network availability. RFG expects several service providers to offer customer-based web access to quality of service (QoS) metrics and other services levels to be monitored for a small monthly fee or as a part of the overall contract.

The leading vendors of enterprise telecommunications equipment will continue the upward trend that began in 2004 and better solidify their evolving positions in the marketplace. Avaya, Inc. will capitalize on the growing popularity of VoIP telephony and continue to churn its customer base to the new technology. Avaya's position as the leading supplier of enterprise telephony equipment will be maintained while Cisco Networks, Inc. will make a very strong move into the global enterprise telephony marketplace.

RFG believes Cisco will supplant Siemens Information Communications Networks, Inc. as the world's third place supplier of enterprise telephony equipment and significantly close the gap with Nortel Networks, the second place player that continues to struggle with financial and organizational issues. Cisco growth will be fueled by two sources of market demand – customers looking for alternatives to traditional solutions vendors, and the users' need to prepare existing data networks for the addition of voice transmission over a converged backbone.

IP telephony will also make major inroads into the customer contact center area as IP-based contact center solutions begin to multiply and penetrate call centers. The IP telephony penetration will be based on the ease of multi-channel and applications integration as second generation VoIP (2gIP) applications are rolled out. Session Initiation Protocol (SIP), already the standard of the Internet Engineering Task Force (IETF), will become the standard for multi-channel enterprise applications in general, as users move to an industry-wide IP-centric converged communications architecture. Instant messaging and presence-enabled collaborative solutions based on SIP will merge the worlds of call center agents and other enterprise knowledge workers. RFG believes the affect SIP will have on real-time inter-human voice/data communications will be tantamount to what HTML did for Internet browsing and SMTP did for e-mail.

The use of speech applications will blossom in 2005 as interactive voice response (IVR) and speech technology vendors expand the offering of packaged or "shrink-wrapped" vertical market applications. The
complexity, difficulty, and risk involved in the development, implementation, and maintenance of high-quality applications have been the primary cause of the lack of progress in this area. New packaged speech applications offer proven benefits to users, and will likely be the key to the future widespread adoption of speech-enabled technologies. Enterprises will begin to capitalize on the advantages of proven packaged speech applications that can provide immediate benefits, while cutting the initial costs of speech applications by as much as 30 to 50 percent over custom-developed packages.

Pre-packaged solutions are less expensive and easier to deploy because much of the application foundation has been completed and the development costs are spread over a large number of companies. This mitigates much of the difficulty and expense of implementing custom speech implementations and will minimize the implementation risks to the enterprise. The structure of the speech application market will change dramatically as companies unable to absorb a great deal of up-front costs will easily be able to install sophisticated, pre-tested vertical market packages.

Mobile Computing

Technologies and issues surrounding wireless and mobile devices. Access technologies, including cable modems, dial modems, and DSL, as well as mobile commerce (m-commerce), wireless operating systems (OSs), and wireless pricing schemes.

Lead Analysts: John Stehman, Adam Braunstein

In general, all wireless services, including cellular and wireless local area networks (WLANs), will experience significant growth. Wireless Fidelity (Wi-Fi) compatible LANs will continue to penetrate the enterprise because of the mobility they provide and the declining hardware costs. At the same time, management of WLAN networks will continue to be problematic, especially proactive security management with forensic capabilities. As the number of users and access points (APs) grow, so will the potential for security problems, and IT executives will be forced to deal with this situation carefully. Consequently, proactive intrusion detection systems (IDS) and intrusion prevention systems (IPS) will see significant growth. Also, because of the sheer volume of information and the number of locations that must be monitored, security management companies such as AirDefense, Air Magnet, Bluesocket, and Vernier Networks will experience strong product sales. 802.11b products will finally be replaced with 802.11/b/g systems because of growing product availability, increased data throughput, and falling prices.

802.11a-based WLANs will also enjoy an increase in popularity, especially for those enterprises that must support many users per AP, require support for voice over WLAN (VoWLAN) services, or need greater bandwidth for bandwidth hungry applications. Although VoWLAN will not penetrate the enterprise to a large degree, it will appear in certain pockets and will also continue to achieve growth in the Healthcare and Retail environments.

Smart antennae, based on multiple-input, multiple-output (MIMO) technology, will become available later in 2005 to increase the coverage range and performance of 802.11 technologies by combining multiple antennae in a single package. MIMO technology will reduce the number of APs required in a wireless network and increase transmission and reception performance. However, for many enterprise environments, initial pricing may be out of reach until the semiconductor industry achieves mass production, thus making price affordable products. Still, the potential, positive impact on wireless budgets, especially for a three-year ROI, could be significant, and IT executives will consider this new technology as a part of their wireless planning strategy.
Wireless cellular networks will continue to offer improved coverage and data rates as the service providers rollout their new technologies. By the end of the year, higher speed cellular services will be available in most major metropolitan areas, and enterprise mobile users will seriously begin to consider using next generation (NG) services for data applications. If the purported cellular data rates are achieved, wireless cards for PCs and Notebooks will enjoy strong sales – especially if the providers price their data services attractively for enterprise users. However, wireless SLAs will still not be widespread, and enterprises will have to negotiate stubbornly for the required service levels needed to support data applications with the wireless providers during contract negotiations.

The hot spot market will also experience significant growth, but service profitability in 2005 is questionable. Still, companies like iPass, SBC, T-Mobile, and Wayport will continue to add new locations based on hopeful, future profit projections from the service. More enterprises will take advantage of the hot spot market – especially road warriors that must connect with the company intranet on a daily basis. RFG also expects more cellular providers to bundle hot spot access with their wireless network services to attract more enterprise client business.

Desktop and laptop PCs will be the primary interfaces enterprise users employ for general computing, as pricing has reached extremely desirable levels. Technologies including thin clients and wireless handheld devices will gain significant traction this year, however. RFG expects thin clients to remain a small minority of desktop solutions, with its approximate 20 percent annual growth continuing. Wireless handheld device growth will be much more robust this year, with shipments approaching 75 percent more than they were in 2004. Increased interest in the devices will be fueled by a combination of better price/performance characteristics from both device vendors and wireless carriers. IT executives should expect unlimited wireless data pricing to decrease this year as well.

Enterprises are increasing their spending on wireless e-mail, line of business, and vertical applications. While the expectations, metrics, and returns in wireless e-mail are easily comprehensible and attained several given years of success, best practices are somewhat harder to attain with other packaged applications such as customer relationship management (CRM) and sales force automation (SFA). Proper specifications for customized and internally developed applications are even harder to pin down. IT executives are advised to invest heavily in obtaining support, setting proper expectations regarding performance and functionality, and rationalizing return on investment (ROI) and return on valuation (ROV) performance indicators during the planning phase to prevent failures and disappointments. However, RFG believes enterprises will see mixed results in 2005, as they have in previous years.

Security will be a primary area of concern for all aspects of mobile computing in 2005, as risk mitigation requirements and problems related to malware, spyware, Trojan horses, and viruses become more pervasive and problematic on every user device. IT executives will need to incorporate security planning into all aspects of mobile device deployments. Furthermore, IT executives should view replacement cycles as opportunities to improve both policies and technologies through better access, authentication, encryption, enforcement, integration, and monitoring. Security requirements should be assigned based on application, data sensitivity, level of user mobility, and user role, and standardized tools and procedures should be used whenever possible to reduce management challenges and costs.
Operations

*Tools and methods for IT administration, and systems and network management.*

Lead Analysts: Michael Dortch, John Stehman

IT operations and business operations will become more closely intertwined in 2005. More and more IT executives will see closer alignment with business goals and requirements as ways of extending their value to their organizations. More and more non-IT executives, meanwhile, will realize how pervasive IT has become to enabling and sustaining successful business operations. These developments will lead to more attempts by IT and non-IT executives to work in closer harmony, efforts likely to meet with mixed but generally positive results at most organizations.

Enterprises will continue to seek ways to reduce costs and improve performance in the operations area – especially the network management and security administration segments. RFG believes security administration/management and wireless network management integration into existing network management infrastructures represent two of the critical items IT executives must address in 2005. In the security area, the ability to manage layered security environments effectively and proactively will remain an enterprise challenge along with stronger requirements for audit and forensic capabilities. In many cases, effective security will still require the use of multiple software tools to achieve the desired results. However, many IT executives will pursue those vendors and products that can provide a single dashboard view of their security network – at an affordable price.

Wireless network growth will require improved network management capabilities that can provide a strong forensic capability and proactively monitor the RF portion of the network to detect hackers and unauthorized access attempts. However, for the most part, wireless network management will not integrate tightly with existing management platforms, except on the alarm forwarding level using the Simple Network Management Protocol (SNMP). Because of the sheer volumes of information that must be analyzed and stored, wireless network management systems will require significant processing and storage capabilities. In addition, enterprises will finally begin to hire or designate subject matter experts (SMEs) to assume technology management functions in the operations area to support ongoing wireless communication initiatives.

Compliance

*A set of activities designed to ensure that a business meets its obligations under a variety of government regulations*

Lead Analysts: Adrian Bowles, Ron Exler

Compliance is a source of significant new requirements for IT. These range from governance, privacy, and security to environmental issues such as the proper disposal of toxic materials used in the manufacture of computer equipment.

In 2005, fear of SOX will be replaced by more fear of SOX. While the deadlines for Section 404 compliance were delayed, they were not eliminated, and many large firms are currently undergoing their first real 404 audits. As the results come in, enforcement actions will begin in Q1 of 2005. This is likely to result in a series of fines in the best case and arrests in the worst case. While RFG makes no predictions about specific criminal activity, the panic observed late in 2004 makes it a safe bet that at least some firms
will have holes in their processes and will be held up as examples of worst practices. This will lead to increased scrutiny throughout 2005, which will delay some new initiatives as IT attempts to bulletproof its processes instead of building new functionality.

The Health Insurance Portability and Accountability Act (HIPAA) will resurface as an issue for many health care providers and others handling patient information. Although the ripples from the first stage of HIPAA have died down, many firms are apparently unaware or unconcerned about the security provisions that go into effect in April 2005. This will become a major source of activity and is likely slow new development as budgets are reallocated to satisfy these compliance requirements.

Likewise, identity theft concerns will lead to more legislation in 2005, especially at the state level in the U.S. and perhaps even at the federal level. Such legislation will require specific information safeguards that not all enterprises have in place.

Environmental sensitivities will drive enforcement and strengthening of legislation that will continue to affect how enterprises are allowed to dispose of computer equipment. Furthermore, as costs of proper disposal rise in 2005, large enterprises will continue to look for ways to mitigate the disposal costs and/or risks, or recycle as well as lengthen the lives of hardware assets. Since less than five percent of all computer equipment is recycled, IT executives should look for the major hardware vendors to increasingly recognize this lost market opportunity. 2005 is likely to be the year that market awareness programs help to make this a value-added relationship program.

Risk Mitigation

Initiatives and technologies intended to reduce or eliminate operational business and/or technological risks, including regulatory non-compliance and inadequate governance.

Lead Analysts: Michael Dortch, Cal Braunstein

The mitigation of enterprise operational and technological risk will be a primary driver of many business and IT initiatives in 2005. As a result of this focus, non-IT executives leading efforts towards greater demonstrable governance and regulatory compliance, as well as those with fiduciary responsibility, will place IT under greater scrutiny. More enterprise senior management teams will realize that successful execution of such initiatives and responsibilities rely upon enterprise intellectual property that is created and/or managed with IT-based solutions. This should lead to greater demand for, and achievement of, closer IT-business alignment and, in some cases, higher levels of enterprise elasticity. It should also lead to an increase in IT risk management activity and, for some, an increase in or preservation of funding.

More alignment and elasticity will not be achieved with equal ease at all enterprises, however. Internecine conflicts and silo-oriented mentalities did not disappear in 2004, and will persist in many cases throughout 2005. However, those fomenting and sustaining such conflicts and views will themselves come under greater scrutiny, as more and more enterprises are able to demonstrate business benefits as a result of greater IT-business alignment fostered by increased focus on risk mitigation. Many IT solutions will also get better at showcasing how IT can and does help to mitigate both technological and business risks. Such solutions will achieve this goal in part by gaining more features that highlight the interdependencies between key business functions and supporting IT architectural and infrastructure elements.

As 2005 draws to a close, a slowly growing but significant number of enterprises will build upon successful IT-supported risk mitigation efforts to focus more on risk mitigation's close complement –
enablement of verifiable trust. The connections linking risk mitigation to trust enablement and verification, and to competitive advantages, will become more clear to more IT and non-IT executives. This will help move the perception of IT further up the business value chain at many enterprises, helping to preserve or increase IT budgets at some enterprises while shifting and expanding the roles of IT executives at others. However, most IT executives will continue to face myriad operational and tactical challenges, such as effective responses to, and integration of, outsourcing efforts pushed by various enterprise factions. Such challenges could slow progress toward greater enterprise elasticity, risk mitigation, and trust enablement.

Application Development

*Languages and technologies that enable the development of business applications. Included are application servers, development frameworks/tools, Internet-compliant technologies (HTML, Java, XML), legacy extension, middleware, programming languages, software components, and software development life cycle best practices.*

Lead Analysts: Ron Exler, Michael Lipham, and Adrian Bowles

In the coming year, vendors will increasingly offer 64-bit applications in addition to the same 32-bit applications. Development tools to facilitate this shift may also begin to emerge. Overall, 2005 will see a slight rise in application development, although this will be characterized by a slight lean toward Web applications for intranets and extranets rather than thick client.

In addition, development will, by necessity, further design for and integrate into the coding of several critical attributes: performance, portability, and security. This perspective started to take hold in 2004 as applications became viewed more holistically across the enterprise. The days of the isolated development team is over; now development must interact with business people and systems managers to ensure proper development, deployment, and maintenance of enterprise applications.

As the budget squeeze continues, application development tool suites that can help justify their contributions in business terms - such as Return on Investment (ROI) - will find favor over those that do not. Accordingly, portfolio management and prioritization functionality will be packaged with, or integrated into, application development toolsets.

Open source databases such as Computer Associates International, Inc. (CA) Ingres and MySQL AB MySQL will see greater adoption as organizations increasingly employ them for evaluation in non-critical roles environments. Additionally, if Microsoft SQL Server 2005 is actually released in 2005, customers may see another price war between Oracle and Microsoft.

Microsoft Corp. will release Visual Studio 2005 late next year, though it will have no effect on .Net's market share compared to the Java platform. However, vendors offering new development tools will continue to offer Eclipse plug-ins as a means for both cross-platform interoperability and cost reduction. Companies will look at MS SQL Server 2005 and reevaluate expensive Oracle contracts due to SQL Server improvements and storage capacity, as they did with SQL Server 2000.

Consolidation of development vendors will continue, with the largest vendors being the consolidators: BEA Systems, Inc., Borland Software, Corp., CA, Compuware Corp., IBM Corp., Mercury Interactive Corp., Microsoft, Oracle Corp., Serena Software, Inc., and Sun Microsystems, Inc. Some of these are likely to merge with one another as well. Oracle has already publicly stated interest in BEA, for example.
Tomorrow: "RFG Predictions for 2005 (Part Three of Three)"

Multiple RFG analysts contributed to this Research Note. Interested readers should contact RFG Client Services to arrange further discussion or interviews with the contributing analysts.