

IBM HIGHLIGHTS, 2000-2006

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February 2007

2000**Business Performance**

IBM revenue climbs to \$85.09 billion, two percent more than the year before, and net earnings of \$8.1 billion are five percent ahead of 1999. There are 316,303 employees and 664,291 stockholders at year end.

IBM handles 96 percent (400,000 a month) of its procurement invoices on the Web and online procurement saves the company \$377 million (up from \$270 million in 1999).

Organization

Samuel J. Palmisano becomes president and chief operating officer, and John M. Thompson becomes vice chairman.

IBM names Harriet P. Pearson as its first chief privacy officer to guide the company's privacy policies and practices, lead initiatives across IBM to strengthen consumer privacy protection and further the company's leadership efforts in those areas.

IBM forms a Life Sciences business unit to deliver leading-edge IT solutions for bio-technology, genomic, e-health, pharmaceutical, agri-science and other life sciences industries. The new organization brings together the company's strengths in such areas as e-business, supercomputing, data and storage management, data mining and knowledge management along with computational biology and parallel computing.

IBM acquires Aragon Consulting Group, a marketing research and strategy firm based in St. Louis.

IBM acquires OpenOrders Inc., a leading provider of enterprise-scale order management and fulfillment software for e-commerce.

Products & Services

IBM introduces the IBM eServer, a new generation of servers featuring mainframe-class reliability and scalability, broad support of open standards for the development of new applications, and capacity on demand for managing the unprecedented needs of e-business. The new servers feature technology from IBM's high-end servers applied across the entire product line, and include: the eServer zSeries -- the most reliable, mission-critical data and transaction server in the industry; eServer pSeries -- the most powerful, technologically advanced UNIX server; eServer iSeries -- the high performance, integrated business server for mid-market companies; and the eServer xSeries -- the affordable Intel-based server with mainframe-inspired reliability technologies.

IBM unveils the eServer zSeries 900, the first mainframe built from scratch with e-business as its primary function. The reinvented mainframe is built to handle the unpredictable demands of e-business, allowing thousands of servers to operate within one box. Along with the new design, IBM also introduces z/OS, a new 64-bit operating system.

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IBM announces the IBM eServer pSeries 680 -- code-named "Turbo" -- as the most powerful commercial server in history. Built on the award-winning RS/6000 S80 design, the p680 immediately captures eight major performance benchmark records using up to 24 copper microprocessors with IBM's breakthrough Silicon-on-Insulator (SOI) technology.

The company reports that it has reached a new milestone in server sales with the shipment of the 1,000th RS/6000 S80 server just four months after its product launch. Six months later, IBM announces "Blue Hammer," the world's most powerful UNIX cluster system dedicated to Web-based commerce, to bring the comprehensive management capabilities of IBM's industry-leading supercomputers to its top-performing RS/6000 S80 enterprise server.

IBM debuts a commercial version of ASCI White -- the most powerful supercomputer in the world. The new RS/6000 SP system uses performance-enhancing copper microprocessors, silicon switching technology and advanced software to provide e-businesses with the unmatched processing speed, scalability and reliability needed for demanding e-commerce applications. Also introduced is the RS/6000 44P Model 270, the world's fastest 4-way Web Server. The first entry UNIX server to implement performance-enhancing copper technology, the Model 270 is ideal for running sophisticated e-commerce applications as well as general business applications used by small- and medium-sized companies. Complementing the Model 270, IBM also rolls out the RS/6000 44P Model 170 uniprocessor system. The Finnish academic supercomputing center -- CSC -- selects an ultra-powerful IBM RS/6000 SP system as its next generation supercomputer for the Ministry of Education. Upon installation, the IBM system will be the most powerful commercial supercomputer in Europe. IBM reports that its next generation RS/6000 SP system with DB2 Universal Database Version 7.1 set a new record for business intelligence performance in the TPC-H benchmark, easily beating the previous record at a price/performance ratio three times better than the competition.

IBM begins volume shipments of the new line of AS/400e servers powered by the world's first production microchips made of silicon-on-insulator transistors and copper wiring.

The IBM IntelliStation Z Pro NT-based workstation is announced in January, demonstrating IBM's ability to support companies integrating both UNIX- and Windows NT-based workstations in heterogeneous environments. Complementing the new IntelliStation, IBM offers the T56A 15-inch Thin Film Transistor flat panel monitor and the P96 19-inch cathode ray tube monitor. Five months later, IBM rolls out the IntelliStation M Pro and Z Pro, affordable NT computer workstations for tackling complex digital design projects. And four months after that, the company announces the IntelliStation E Pro workstation to deliver workstation power for the price of a PC, along with new models of the IntelliStation M Pro and Z Pro.

IBM introduces in March the Netfinity 7100 and 7600 four-way servers built for Windows 2000 and which leverage IBM's X-architecture Super Server technologies. That same month, IBM and Microsoft announce a new Internet appliance -- the IBM Netfinity A100 -- using an operating

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system based on Windows 2000 technologies for Web hosting and serving. One month later, IBM debuts new Netfinity thin servers designed to deliver the highest computing power per square foot on Intel based platforms. With the new offerings, known as the 4500R and 6000R, IBM now provides the industry's most complete rack optimized server product line for Linux, Windows and Novell operating systems.

IBM announces the world's most powerful Intel-based server, the 64-processor NUMA-Q E410, along with the industry's most affordable technology-leading two-way server, the Netfinity 3500 M20.

IBM says in March that the US. Commerce Department has approved the sale of a special series of secure IBM PC 300PL and IntelliStation PCs with 256-bit digital key decryption and management capabilities to businesses, organizations, governments and people around the world. The following month the new low-cost desktop IBM PC 300, the company's smallest, is introduced.

In IBM's most dramatic and significant rollout of desktop technology since the Personal Computer of 1981, the company announces in March the NetVista brand of new personal computing devices, including next-stage PCs, Internet access devices and thin clients. Among the products introduced are the NetVista All-in-One high performance device, NetVista Legacy-Free PC, NetVista Internet Appliance, and NetVista Zero Footprint Thin Client. Two months later, IBM announces the All-in-One NetVista X40 and S40 which extend the classic ThinkPad design to the desktop. The company broadens its NetVista family of desktop business computers in June with the A20, A40 and A40p models. It launches the NetVista A20i, A20m, A40i, A20 and A40 systems to round out the NetVista brand of desktop computer devices in September, and announces the NetVista A60i desktop computer in November.

IBM announces the ThinkPad X series, the ultraportable full-featured notebook computer slimmer than a deck of cards and lighter than a half-gallon of milk.

In October, IBM introduces the eServer xSeries 330, the industry's first 1 Ghz thin server and the first web application server in the IBM eServer family. A few days later, it launches a new line of eServer appliances, including the xSeries 130 and 135, two speedy web-hosting appliance servers; xSeries 150, a storage appliance with scalability up to 1.7TB; iSeries 400 model 270 and model 820, two Lotus Domino server appliances. And in November, the company announces the eServer x200 and x220, two servers designed for small and medium businesses.

IBM ships 73 percent more terabytes of storage than in 1999, increasing shipped disk storage to more than 11,000 terabytes in 12 months. Combined, all IBM "Shark" enterprise storage servers worldwide hold more than seven petabytes of data, roughly equal to the printed text of 700 U.S. Libraries of Congress.

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The company launches a new technology initiative, code-named “Storage Tank,” to deliver storage networking, i.e., a universal storage system capable of sharing data across any storage hardware, platform or operating system. In March, IBM announces two products that set world records for data storage: the Deskstar 75GXP, holding 75 gigabytes (GB) of data, and the Deskstar 40GV, holding 40 GB and setting a new areal density record of 14.3 billion bits per inch. The next month, IBM introduces the world’s most versatile, highest capacity notebook computer hard disk drives and the first with built-in features designed to deliver smoother, more lifelike video images. The new offerings include the Travelstar 32GH, 30GT and 20GN. IBM reports in August that it is the first company to ship products based on a breakthrough industry standard technology for tape storage. Using IBM’s Linear Tape-Open Ultrium products, customers can store information with up to twice the capacity and speed and about the same cost of existing competitive technology.

IBM begins to market new disk storage systems to original equipment manufacturers (OEM). The new offerings include Windows NT and UNIX storage server solutions and network attached storage (NAS) appliances. The new solutions incorporate industry-leading RAID controllers from Mylex Corporation, which was acquired by IBM in 1999 to strengthen IBM’s NT and UNIX attached storage offerings, as well as its storage area network and NAS solutions portfolio. The first product to debut from the marketing initiative is the IBM ProFibre Storage Array, about the size of a briefcase and capable of storing the contents of a large academic research library.

IBM introduces the new IBM Network Station Windows-based Terminal, designed for customers who want a fast, simple way to access Windows applications and other server-based applications while enjoying thin-client benefits; triples its line of space-saving Thin Film Transistor flat panel monitors by offering the IBM T54A, T74A and T86A; and announces the T84H hybrid monitor, an 18-inch flat panel monitor to process both analog and digital signals.

In April, IBM rolls out the Web-ready Infoprint 21 workgroup laser printer, which allows users to print documents stored on the Internet or a local hard drive without having to open a single file. Five months later, IBM announces the Infoprint 12 desktop laser printer for small and home office environments. Also in 2000, IBM introduces Infoprint Color 130 Plus, breakthrough color printing technology that bridges the gap between transactional statements and personalized color graphic printing applications for commercial and corporate print shops, and brings to market the IBM 4400 series, a new family of thermal printers designed to enhance supply chain operations.

IBM announces a \$1 billion commitment to data management leadership and B2B transactions and introduces DB2 Universal Database Version 7 -- the only database in the industry to fully integrate e-business, business intelligence and content management capabilities. During the year IBM introduces WebSphere Commerce Suite version 4.1 and WebSphere Commerce Studio, e-commerce software to help companies move to the next generation of e-business; WebSphere Transcoding Publisher, new software that dynamically translates Web information, including text and images, to a format readable on a variety of Internet appliances; and WebSphere Commerce

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Suite, Marketplace Edition as the first software to enable businesses to create online marketplaces that interact with handheld devices such as mobile phones, PDAs and pagers.

IBM introduces Linux software and services for the S/390 enterprise server. In November, the company announces the IBM Small Business Suite for Linux -- including DB2 Universal Database, WebSphere Application Server and Lotus Domino -- the first Linux-based integrated software solution for small businesses.

In March, IBM unveils the IBM Content Manager, a first-of-a-kind offering to help companies manage the exploding amount of digital information facing organizations in the e-business world. Content Manager, based on DB2, sits at the heart of some of the world's largest media collections, including the Dutch National Library, the National Palace Museum in Taiwan, the Vatican Library and the State Hermitage Museum in St. Petersburg, Russia.

IBM introduces ViaVoice for Windows, Release 8.0, a family of voice recognition software.

In building and managing the technology infrastructure for the Sydney 2000 Olympic Games, IBM turns in a Gold Medal performance. The official Games Web site, powered by IBM, handles unprecedented Internet traffic with 11.3 billion hits, a 1,700 percent increase over the Nagano Games official site in 1998. More than 13 million lines of software code are written and thoroughly tested before the Games begin. Nearly 6,000 people provide technology support for 300 medal events in 37 sports competitions held in 39 venues. More than 7,300 IBM PCs and ThinkPads are connected to the Olympic Games information technology network, 540 Netfinity Servers support the Games Management System by storing massive amounts of data, 50 IBM RS/6000 PC and three RS/6000 SP servers manage and organize data generated by Olympics.com and an intranet system, and three S/390 Parallel Sysplex power the Central Results System.

IBM Global Services adds hosted storage and storage management to its portfolio of network-delivered services.

Texaco awards a five-year, \$100 million to IBM Global Services to be its primary information technology (IT) service provider. Aventis, a leading life sciences company, and IBM sign a ten-year, \$1.5 billion global IT services agreement under which IBM will manage and run core elements of Aventis' IT operations. IBM reports that it will provide IT services to The New Power Company, a new energy services company launched by Enron Corporation, under a ten-year agreement valued at up to \$1.5 billion. In one of Europe's largest outsourcing agreements, The Bank of Scotland awards IBM a ten-year, \$1 billion contract to manage and operate the Bank's IT infrastructure. IBM announces a 15-year, \$1 billion global technology services agreement with mg technologies ag, an IT company. Westpac Banking Corporation selects IBM to supply its IT services for the next ten years in a \$2.3 billion agreement. IBM and Xcel Energy, one of the 10 largest utilities in the United States, announce an 11-year strategic relationship to strengthen the latter's technology infrastructure while cutting IT costs in 12 states. The total value of the relationship now exceeds \$1.2 billion.

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During its six days of coverage, the Official GRAMMY Webcast, designed and hosted by IBM, registers 119 million hits, 9.6 million page views and two million visits. More tennis fans than ever before enjoy a “virtual seat” at the world-famous Wimbledon tennis Millennium Championships, recording 2.3 billion hits on the IBM-designed and delivered official Web site. IBM builds and hosts the official American Theatre Wing’s Tony Awards Web site. Weather.com, one of the top 25 Web sites, announces that it will use IBM technology and services to serve its massive volume of maps and images on the popular Linux operating system.

IBM solutions, including the Netfinity 4000R servers, will become part of the Internet infrastructure for weather.com, The Weather Channel Web site and the world’s leading source of Web-based weather information.

Edison Schools Inc., the leading U.S. private manager of public schools, selects IBM to help build a new model for technology in schools. IBM will provide Edison with a technology solution, including Netfinity Servers, IBM NetVista Desktops, ThinkPads, network infrastructure and Tivoli enterprise network management software for its rapidly growing national network of K-12 schools.

The company introduces IBM Insight at School, a new business intelligence solution for the K-12 market, which provides schools with the technology, consulting and services that will help them make more informed decisions to improve the learning process.

IBM announces the establishment of a \$500 million global fund to significantly enhance its Net Generation financing program and expand the company’s support to fast-growing business-to-business Internet companies. It introduces Home Page Reader 3.0 for Windows, a low-cost, easy-to-use talking Web browser allowing many visually impaired and blind users to buy, sell or trade on the Web for the first time. IBM sells its information services extended directory assistance solution to, and retains an equity interest in, Information Services eXtended, Inc., a new company formed by Spencer Trask Intellectual Capital Company LLC.

Alliances

IBM and retail industry applications leader Retek announce an expansion of their strategic alliance to produce significant benefits for the worldwide retail industry while generating revenues of more than \$1 billion by 2003 for the two companies.

IBM joins with Microsoft, Avaya, Arthur Andersen and Hanny Holdings to launch Enfrastructure Inc., the first full-service infrastructure and technology provider.

IBM China Company Limited and China Great Wall Shenzhen Co., Limited announce the formation of Beijing GKI Electronics Co., Ltd. as a joint venture to provide advanced printed circuit board assemblies to Nokia joint venture companies.

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Hitachi, IBM, LG Electronics, Matsushita Electric (Panasonic), Nortel Networks, Seagate Technology, Solectron and Toshiba, along with technology partners Ariba and i2 announce the creation of e2open.com, an independent, global business-to-business e-marketplace for the computer, electronics and telecommunications industries.

Bank of America, The Chase Manhattan Bank and IBM form Viewpointe Archive Services, a new check image archive company to provide Web-based check imaging.

IBM acquires equity in Structural Bioinformatics, Inc., the company's first equity investment in a life sciences business.

Science & Technology

For the eighth consecutive year, IBM receives the most U.S. patents, some 2,886 in all and 850 more than the closest competitor.

IBM is awarded the 2000 U.S. National Medal of Technology for the company's record of innovation in storage technology. This marks the seventh time that IBM and its scientists have received the nation's highest award for technological innovation, more than any other company or organization.

IBM scientists say they have discovered a way to transport information on the atomic scale that uses the wave nature of electrons instead of conventional wiring. This new phenomenon, called the "quantum mirage" effect, may enable data transfer within future nanoscale electronic circuits too small to use wires.

IBM's Almaden Research Center develops the world's most advanced quantum computer and scientists demonstrate that such devices can solve problems that are impossibly hard for conventional computers.

Company researchers demonstrate breakthrough results in developing a new family of experimental high-speed computer circuits that run at test speeds up to five times faster than today's top chips. The new circuits employ an innovative design called "Interlocked Pipelined CMOS" to reach speeds of 3.3 to 4.5 billion cycles per second using conventional silicon transistors.

IBM reports that it has developed a new method for building microchips that can deliver up to a 30 percent boost in computing speed and performance. The new technique uses a material known as a "low-k dielectric" to shield millions of individual copper circuits on a chip, reducing electrical "crosstalk" between wires that can hinder chip performance and waste power.

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IBM begins production of powerful new microchips for servers, communications equipment and pervasive computing products, using the most advanced chip-making technology ever developed. The new technology -- named CMOS 9S -- unites for the first time IBM innovations in copper wiring, silicon-on-insulator transistors and improved, "low-k dielectric" insulation to build chip circuits nearly 800 times thinner than a human hair.

Scientists in IBM laboratories in New York and California combine nanotechnology with chemistry to make a radically new class of magnetic materials that may allow future computer hard disks and other data systems to store more than 100 times more data than current products.

IBM, Infineon Technologies, and UMC announce plans to jointly develop advanced technologies for use in the production of logic chips with circuit sizes from 0.13 to 0.10 micron. IBM says it is developing a series of chips based on InfiniBand technology to help link multiple computer systems and peripherals such as hard drives to work together as a single high-performance server.

IBM researchers unveil IBM Memory eXpansion Technology that doubles the memory capacity of computer servers, a breakthrough that could save Internet Service Providers and other large technology installations millions of dollars.

IBM announces an initial \$100 million investment to develop information technology solutions and partnerships to enable the breakthrough work being conducted to interpret the complex genetic code. IBM and NuTec Sciences, Inc., report they are building the world's largest commercial supercomputer -- a 7.5-teraflop computing cluster -- which NuTec will use to investigate how genes interact in the human body to cause life-threatening diseases.

Scientists from IBM, Compaq and AltaVista compete the first comprehensive "map" of the World Wide Web and uncover divisive boundaries between regions of the Internet that can make navigation difficult.

IBM ships the world's clearest computer display -- 12-times sharper than current displays -- ten years sooner than thought possible.

Facilities

IBM makes the largest capital investment in its history -- \$5 billion -- and announces plans in October to build the world's most technologically advanced chip-making facility in East Fishkill, New York. The new \$2.5 billion facility will combine for the first time anywhere IBM chip-making breakthroughs such as copper interconnects, silicon-on-insulator and low-k dielectric insulation on 300mm wafers. Planned to begin operations in late 2002, the new facility will add 1,000 new jobs as it reaches full production the following year.

That same month, IBM announces plans to invest \$300 million to build an organic chip packaging manufacturing facility in Shanghai, China, to support the company's growing semiconductor business.

Corporate Citizenship

IBM contributes more than \$126 million to programs around the world that help people in need. Individual employees add another \$49 million through matching grants and donations to nonprofit organizations and educational institutions and volunteer 4 million hours of their time to a broad range of local issues.

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Business Performance

IBM's revenue is \$85.9 billion, a decline of two percent from 2000, and net income is \$7.7 billion, down 4.9 percent from the year before. There are 319,876 employees and 673,967 stockholders at year end.

Organization

IBM acquires CrossWorlds Software, Inc., a leading provider of software to automate business processes that integrate multiple applications. The acquisition further strengthens IBM's business in the fast-growing e-business infrastructure software segment.

IBM acquires Mainspring, a digital business strategy consulting firm in April, and the assets of Informix Software -- the database business of Informix Corporation -- in a cash transaction valued at \$1 billion in July.

Nextant, a leading technology and consulting firm in the energy field, purchases IBM's Chem Systems business unit.

Products & Services

The company reports that it has nearly doubled the mainframe's ability to process highly secure Internet transactions, and says the IBM eServer z900 is the first server to achieve a record 3,850 transactions per second. IBM ships its 1,000th IBM eServer z900 on September 24 to Boscov's, the largest family-owned department store company in the United States.

In October, IBM announces the eServer p690 ("Regatta") as the world's most powerful UNIX server, crowning a five-year effort to deliver a new class of UNIX system that incorporates microprocessor breakthroughs and mainframe technologies. When tackling the most complex problems, multiple p690 servers can be linked together to create supercomputers powered by more than 1,000 processors. Later in the month, IBM reports that "Regatta" sets a world record for processing speed on the important Fluent engineering benchmark. The company begins shipping "Regatta" in volume in December.

The company announces the IBM eServer p660 Model 6M1, the world's most powerful midrange server. In October, it introduces the IBM eServer p610 as the world's most powerful entry server, a two-way UNIX system that provides industry-leading performance, wireless manageability features and advanced self-healing technologies.

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World Access, a global provider of telecommunications services, purchases the largest-ever IBM eServer iSeries system -- the eServer i840 -- to process billings for more than 100 million telephone calls per day.

The Personal Systems Group says it will use “self healing” technology in an online customer service infrastructure to diagnose and resolve common information technology (IT) problems.

IBM unveils plans for the eServer x430, a powerful 64-way server designed to bridge the gap between smaller Intel-based platforms and the mainframe. The x430 will be the first enterprise server designed to take full advantage of the new Linux Application Environment. ... The company rolls out the eServer x250 (4-way), eServer x350 (4-way) and the eServer x370 (8-way), all with the new Intel 900 MHz Pentium III Xeon processors. ... Also introduced are the IBM eServer xSeries 300, a powerful and affordable thin (1.75-inch) server and a new series of server appliances to provide up to a fivefold increase in the speed of delivering Web content to end users. ... IBM debuts the IBM eServer x380, IBM’s first Itanium-based server, which, with new IntelliStation Z Pro workstations, will form a new Linux supercluster at the National Center for Supercomputing Applications. ... In June, IBM announces eServer xSeries 232 and 342 that include intelligent management features to support IBM’s Project eLiza initiative, a multi-billion dollar program aimed at creating a realm of self-managing servers requiring little or no human interaction. The new systems offer small and medium businesses access to mainframe and self-healing technologies at entry-level prices. ... In August, the company introduces the IBM eServer x200VL, the industry’s most powerful small business server, along with the x200 and x220.

With the IBM eServer Cluster 1300, the company introduces the industry’s first prepackaged Linux clusters integrating best-of-breed components into a single, easy-to-order and -deploy package. The Cluster includes the IBM eServer x330, the industry’s most powerful thin server, and the x342.

IBM rolls out its first Intel-based servers featuring the IA-32 Intel Xeon Processor MP (“Foster” MP) and incorporating IBM’s Enterprise X-Architecture. The new eServer x360 marks the debut of IBM’s XA-32 core chip set (code named “Summit”) that features IBM’s most advanced Copper Chip and Silicon-on-Insulator breakthroughs and mainframe-inspired technologies to help customers consolidate scores of Intel servers and reduce total cost of ownership. The company begins shipping the new server in December.

IBM becomes the first vendor to offer an all-wireless line of products and services to make it easier for companies to extend their business to mobile devices. Included in the move are IBM’s lines of ThinkPad notebook computers, pervasive devices and servers; software, support and services to give customers mobile access to critical applications in the office, on the road or anywhere in between; and programs to enable IBM’s network of 90,000 business partners to sell and develop wireless solutions.

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IBM announces a new rack-mounted computer workstation -- the IntelliStation R Pro -- and the flat-panel T210 monitor that help free up space and reduce energy and maintenance costs on cramped financial trading floors. ... In addition, the company rolls out the IntelliStation M Pro, using microprocessors based on IBM's copper chip technology for improved 3D performance.

IBM's desktop product launches in 2001 include: the NetVista A20 and A20i ... NetVista A60 and A60i ... the NetVista X40 and X40i all-in-one desktop PCs, along with a new wireless keyboard and mouse ... new NetVista A60 and A61 systems featuring Pentium 4 processor speeds of up to 1.7GHz ... the new NetVista A21 ... the NetVista M series, focusing on maximizing performance and stability ... an upgraded NetVista A series ... and an improved NetVista X series. ... In October, IBM announces the most comprehensive set of changes to its lineup of NetVista thin clients in more than two years, creating a new suite of products that leverage the Linux operating system. Included in the announcement are two new thin client devices -- the NetVista N70 and the NetVista N2200 Thin Client Linux Express.

IBM's notebook product launches in 2001 include: the ThinkPad A21e essentials model -- an affordable commercial notebook for budget-conscious businesses ... ThinkPad i Series 1200 and 1300 wireless notebook models ... the ThinkPad A22m and A22p, offering many of the capabilities of a desktop workstation with the flexibility of a mobile PC ... the ThinkPad T22, with the latest technology in a thin and light form ... the ThinkPad X21, featuring low voltage Intel processors and nearly five hours of battery life ... a new ThinkPad R series line (R30) ... a new ThinkPad A series (A30) ... an improved ThinkPad X series (X22) ... and the refreshed ThinkPad T series (T23).

IBM announces the general availability of the ThinkPad TransNote, the world's first portfolio notebook combining a mobile computer with a digital notepad and featuring one of the industry's most radical design changes since the clamshell.

IBM introduces a new line of workgroup printing solutions, including the Infoprint 1120, 1125, 1130, 1140 and 1145 printers. The company also announces the IBM Infoprint 4100 family as the next generation of high-speed continuous-form printers, and the Infoprint 1116, a 16-page-per-minute, entry-level laser printer.

The company unveils the T220, the world's highest resolution flat panel monitor, with a 22.2-inch screen that shows 12-times more detail than current monitors.

IBM announces a new portfolio of products and technology to lead the industry's rapid migration to open storage networking. Included in the announcement are the industry's first open NAS Gateway -- IBM Total Storage Networked Attached Storage 300G -- which allows Local Area Network-based clients and servers to easily interoperate with an existing Storage Area Network; and the IBM TotalStorage IP Storage 200i, a high-performance, low-cost iSCSI storage appliance connecting users to pooled storage on a network using Internet protocols.

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IBM rolls out a comprehensive lineup of new storage networking products, including: IBM TotalStorage NAS 200, a tower (one processor and up to 216 GB) or rack (two processors and up to 1.74 GB); TotalStorage NAS 300, designed for mission critical applications; and TotalStorage NAS 300G, to bridge the gap between local area network and a storage area network.

IBM becomes the first storage vendor to offer mainframe customers a Fibre Channel-based connection (FICON) to their high-end disk systems. FICON provides peak data transfer rates almost six times faster than the current ESCON technology employed by competitors. In addition, the company rolls out the Model B20 and Model B10 of IBM's TotalStorage Virtual Tape Server that for the first time incorporate IBM's patented copper chip technology.

In October, IBM announces an array of storage networking products for mid-market customers, including a new storage server -- the IBM TotalStorage Fibre Array Storage Technology 700 Storage Server -- and enhanced network attached storage and Internet protocol storage products designed to provide increased scalability and performance.

IBM says that it will deliver the broadest portfolio of Linux storage products in the industry, including high to low end disk and tape systems.

The company is the first to mass-produce computer hard disk drives using a revolutionary new type of magnetic coating that is expected to eventually quadruple the data density of current hard disk drive products. Key to IBM's data storage breakthrough is a three-atom-thick layer of ruthenium, a precious metal similar to platinum, sandwiched, like "pixie dust," between two magnetic layers. In November, IBM introduces Deskstar 120GXP, the industry's lowest-power consumption 3.5-inch desktop hard drive with a 120 GB capacity and performing at 7200 rpm; and the Travelstar 60GH and Travelstar 40GN family.

IBM announces the availability of z/OS, a new self-managing 64-bit operating system for the IBM eServer z900. z/OS features Intelligent Resource Director, an exclusive IBM technology that makes the z900 the only server capable of automatically reallocating processing power to a given application on the fly.

IBM says its middleware software portfolio will capitalize on the company's new eServer p690 ("Regatta") to deliver an e-business infrastructure solution offering the highest speed connections in the world running on a UNIX system.

IBM announces the availability of the Globus Toolkit for IBM eServer systems. The Toolkit is the middleware that joins large numbers of disparate servers into huge mega-computers, allowing application developers to create computer Grids in which users share supercomputing power, data and applications via the Internet.

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IBM launches WebSphere Translation Server software to help remove language as a barrier to global communication and e-commerce by enabling businesses to provide real-time Web pages, e-mail and chat conversations in multiple languages. ... The company announces WebSphere Commerce Suite Version 5.1, new e-commerce software to cut through the complexities and costs of selling goods across borders and cultures. ... IBM unveils WebSphere Technology For Developers as the industry's first software for Web services. ... IBM introduces WebSphere Version 4 software, the first in the industry to fully address a fundamental shift in the e-infrastructure market, where one-size-fits-all software has become obsolete.

The company introduces IBM Director, a systems management software solution which includes an advanced self-healing computer feature called Software Rejuvenation to automatically reduce server downtime by predicting and repairing software failures before they happen.

IBM announces the worldwide availability of iSeries Connect, an integrated software product to help small to mid-sized customers link their businesses to expanding global e-marketplaces. Two months later, the company also announces across-the-board support of open Internet standards for its infrastructure software to provide businesses with new levels of connectivity on the Web and new software capabilities to exploit that connectivity.

CommerceQuest becomes IBM's 10,000th DB2 Universal Database licensee.

IBM Microelectronics announces a new family of chips -- the IBM PowerPC IAP (Internet Appliance Platform) -- that is expected to help launch a wave of lower-power Internet-attached consumer electronics.

IBM unveils 30 new Web-hosting services to meet growing market demand, and Web-hosting contracts exceed \$1 billion during the first half of the year.

IBM is selected by a consortium of four U.S. research centers in August to build the world's most powerful computing Grid, an interconnected series of Linux clusters capable of processing 13.6 trillion calculations per second. The Grid system -- known as the Distributed Terascale Facility -- will enable thousands of scientists around the United States to share computing resources over the world's fastest research network in search of breakthroughs in life sciences, climate modeling and other critical disciplines. That same month, IBM is selected to partner with several centers in the U.K. National Grid to link a massive network of computers throughout the United Kingdom, leveraging the company's expertise in scalable servers and storage, open standards, self-managing technologies, services and e-business software.

The Recording Academy and IBM launch the 43rd Annual GRAMMY Award Webcast. ... For the sixth consecutive year, IBM produces and hosts the 2001 Masters Tournament Web site, including, for the first time, wireless access, Internet radio and expanded remote camera coverage with streaming video. ... IBM builds and hosts the Tony Awards Web site in partnership with

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Tony Award Productions. ... NHL.com, the official Web site of the National Hockey League, decides to run its Web site on IBM Linux systems as part of an overall site improvement plan.

As part of the company's Project eLiza -- a multi-billion dollar program to develop self-managing systems that reduce the cost and complexity of the IT infrastructure -- IBM delivers the industry's first services to automate key e-business processes that predict, identify and intercept problems on a real-time basis; a partner program in which major IT vendors and customers develop a road map for advanced e-business technology; and new technologies for IT security and management, including software from Tivoli.

IBM announces a worldwide initiative to align its extensive safety and security offerings within an expanded IBM Global Services Practice and to create a new corporate-level Global Solutions Office to address broader and emerging safety and security issues in industry, global commerce and society.

IBM offers IBM StartNow Wireless Solutions to help small and medium businesses connect a mobile work force to corporate data.

AstraZeneca, one of the world's largest pharmaceutical companies, signs a \$1.7 billion, seven-year, outsourcing agreement with IBM. The agreement covers the provision of IT infrastructure services to 45 countries, and is the largest of its kind in the pharmaceutical industry.

IBM and Carrier unveil a new wireless remote monitoring and control service called "Myappliance.com" as the first Web-enabled air conditioner that wirelessly communicates in real time with other devices, such as mobile phones and PCs. The new service will be built on an e-infrastructure supported by IBM services, software and hardware.

Building on a 20-year relationship, IBM and J. D. Edwards form an alliance to jointly sell and market collaborative commerce solutions to selected markets and accounts within the public sector and the wholesale distribution industry.

Using IBM technology and the new IBM NetVista Internet Appliance, crew members on Royal Caribbean International's newest ship, *Radiance of the Seas*, receive onboard access to e-mail, Internet and productivity applications.

Alliances

IBM, Hitachi, Ltd., and its wholly-owned subsidiary, Hitachi Data Systems, announce a strategic technology agreement to extend interoperability between the companies' storage servers and allow customers to more easily deploy open storage networks.

Pfizer, Microsoft and IBM form a new independent company -- Amicore -- to develop software and services for physician practices.

2001

IBM enters an alliance with Internet HealthCare Group to provide IHCG's partner companies with IBM information technology.

IBM and LSI Logic Corporation complete a technology licensing agreement to accelerate the integration of high performance digital signal processor capability into custom chips for next-generation networking equipment, wireless handsets and other advanced communication products.

IBM and eBay Inc. form a strategic software, sales and marketing alliance.
IBM and MDS Proteomics form an alliance to speed drug development for a wide range of diseases.

IBM and Trilogy establish an alliance to jointly market and deploy e-business and channel management solutions to Global 2000 companies in the financial services and automotive industries.

ALLTEL and IBM form a joint venture to provide Corebank, a continuous real-time core banking system to European financial services organizations.

IBM and NeTune Communications launch an alliance that includes an IBM equity investment in NeTune, a \$112 million outsourcing agreement and a commitment to jointly develop digital solutions for the entertainment industry.

IBM and Financial Fusion agree to jointly offer Global 1000 financial institutions in North America a broad suite of e-business services and solutions for online retail banking and capital markets.

MCNC, a nonprofit corporation, and IBM announce they will collaborate on one of the first computer Grids in the United States to offer computing, data storage and networking resources for life sciences research. The new Grid system will be accessible to thousands of researchers and educators throughout North Carolina to help accelerate the pace of genomic research.

Science & Technology

For the ninth consecutive year, IBM is awarded the most U.S. patents -- with a record 3,411 -- for a 20 percent increase over its previous record set in 2000. This achievement makes IBM the first patent holder to be granted more than 3,000 U.S. patents in a single year.

IBM scientists develop a breakthrough transistor technology that could lead to the production of a new class of smaller, faster and lower power computer chips than are now possible with silicon. They build the world's first array of transistors out of carbon nanotubes -- tiny cylinders of carbon atoms that measure as small as 10 atoms across and are 500 times smaller than today's silicon-based transistors.

2001

The U.S. Government dedicates ASCI White, the world's fastest supercomputer at the Lawrence Livermore National Laboratory in California. ASCI White, an IBM system, covers a space the size of two basketball courts and weighs 106 tons. It contains six trillion bytes (TB) of memory, almost 50,000 times greater than the average personal computer, and has more than 160 TB of IBM TotalStorage 7133 Serial Disk System capacity -- enough to hold six Library of Congress book collections.

IBM and the Department of Energy's Lawrence Livermore National Laboratory announce they will jointly design a new supercomputer in the Blue Gene family. Called Blue Gene/L, the

machine will be at least 15 times faster, 15 times more power efficient and consume about 50 times less space per computation than today's fastest supercomputers.

The U.S. National Center for Atmospheric Research selects IBM to provide the world's powerful supercomputer for predicting climate changes. Code-named "Blue Sky," the system will be powered by IBM's SP supercomputer and IBM eServer p690 systems, and is designed to achieve a peak speed of seven trillion calculations per second with 31.5 trillion bytes of IBM SSA disk storage.

IBM and The National Center for Supercomputing Applications (NCSA) at the University of Illinois announce that NCSA will install two IBM Linux clusters, creating the world's fastest Linux supercomputer in academia. The clusters will have two teraflops of computing power and will be used by researchers to study fundamental scientific questions, such as the nature of gravity waves first predicted by Albert Einstein.

NASA astronauts on *Atlantis* and *Discovery* shuttle missions successfully store and bring back digital images on IBM's award-winning one-gigabyte, one-inch IBM Microdrive.

IBM researchers discover a new process for manufacturing computer displays that can vastly improve screen quality and viewing angles while saving manufacturers millions of dollars.

IBM achieves a breakthrough method to alter silicon -- the fundamental material at the heart of microchips -- which is expected to boost chip speeds by up to 35 percent. Called "Strained Silicon," the technology stretches the material, speeding the flow of electrons through transistors to increase performance and decrease power consumption in semiconductors.

Scientists at IBM's Almaden Research Center perform the world's most complicated quantum-computer calculation to date. They cause a billion-billion custom-designed molecules in a test tube to become a seven-qubit quantum computer to solve a simple version of the mathematical problem at the heart of today's data security cryptographic systems.

2001

IBM builds the world's fastest silicon-based transistor using a modified design and IBM's proven silicon germanium technology to reach speeds of 210 GigaHertz while drawing just a milliamp of electrical power. The new transistor will drive communications chips to speeds of 100GHz within two years -- five times faster and four years sooner than recent competitive approaches.

IBM scientists make a "voltage inverter" -- one of the three fundamental logic circuits that are the basis for all current computers -- from a carbon nanotube, a single tube-shaped molecule of carbon atoms that is 100,000 times thinner than a human hair.

IBM and the Korea Institute of Science Technology and Information agree that IBM will provide one of the 10 largest supercomputers in the world -- capable of 4.24 trillion calculations per second -- for use in Korea's life science and high performance research efforts.

IBM unveils the IBM PowerPC 405LP, the first of a family of chips capable of ultra-low-power operation and ideal for battery-powered portable consumer electronic devices.

Sony Computer Entertainment Inc., IBM and Toshiba Corporation announce plans to research and develop an advanced chip architecture for a new wave of devices in the emerging broadband era.

IBM joins the Extreme Ultra Violet LLC industry consortium to support the development of EUV lithography technology which would allow semiconductor manufacturers to etch circuit lines smaller than 0.1 micron.

IBM researchers disclose advances in the development of an alternate type of transistor that could lead to major semiconductor improvements. Called a "double-gate" transistor, the device can carry twice the electrical current, operate at twice the speed and be reduced in size well below conventional transistors.

IBM and the U.S. Department of Energy's Oak Ridge National Laboratory agree to research and develop advanced computer architectures to increase the understanding of diseases. At the heart of the agreement is IBM's Blue Gene research project, which combines advanced protein science with IBM's next-generation cellular architecture supercomputer design.

Researchers at the Winship Canver Institute at Emory University team with NuTec Sciences, Inc. and IBM to develop an integrated information system that will enable physicians to tailor cancer treatments based on a patient's specific genetic makeup.

Boeing Satellite Systems and IBM say they have created the world's most powerful satellite-based digital signal processor, designed to make space borne wireless communications available to a wide audience of users.

IBM researchers demonstrate Wireless Security Auditor, the industry's first automated tool to monitor 802.11 wireless networks and collect security-related information.

2001

IBM launches a company-wide initiative to improve the energy efficiency of information technology for enterprises and consumers and establishes a worldwide low-power computing research effort to be coordinated at its research lab in Austin, Texas.

Facilities

IBM completes the Toronto Software Laboratory in Canada, occupies Beacon Square -- a four-story office building in Boca Raton, Florida -- and opens a high-tech center in Boston for e-business collaboration, design and development.

Corporate Citizenship

IBM's global contributions, funded through the IBM Corporation and the IBM International Foundation, total \$127 million. In addition, employees donate more than four million hours of their time and contribute \$51.2 million to educational institutions and nonprofit organizations in the United States.

2002**Business Performance**

IBM revenue declines two percent from the prior year to \$81.9 billion, and net income is \$3.58 billion, compared to \$7.7 billion in 2001. There are 315,889 employees and 674,326 stockholders at year's end.

Organization

Samuel J. Palmisano is elected chief executive officer effective March 1, while remaining president of IBM. In October he is elected chairman of the board, effective January 1, 2003. (On that date, Palmisano becomes chairman, president and chief executive officer of IBM.) Louis V. Gerstner, Jr., remains IBM chairman through the end of 2002.

IBM and PricewaterhouseCoopers agree in July that IBM will acquire the former's global business consulting and technology services unit -- PwC Consulting. Under the terms of the agreement, IBM will pay PricewaterhouseCoopers an estimated purchase price of \$3.5 billion in cash and stock. The transaction gives IBM an unmatched capability to help customers solve their business issues and to exploit world-class technology for improved business performance. IBM and PricewaterhouseCoopers complete IBM's acquisition of PwC Consulting in October. The combination creates a new global business unit, IBM Business Consulting Services -- comprising more than 30,000 IBM and 30,000 transferring PwC Consulting professionals -- which becomes part of IBM Global Services.

In November IBM says that it will combine the Server Group and the Storage Systems Group into a new Systems Group, effective January 1, 2003.

2002

IBM Research launches On Demand Innovation Services, a new services arm which for the first time provides customers with a discrete team of researchers who will specialize in high-end business transformation and technology consulting. The new organization is initially staffed with 200 IBM Research consultants and supported with investments of \$1 billion over the next three years.

The company launches a new services business -- IBM Engineering & Technology Services -- focused on helping companies across a variety of industries design innovative electronic products.

IBM completes its acquisition in January of CrossWorlds Software, Inc., a leading provider of software to automate business processes that integrate multiple applications. CrossWorlds becomes a unit of the IBM Software Group.

IBM acquires TrelliSoft, Inc., a privately-held provider of storage resource management software based in Illinois, and Access360, a privately-held provider of identity management software based in California.

In October, IBM says that it intends to acquire EADS Matra Datavision, a wholly-owned subsidiary of EADS Group. EADS Matra Datavision is the leading Product Lifecycle Management provider in France.

The following month, IBM acquires Tarian Software, a privately-held provider of e-records management software based in Ottawa, Ontario.

IBM and Rational Software Corp. agree in December that IBM will acquire Rational for approximately \$2.1 billion. Rational provides open, industry standard tools and services for developing business applications and building software products and systems.

Products & Services

In February, IBM introduces the eServer z800, a lower-priced, entry-class mainframe that fundamentally changes the economics of mainframe computing. With this move, IBM delivers for the first time advanced Parallel Sysplex clustering technology to entry-class mainframe customers. In September, a 16-way IBM eServer z900 Turbo running the Z/OS 1.4 operating system sets a new speed record for secure e-business transactions.

IBM in February announces the eServer p610 Models 6C1 and 6E1, which consume 57 percent less electricity and generate up to 63 percent less heat -- and cost substantially less -- than the competing Sun 280R and in April, the company rolls out the eServer p670, a mid-range server with POWER4 microprocessor technology that costs up to 34 percent less than comparable Sun Microsystems' machines. Also in April, IBM demonstrates the scalability of the IBM eServer p670 and its AIX operating system by supporting a record 12,600 users of the Oracle ®

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E-Business Suite with an average response time of 1.199 seconds. A month later, the 32-way IBM eServer p690 server sets a new transaction processing record, handling 403,255 transactions per minute in the TPC-C benchmark (compared to 389,434 processed by a competing Hewlett-Packard 9000 enterprise server, while using only half the number of processors). In May, the U.S. National Centers for Environmental Prediction select a massive IBM supercomputer that when fully deployed will be about four times faster than the most powerful supercomputer in the world. The supercomputer will be delivered in stages, beginning in 2002.

The first phase -- a cluster of 44 IBM eServer p690 servers supported by 42 terabytes of IBM TotalStorage FAStT500 Storage Server disk storage -- will have a peak speed of 7.3 teraflops (7.3 trillion calculations per second). IBM will expand the system to reach a peak speed well in excess of 100 teraflops by 2009. In June, IBM reports that it has shipped 1,000 IBM eServer p690 systems in less than six months of system availability, marking a key milestone in one of the most successful rollouts in the server industry. (The 1,000th p690 is delivered to The Spiegel Group, a specialty retailer, to help power the Marketmax merchandising suite of software and consolidate the workload of 15 non-IBM servers.) Also in June, the High Performance Computing Center for North Germany selects the IBM eServer p690 as the clustered technology to support its supercomputing infrastructure. The IBM supercomputer, delivering four trillion calculations per second, will form the basis of the Center's grid infrastructure, providing all universities and research institutes within Germany's six Northern Federal states with accurate analysis and mathematical models. The same month, the U.S. Naval Oceanographic Office acquires a p690-based supercomputer, named Blue Ocean, to perform basic research in the development of a practical vaccine for malaria and other infectious diseases. Processing over six trillion calculations a second, the supercomputer will also assemble the world's most detailed model of ocean waves, currents and temperatures. Also in June, the company rolls out the IBM eServer p630 that offers 84 percent greater performance than Sun's V480. (IBM reports in December that it has begun shipping the p630 to customers.) General Motors in August selects a supercomputing infrastructure based on IBM's pSeries 690 server to power GM's vehicle design applications. In November, IBM announces the eServer p650, the world's most powerful eight-way UNIX server. The p650 is the first server to include IBM's newest 64-bit microprocessor, POWER4+, and it brings to the midrange the blazing performance and autonomic computing capabilities of the groundbreaking IBM eServer p690. Also in November, IBM debuts the IBM eServer p655, an ultra dense UNIX server targeted at the high performance computing market that is capable of reaching half a trillion operations per second in a single frame in peak processing power.

The U.S. Department of Energy (DOE) awards a contract to IBM in November to build the two fastest supercomputers in the world with a combined processing power of up to 467 trillion calculations per second, exceeding the combined power of the world's 500 fastest supercomputers. The first system, called ASCI Purple -- will provide DOE with the first supercomputer capable of up to 100 teraflops; the second supercomputer, a research machine called Blue Gene/L, will have a performance of up to 367 teraflops with 130,000 processors running Linux.

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The Research Center Juelich in Germany purchases a new supercomputer based on IBM POWER4 microprocessor technology that will achieve a peak performance of 5.8 trillion computations a second. When delivered and installed, the new system will be the fastest supercomputer in Germany.

IBM announces the IBM eServer i890, featuring mainframe-class technology and the company's game-changing POWER4 microprocessor. The 32-way i890, running the latest release of the iSeries operating system -- OS/400 Version 5 Release 2 -- nearly doubles the processing power of the previous top-of-the-line iSeries, the i840, and delivers enhanced server consolidation capabilities with support for up to 32 OS/400 or Linux dynamic logical partitions.

During 2002, IBM introduces: in February, the IBM eServer xSeries 330 with Memory eXpansion Technology that can effectively double memory and significantly increase performance compared with servers with an equal amount of memory. in March, the IBM eServer xSeries 440 with Enterprise X-Architecture technology. Offering a building block style architecture, the x440 allows customers to pay for computing power incrementally as they need it, and is designed to support up to 16 processors and 64 GB of memory. (IBM begins shipping the 16-way IBM eServer x440 in volume in December.) in June, the IBM eServer x235 two-way server for medium-size businesses deploying solutions such as file and print as well as more critical mail/collaboration solutions. in July, the IBM eServer x345, a rack-based server designed to dramatically reduce the proliferation of cables that add complexity and cost to high-density environments. the following month, the IBM eServer x335, a rack-optimized server that sets the design standard for web application serving (able to run both the Linux and Windows operating systems, the x335 offers customer flexibility to link together many servers in powerful clusters or computing grids) and new two- or four-way eServer x440 entry models. in November, new models of the four-way IBM eServer x255 rack and tower system, new four-way models of the eServer x360 rack-dense server, new four- and eight-way models of the highly scalable eServer x440 and the IBM eServer x225 featuring the Intel Xeon processor.

IBM announces plans in April to introduce a powerful blade system that delivers high performance computing in an ultra-dense server. Five months later, the new IBM eServer BladeCenter system is introduced as one of the most powerful blade servers in the industry. Blade servers -- which are on removable cards that plug into a chassis (or shared infrastructure) - - are used to consolidate information technology (IT) infrastructures in such areas as e-mail and collaboration, e-commerce applications, Linux clusters and other enterprise applications. The need for high reliability is magnified in blade systems where potentially hundreds of servers are stacked like books on a shelf in a single small space.

In October, IBM defines the next phase of its company-wide Autonomic Computing initiative, including plans for a series of products and offerings coordinated by the recently formed Autonomic Computing cross-company unit, and a new autonomic deployment model that outlines a staged approach for helping customers chart a course for establishing an autonomic IT environment.

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Among the company's 2002 product introductions are: in February, workstations offering up to 2.5 times faster graphics performance than Sun's fastest workstation. The new offerings include the IntelliStation POWER 265 UNIX workstation and the IntelliStation Pro Series (E Pro 6204 and 6214, and M Pro 6229 and 6850). and, in November, the mid-range IntelliStation M Pro 6219, designed for the ultimate in graphics performance; the high-end IntelliStation Z Pro 6221, in a new compact minitower optimized for multitasking and multithreaded applications; and the IntelliStation POWER p630 for 3D visualization in MCAD/CAE, geophysical and scientific analysis. Weta Digital, Ltd., says in May it will move a significant proportion of production work related to "The Lord Of The Rings" film trilogy onto more than 150 IBM Intellistation 6580-WEA workstations running Linux.

IBM introduces in June, the IBM NetVista A30 and A30p desktop PCs for small businesses, and the NetVista M42, with the fastest technology available in a desktop from IBM; and, in October, the IBM NetVista S42, one of its smallest yet most functional desktops.

IBM announces "ThinkVantage Technologies," a set of PC solutions designed to help customers drive down IT support costs, such as IBM RapidRestore PC, a software tool preloaded on IBM PCs that can restore previously saved data and applications after a software failure.

The company's 2002 ThinkPad notebook introductions include the A31p, IBM's first mobile computer designed to meet the specific, high-performance needs of workstations. the T30, a thin and light mobile computing powerhouse with UltraNav, a revolutionary, programmable multi-pointing system that allows users to quickly and easily choose the way they want to work. the R32 notebook for the small and medium business and education markets. and the X30 notebook, a 3.6-pound ultraportable computer that can stretch battery life to eight hours.

IBM also launches the IBM SurePOS 300 Series point-of-sale (POS) system, as well as new models of the IBM SureOne, IBM SurePOS 600 Series and IBM SurePOS 500 Series.

In storage products activities in 2002: IBM debuts the Travelstar GNX hard disk drive in February in May, IBM supports the introduction of "Bluefin," a new technology that is expected to provide an industry-wide management solution for interoperable storage area networks. the following month, the company ships its 10,000th IBM TotalStorage Enterprise Storage Server ("Shark"), to Commerzbank, a leading international investment and banking institution based in Frankfurt, Germany. in July, the company introduces: the IBM TotalStorage Enterprise Tape Drive 3590 Model H, that stores up to 50 percent more information than the previous model; the Ultrastar 146Z10, an industrial-strength server hard disk drive for use in the most intensive business environments (it is the first 10,000 rpm hard drive of its generation to ship in volume, with a top capacity of 146 gigabytes); the IBM TotalStorage Enterprise Storage Server ("Shark") Model 800 powered by IBM's copper microchips and industry's first 2-Gigabit-per-second Fibre/FICON data transfer rates; and the IBM TotalStorage Network Attached Storage 100, a thin

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self-managing, self-healing appliance for e-mail archiving, server consolidation, storage backup or archiving paper documents. in September, the company debuts the IBM Deskstar 180GXP, the world's fastest desktop hard disk drive. in November, IBM launches the Travelstar 80GN, the world's highest capacity mobile hard disk drive at 80 GB, made possible by enhancements to the company's patented "Pixie Dust" technology which boost storage density by 100 percent. also in November, IBM announces the IBM TotalStorage Network Attached Storage 200, TotalStorage NAS Gateway 300, and TotalStorage FAStT, new network attached storage systems that double the processor speed and storage capacity of previous models.

The following printer products are rolled out in 2002: the Infoprint Color 1220 and 1228 printers in January the Infoprint 2085 and Infoprint 2105 midrange cut-sheet printers in April ... the IBM 6400 Model 020 matrix printer, which is designed for industrial print applications and prints at 2,000 lines per minute, and enhancements to the Infoprint 4000 and 4100 high-speed, high-volume production printers, in May. and the Infoprint 4100 HS2 simplex model and 4100 HD3/HD4 duplex model for continuous forms printing in October.

IBM announces: z/OS 1.3, the latest release of the flagship operating system of the eServer mainframe. IBM WebSphere Voice Server for Transcription, new speech recognition technology for advanced, enterprise-wide, industry-specific dictation and transcript. WebSphere Everyplace Access, new software to give employees access to data over virtually any device on any network. in April, more than 30 new and enhanced Tivoli software products and a strategy to help customers more cost-effectively manage their e-business infrastructure. IBM Tivoli Privacy Wizard, a new publicly-available software tool that helps organizations define privacy policies based on legal and organizational requirements and standardize privacy implementation across the enterprise. in June, IBM Content Manager version 8, to help customers manage and integrate all forms of information located in various data sources, including scanned images, audio, video and information from multiple software vendors' products. the next month, DB2 version 8. in September, ViaVoice Translator, affordable machine translation software that enables speedy and convenient language translation on handheld computers. in October, IBM Lotus Sametime 3 for instant messaging and IBM Lotus QuickPlace 3, the self-service Web tool for team collaboration.

IBM moves key applications to Linux, including the application that monitors server performance for its worldwide Lotus Notes e-mail system, supporting more than 300,000 IBM employees worldwide. IBM estimates deployment of Linux on IBM eServer systems will help achieve more than \$10 million per year in savings in the total ownership costs within its worldwide IT infrastructure.

The Home Depot, the world's largest home improvement retailer, selects IBM WebSphere and DB2 e-business software to serve more than 1,300 stores, 300,000 associates, millions of customers and integrate more than 45,000 business partners.

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IBM introduces Web Services Hosting technology, tools that allow developers and service providers to host and monitor Web services. The company announces Service Provider Delivery Environment, an open-standards framework to give wireless and wireline telecommunications service providers the flexibility to introduce new voice, text and Internet-based services to their customers faster, easier and at lower cost. IBM assists the Masters Golf Tournament in producing and hosting masters.org with expanded live streaming

video coverage and downloadable hole-by-hole scoring. There are 1.5 million unique users logged on during Masters week, an increase in visitors of 37 percent over the year before. In May, IBM supports the Broadway theater Tony Awards by designing, producing and hosting the awards Web site. In July, IBM introduces Linux Virtual Services, that for the first time enables corporations to access large-scale computing infrastructure on-demand over the Internet. IBM designs, develops and hosts the USTA's USOpen.org, one of the most highly trafficked Web sites of any annual sports event. More than 2.4 million unique users visit the site during the U.S. Open tennis tournament, nearly 20 percent more than in 2001.

IBM announces in February new software, storage and services for Grid computing, as well as plans to Grid-enable its entire product portfolio. Grid computing enhances Web services by coordinating global applications and resources at various locations, regardless of the underlying implementations and services. It shields the user from the complexities of the technology infrastructure and reduces complexity in two key ways: by virtualizing all of the resources and making them transparent to the user, and by infusing the infrastructure with open protocols that permit tremendous flexibility in deployment and automated management. IBM and the U.S. Department of Energy (DOE) announce in March a collaboration to begin deploying the first systems on a nationwide computing Grid which will empower researchers to tackle scientific challenges beyond the capability of existing computers. Beginning with two IBM supercomputers and a massive IBM storage repository, the DOE Science Grid will grow into a system capable of processing more than 10 trillion calculations a second and storing information equivalent to 200 times the number of books in the Library of Congress. Irving Wladowsky-Berger, vice president, Technology and Strategy, predicts publicly in May that Grid computing based on open standards will over time make e-business as accessible and easy as flipping a switch. A month later, IBM's Grid computing general manager says businesses can improve the utilization of their technology infrastructures by 30 percent or more by taking advantage of Grid technologies to enable on-demand computing.

IBM rolls out the Digital Media Factory, an open-technology framework comprised of IBM e-business infrastructure that can help all types of companies manage, store, protect and distribute digital video, audio and images.

IBM and Steelcase Inc. announce the creation of BlueSpace -- an interactive and personalized office of the future. The joint project combines IBM's technology expertise with Steelcase's workplace knowledge to create a new office environment that integrates the physical workspace with advanced computer, sensor, display and wireless technologies.

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In May the company ships the 100 millionth chip made with silicon germanium, a technology pioneered by IBM that is revolutionizing the design of cell phones and other wireless electronic products.

IBM introduces the PowerPC 440GP and 405GPr processors designed to give chip designers a richer mix of features for a broad set of embedded applications; the IBM PowerNP NP2G network processor; and powerful new processors for the IBM eServer z900 with double-digit price/performance improvements. In April, IBM discloses technical details of the new IBM PowerPC 440GX, which combines the PowerPC 440 processor core and other key functions on a single chip. (The new embedded processor, an upgrade to IBM's PowerPC 440GP, is targeted to support CPU speeds of 466 to 600 MHz.) In June, IBM announces the industry's most advanced custom chip capability. The new IBM application-specific integrated circuit offering, called Cu-08, supports circuits as small as 90 nanometers (a nonometer is a billionth of a meter), as well as innovative materials and design techniques to drive power consumption down by as much as 40 percent while pushing performance up as much as 20 percent. In October, the company introduces the IBM PowerPC 970 64-bit microprocessor and the PowerPC 405EP processor (for wireless local area network access points and other networking applications).

IBM is selected by a partnership of U.S. public safety and transportation agencies in Virginia, Maryland and the District of Columbia to build the Capital Wireless Integrated Network, the first operable wireless system to span multi-state government jurisdictions -- which will allow officials from more than 40 local, state and federal agencies to communicate with each other in real time. The company says in October that will soon open the IBM Government Solutions Center, a computer science laboratory just outside Washington D.C. (in Vienna, Va.), to bring together IBM experts and public sector customers in a facility to research, validate and develop technology solutions for such initiatives as e-government, e-democracy and homeland security.

Nestlé, the world's largest food and beverage enterprise, selects IBM as the exclusive provider of servers, storage systems and database software for the next five years for the GLOBE data centers at the heart of Nestlé's worldwide business transformation initiative. Amtrak and IBM complete an agreement aimed at boosting the carrier's IT systems while cutting costs \$85 million over a seven-year period. IBM launches a new disaster recovery service to help customers better safeguard their networks, provide faster and more secure back-up systems for their data and ensure near uninterrupted access to critical business information.

One year after announcing its Project eLiza initiative to develop self-managing or "autonomic" systems, IBM demonstrates new technology that can save an estimated 20 percent on customer information technology budgets. The new technology includes Enterprise Workload Manager, ITS Electronic Service Agent, Enterprise Identity Mapping and "Raquarium."

Eight U.S. major league baseball teams use IBM's PROS, a Web-based software application which allows scouts to quickly collect, store and access information on prospects and players.

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IBM provides enhanced voice recognition technology for a revolutionary new navigation system for select models of the 2003 Honda Accord.

Alliances

Hitachi, Ltd. and IBM announce plans in April to form a strategic alliance to accelerate the delivery of advanced storage technologies and products to market. Under the terms of the preliminary agreement, the two companies plan a multi-year alliance to research and develop new open standards-based technologies for future storage networks, systems and solutions. Hitachi and IBM say they intend to combine various hard disk drive (HDD) operations into a new standalone, joint venture company, integrating their R&D and manufacturing operations, as well as related sales and marketing teams. Two months later, the two companies announce a definitive agreement to transfer their HDD operations to a new company under majority Hitachi ownership. Hitachi agrees to purchase the majority of IBM's HDD-related assets for \$2.05 billion. Hitachi will initially own 70 percent of the new company -- Hitachi Global Storage Technologies -- and will make a series of fixed payments to IBM before assuming full ownership after three years.

IBM and Red Hat announce a multiyear alliance, including services and expanded support for software and servers, that will enable the two companies to provide broad Linux support to enterprise customers around the world.

IBM invests in Aprion Digital, a supplier of state-of-the-art digital ink jet printing technology.

In a unique collaboration, IBM, Sony Corporation, Sony Computer Entertainment Inc. and Toshiba Corporation sign a multi-year agreement to jointly develop semiconductor technologies based on silicon-on-insulator and other IBM materials advances. This will lead to the development of high-performance, low-power chips necessary for a wide range of future electronic products -- from digital consumer applications to supercomputers.

Nextel Communications, Inc. and IBM form an alliance covering the development, marketing and deployment of mobile e-business solutions to enterprise customers in the United States, as well as an eight-year, \$1.2 billion outsourcing initiative to manage and enhance Nextel's customer care capabilities.

Nokia and IBM join forces in April in the public wireless LAN business. Three months later, the two companies announce an agreement on digital content delivery for mobile applications and services.

IBM and Accelrys, Inc. -- one of the largest software vendors in life sciences -- form an alliance to enhance drug research and development.

IBM and VMware, Inc. are developing tools using dynamic logical partitioning to consolidate more than 20 "virtual servers" on a single IBM eServer.

2002

IBM and Great Wall Technology Limited sign a three-year agreement in which Great Wall Technology's subsidiary -- ExcelStor Technology -- will manufacture the 40 gigabyte version of IBM's Deskstar 120GXP desktop drive. The agreement makes Great Wall Technology the first Chinese company to manufacture and sell computer hard disk drives for the worldwide market.

American Express and IBM form a technology services partnership in February in which IBM will provide utility-like access to its vast computing resources. The agreement is valued at more than \$4 billion over seven years. The following month, the two companies agree to jointly develop a Web-based expense report and reconciliation tool designed to reduce the cost of managing everyday business expenses.

IBM and Xilinx announce in March a two-year, multi-million dollar agreement under which IBM will manufacture the newly-announced Xilinx Virtex-II Pro semiconductor products. The two companies sign an agreement in June under which IBM will license field programmable gate array technology from Xilinx for integration into IBM's Cu-08 ASIC product offering.

IBM and Dassault Systemes sign an agreement with Toyota Motor Corporation to build a world-class collaboration around PLM Solutions covering vehicle development processes.

IBM and The Thomson Corporation agree to combine IBM's e-learning technologies and Thomson's learning products and services to jointly pursue the \$18 billion global market for corporate and government e-learning.

Air Canada begins using new wireless mobile IBM self-service kiosks in a trial program to expedite passenger check-in at Toronto's Lester B. Pearson Airport. The mobile kiosks represent the first jointly developed solution resulting from the strategic relationship between IBM and Air Canada.

IBM and Mayo Clinic say they will jointly develop an information system to give Mayo Clinic investigators information to help them more quickly identify potential clinical trial participants.

Science & Technology

For the tenth consecutive year, IBM leads the world in generating the most U.S. patents -- with 3,288 -- nearly doubling the output of the second most productive company. In the past decade, IBM inventors have received a record 22,357 patents, besting the next closest company, Canon, by nearly 7,000 patents. During this period, IBM has generated more patents than 10 of the largest U.S. information technology companies combined, including Hewlett-Packard/Compaq, Intel, Sun, Microsoft, Dell, Apple, EMC, Oracle, and EDS. In addition, IBM is the only company to be granted 3,000 U.S. patents in a single year, passing that milestone each of the past two years.

2002

IBM has more systems than any vendor on a list of the world's most powerful supercomputers, nearly doubling the number of machines posted by the second place company, the combined Hewlett-Packard/Compaq.

The company creates the world's fastest silicon-based transistor, achieving speeds of 350 GigaHertz. The new transistor performs nearly 300 percent faster than production devices and 65 percent faster than previously reported silicon transistors.

IBM scientists build the world's smallest working silicon transistor. At six nanometers in length, the new transistor is at least 10 times smaller than the state-of-the-art production transistors.

IBM researchers create the highest performing nanotube transistors to date and prove that carbon nanotubes -- tube-shaped molecules made of carbon atoms that are 50,000 times thinner than a human hair -- can outperform the leading silicon transistor prototypes available.

Using an innovative nanotechnology, IBM scientists in Switzerland demonstrate a data storage density of a trillion bits per square inch -- 20 times higher than the densest magnetic storage available. IBM achieves this density -- enough to store 25 million printed textbook pages on a surface the size of a postage stamp -- in a research project called "Millipede."

IBM records 1 terabyte (TB) of data to a linear digital tape cartridge, storing 10 times more data than any linear tape cartridge then available. (One terabyte is equal to 16 days of continuously running DVD movies or 8,000 times more data than a human brain retains in a lifetime.) The 1 TB initiative had been under development since April 2001 at IBM's Almaden Research Center in San Jose, Calif., and IBM storage product development laboratories in San Jose, Calif.; Tucson, Ariz., and Yamato, Japan. (This achievement coincides with IBM's 50th anniversary of magnetic tape storage that ushered in a new era of information processing. In May 1952, IBM introduced the Model 726 tape drive [see http://www-1.ibm.com/ibm/history/exhibits/701/701_1415bx26.html] which stored a total of 1.4 megabytes - equal to one floppy disk in 2002 -- on a movie reel over 12 inches in diameter and using a special tape media developed by 3M.)

Company researchers build and operate the world's smallest working computer circuits using an innovative new approach in which individual molecules move across an atomic surface like toppling dominoes. The new "molecule cascade" technique enables IBM scientists to make working digital-logic elements some 260,000 times smaller than those used in most advanced semiconductor chips.

IBM announces a research collaboration that will help NASA scientists analyze tele-robotic data during the 2003 Mars Exploration Rover expeditions.

IBM researchers demonstrate the industry's first self-diagnostic tool that can automatically monitor 802.11 wireless networks and report security problems in real-time.

2002

The company begins a research program to develop technologies that could help solve continually escalating power consumption issues and help reduce cooling and power supply costs for IT infrastructures.

Researchers from IBM and Nion Co. develop innovative technology to peer deep inside materials and view atoms interacting in different environments at a resolution never before possible.

IBM develops and demonstrates a tiny device that measures heart rate and is able to sense when the person wearing it is in distress and then call a cell phone for immediate help.

Facilities

IBM opens a 300 millimeter semiconductor facility in East Fishkill, N.Y. The new 140,000 square foot facility -- designed to satisfy growing demand for IBM's leading-edge chip technologies through high-end "foundry" manufacturing services -- contains 200 miles of piping and tubing, 600 miles of cable and wiring and two million pounds of ductwork.

IBM and Sanmina-SCI Corporation, a global electronics manufacturing service provider, agree in January that IBM will outsource a significant portion of its desktop personal computer manufacturing needs to Sanmina-SCI and that Sanmina-SCI will acquire IBM's NetVista desktop manufacturing operations in the United States and Europe. IBM, which will continue to design and market the NetVista line of desktops, signs a three-year, \$5 billion outsourcing agreement with Sanmina-SCI for desktop manufacturing services. Under the agreement, Sanmina-SCI will acquire and use existing IBM desktop manufacturing buildings and equipment in Research Triangle Park, N.C., for U.S. and Canadian customers, and assume the management of IBM's current outsourced manufacturing contract, and acquire IBM manufacturing equipment, in Greenock, Scotland, for European and other customers.

The IBM Silicon Valley Laboratory in San Jose, Calif., marks its 25th anniversary in September and the unveiling of Silicon Valley's first IBM Design Center for e-business infrastructure (a 3,000 square foot, \$2 million state-of-the-art facility in which IBM technical experts host workshops for customers and collaborate with them to design and develop new e-business solutions). Opened in 1977 on 90 acres, the Silicon Valley Laboratory was the first software development facility of its kind. Its track record of achievements include IMS, the workhorse database technology; the relational database; DiscoveryLink; 1,000 patents; and creation of IBM's content management technology.

IBM says in May that it is realigning its Microelectronics Division to increase operational efficiencies and capitalize on emerging growth opportunities. As part of this realignment, the division will increase its use of leading-edge copper technology and close older aluminum technology capacity.

IBM establishes the Development Center for Telecom and e-business -- in San Mateo, Calif., Sydney, Australia and Hursley, U.K. -- to assist independent software vendors in creating e-business applications that can connect easily to telephone networks.

Corporate Citizenship

IBM is ranked Top Corporate Citizen of the year by *Business Ethics* Corporate Responsibility Report. The publication's annual listing of the 100 Best Corporate Citizens is based on a quantitative measure of 650 public companies' corporate service to seven stakeholder groups.

IBM announces a \$15 million grant program designed to drive higher-quality training for U.S. public school teachers. The announcement brings IBM's investment in its global Reinventing Education initiative -- serving 65,000 teachers and six million students -- to \$70 million. The company also rolls out the IBM Scholars Program, a comprehensive offering to give participants in higher education free software, discounts on course materials and information on IBM's university-related initiatives.

2003**Business Performance**

IBM revenue reaches \$89.1 billion, a gain of 10 percent over 2002, and net income of \$7.6 billion is 112 percent higher than the year before. There are some 316,500 employees and 671,610 stockholders at year end.

Organization

IBM completes its acquisition of Rational Software Corp. as the fifth brand of the IBM Software Group.

IBM acquires Think Dynamics, a Toronto-based company whose software helps customers dynamically allocate the right computing resources at the right time to the right processes. The Think Dynamic team is integrated into the IBM Software Group under the Tivoli brand.

IBM acquires the application porting services business from Sector7, a privately held software applications services company that specialized in helping customers to lower IT costs by migrating software applications to operate on IBM platforms using the Linux and AIX operating systems.

IBM acquires Productivity Solutions Inc., a leader in the fast-growing market of automated self-checkout solutions that are used to speed checkout in retail and grocery stores. PSI is integrated into IBM's Retail Store Solutions division.

IBM acquires Green Pasture Software, Inc., a leading provider of document management software. Green Pasture's operations are integrated into IBM's Enterprise Content Management business.

Products & Services

IBM announces the eServer zSeries 990, the world's most sophisticated server and the new flagship of the eServer family. The new z990 sets a new standard for enterprise-class computing and is the result of a four-year, more than \$1 billion investment in the zSeries platform involving 1,200 IBM developers. IBM delivers the first z990 in June to Farmers Insurance Group as the backbone of a new state-of-the-art, Web-based claims processing system. Four months after that,

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IBM announces the general availability of Model C (24-way) and Model D (32-way) eServer z990.

In February IBM ships -- to Discover Financial Services -- the 2,000th IBM eServer p650, only two months after the product's initial availability. That same month, the company announces the eServer pSeries 630, leveraging IBM's POWER4+ microprocessor as the industry's most powerful entry level (4-way) Web server. In May, IBM announces: an ultra-fast high-end IBM eServer p690 system that provides a 65 percent performance boost over its predecessor, a new mid-range eServer p670 system that provides 90 percent better performance than the previous version of the p670, and a new ultra-dense high-performance eServer p655 that delivers performance increases of as much as 83 percent. Also in May, the company rolls out a new low-end IBM eServer system -- the p615 -- that offers 110 percent more performance at one-third lower cost than its predecessor (the p610), making it an attractive option for small- and medium-sized businesses. One month later, IBM begins shipping the first p690s with POWER4+ microprocessors.

As part of the broadest transformation of its eServer iSeries in more than a decade, IBM announces iSeries 825 and 870, which join the iSeries 890 at the high-end of the iSeries family. Used by more than 200,000 customers around the world, the IBM eServer iSeries is one of the industry's most popular servers.

The company introduces the IntelliStation POWER 275, the first workstation to include IBM's POWER4+ microprocessor technology, with triple the performance at a lower cost than its predecessor. In July, IBM rolls out IntelliStation M Pro models 6220 and 6230 that offer increased graphics performance for users in such fields as engineering, digital content creation and electronic design automation.

IBM reports that the first servers based on its next generation POWER5 microprocessors are up and running in IBM's Poughkeepsie, N.Y., laboratories. Internal performance tests indicate that POWER5 based eServer systems, which should begin shipping to customers in 2004, are expected to offer four times the system performance over the first POWER4 based servers.

The IBM eServer xSeries 440, using IBM TotalStorage FAStT700 storage, sets a performance record for a 16-way server running the TPC-C online transaction processing benchmark. In June, IBM introduces the eServer xSeries 445 based on the second generation of IBM's Enterprise X-Architecture technology that will scale up to 32 of the newest Intel Xeon processors MP. That same month, the company also announces the eServer xSeries 450, the first IBM Enterprise X-Architecture-based system to use the new Itanium 2 processor with 6MB of level 3 cache memory and the eServer x382 that includes up to two Itanium 2 processors in a 2U (2.25 inches) system that is optimized for the Linux cluster configurations used primarily by the technical and scientific communities.

In January IBM introduces a new ThinkPad R40 notebook computer equipped with three major new technologies -- a comprehensive new approach to wireless leadership, easier access to

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service and support, and a broad set of usability improvements. Two months later, IBM completely redesigns its flagship ThinkPad T40 notebook computer with industry-leading performance, and new standards for battery life, portability, ergonomics and the most secure wireless access available. IBM also announces in March two additional ThinkPad notebooks: the ultraportable X31 and new models of the R40. The following month, IBM rolls out the ThinkPad G40, combining the affordability of a desktop PC with the design and portability of a ThinkPad notebook. In October, IBM launches the ThinkPad R50 and T51 that include the world's first automatic hard drive protection technology. That same month, the company introduces the ThinkPad T41p and R50p, which combine the mobility of a ThinkPad notebook with high-speed graphic performance and superior wireless and security capabilities.

In November IBM sells the 20 millionth ThinkPad -- a T41 -- since launching the ThinkPad line in 1992. The computer is presented later that month to the Kellogg School of Management at Northwestern University in recognition of the business school's leadership in the application of technology to improve business performance.

IBM equips 430 Britannia Airways pilots with ThinkPad X24 laptop computers to provide electronic access to all of the airplane manuals required on the flight decks of the airline's fleet of Boeing 757s and 767s. The notebooks also will be used to facilitate essential calculations to improve flight efficiency.

The first models of IBM's redesigned PC line, the new ThinkCentre desktop, are introduced in May. With a significantly smaller footprint, the ThinkCentre S50, as well as the M50 and A50p, feature an easy access, tool-free chassis design, simplifying maintenance, upgrades and service for customers. In September, IBM rolls out several new models of the ThinkCentre desktop line, including the S50, M50, A50p and A30.

The company reaches a new milestone in its blade server sales by winning its 5,000th eServer BladeCenter order in February, less than three months after introducing the product. In May, IBM marries two of the most powerful trends in computing -- Linux clusters and Blade servers -- by introducing the IBM eServer Cluster 1350, the first pre-packaged and tested supercluster that is ultra-dense and incredibly easy to manage. In November, IBM revolutionizes the ultra-dense blade server market with the unveiling of the JS20, the industry's first blade server based on POWER architecture.

In March, IBM introduces a suite of autonomic computing software technologies that allow IT systems to react automatically to unexpected surges in demand and dynamically deploy computing resources to handle them. Two months later, the company announces the general availability of its new DB2 Information Integrator software to help customers instantly access, integrate, manage and analyze all forms of information -- stored on any platform -- across and beyond the enterprise.

IBM rolls out a broad portfolio of infrastructure software for small and medium businesses under the Express banner from its DB2, Lotus and Tivoli brands, joining successful WebSphere offerings announced in late-2002.

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In July, IBM announces Enterprise Privacy Authorization Language (EPAL) as the first computer language to provide enterprises with a way to automate the enforcement of privacy policies among IT applications and systems.

IBM integrates instant messaging tools into the latest versions of its Lotus Notes and Domino.

The company announces TotalStorage FAStT 900, a new midrange disk storage offering high-end capabilities with up to 120 percent performance improvements over previous models, and TotalStorage Linear Tape-Open Ultrium 2 drive, next-generation LTO tape systems offering the fastest LTO tape drive performance available. In April, the company rolls out IBM TotalStorage FAStT600, an entry-level storage server for medium-sized businesses.

IBM launches a new family of storage virtualization products to help customers lower their IT costs. The family includes IBM TotalStorage SAN Volume Controller, a combined solution of customized dual IBM eServer xSeries servers running embedded Linux operating system and IBM's virtualization software, and IBM TotalStorage SAN Integration Server, a complete storage area network (SAN) solution for customers implementing new SANs. Virtualization software allows pooling of storage across disparate storage systems into a single consolidated view.

IBM introduces its next generation enterprise tape platform, the TotalStorage Enterprise Tape Drive 3592.

Five new enterprise workgroup printers are introduced, including the Infoprint Color 1357, a mid-volume, color LED printer with a print speed of up to 28 ppm; Infoprint 1312, an entry-level high-performance monochrome laser printer; Infoprint 1332, a low-to-mid-volume, monochrome laser printer; Infoprint 1352, a mid- to high-volume, monochrome laser printer; and Infoprint 1372, a high-volume, monochrome laser printer with a print speed of up to 45 ppm. IBM adds color and monochrome scanning, digital copying, faxing and e-routing capabilities to a single device to the 1332, 1352 and 1372.

Marking 30 years of providing reliable, retail-hardened point-of-sale systems for the world's top retailers, IBM announces the next generation of its SurePOS 700 family -- including the 720, 740 and 780 -- that converges two of the most widely used retail POS systems in the world, the IBM 4694 and the newer IBM SurePOS family.

The company introduces the IBM ThinkVision L200p Monitor, a high-end flat panel LCD display that simplifies screen adjustments, and the ThinkVision L150 and L150p 15-inch high-end flat panel LCD monitors. In November, IBM launches the ThinkVision L190p, a 19-inch high-end flat panel LCD monitor

ABB and IBM complete a 10-year agreement to outsource nearly 90 percent of ABB's information systems infrastructure operations, including the transfer of more than 1,200

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employees to IBM. The agreement is valued at \$1.1 billion and builds on a well-established relationship between the two companies.

Michelin signs an eight-year partnership agreement with IBM valued at 1 billion euros, under which IBM will assume the management and maintenance of Michelin's IT infrastructure in North America and Europe.

AXA Group signs a \$1 billion contract with IBM for on demand services to enhance the performance and efficiency of AXA's global computing infrastructure.

The U.S. National Football League and IBM announce a three-year agreement naming IBM as the NFL's official IT partner. The agreement is centered on helping the NFL create the technology platform required to support next-generation digital media and other critical new business ventures for the NFL.

General Dynamics Electric Boat awards IBM a multi-year contract to build the shipbuilding industry's first Internet-based supply chain network.

ChevronTexaco Corporation selects IBM as its global preferred supplier for strategic, financial, management and information technology consulting services.

The Proctor & Gamble Company signs a 10-year, \$400 million agreement with IBM Business Consulting Services for human resources outsourcing services, under which IBM will support nearly 98,000 P&G employees in 80 countries.

In a six-year, \$254 million agreement, John Hancock Financial Services, Inc., selects IBM to build an on demand technology infrastructure that will allow the company to accommodate unplanned surges in customer demand while improving reliability.

IBM announces that nearly 200 of the industry's leading life sciences applications have now been ported to IBM eServer systems.

The company reports a broadening of its custom chip business beyond traditional application specific integrated circuit (ASIC) designs, with plans to offer a variety of new alternatives to reduce time, cost and design complexity in creating a customized solution for customers.

IBM announces the PowerPC 440EP embedded processor, the company's first 440-based standard product to include hardware support for floating-point operations, USB and flash interfaces on a single chip.

In April, IBM launches a major initiative, including new services and software, to help customers deal with the skyrocketing costs and complexity of maintaining decades-old software applications that run 70 percent of the world's major business operations. Called "spaghetti code," some applications date back 20 years or more yet handle about 30 billion basic business transactions every day.

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IBM announces one of the world's first comprehensive intrusion detection services designed to help customers protect against security breaches on wireless local area networks.

Alliances

AMD and IBM agree to jointly develop chip-making technologies for use in future high-performance products.

deCODE genetics and IBM form an alliance to deliver a set of integrated applications, technologies and services for analyzing, managing and storing genetic, genealogical and clinical data.

Raytheon Company and IBM announce plans to work together to design custom semiconductors and systems for customers in the aerospace and defense industry.

Science & Technology

IBM earns 3,415 U.S. patents in 2003, breaking the record for patents received in a single year and extending its run as the world's most innovative company to eleven consecutive years. Led by growth in patents that fuel the company's latest on demand computing and services offerings, IBM eclipses the nearest company by more than 1,400 patents. During the past eleven years, IBM innovations have generated more than 25,000 U.S. patents -- nearly triple the total of any U.S. IT competitor during this time and surpassing the combined totals for Hewlett-Packard, Dell, Microsoft, Sun, Oracle, Intel, Apple, EMC, Accenture and EDS. IBM is the only company to receive 3,000 patents from the United States Patent and Trademark Office in a single year, passing that milestone each of the past three years.

IBM says it will provide the Arctic Region Supercomputing Center with a powerful new supercomputer that will help researchers gain new understanding of the complex environmental relationships that support marine life in the Gulf of Alaska. The supercomputer -- dubbed "Iceberg" -- will contain 92 IBM eServer p655 systems, each with eight POWER4 microprocessors, and two IBM eServer p690 systems, each with 32 POWER4 microprocessors, running AIX, IBM's UNIX operating system.

The U.S. National Weather Service activates its most powerful, weather forecasting supercomputer ever. The first phase of the installation consists of a cluster of 44 IBM eServer p690 servers supported by 42 terabytes of IBM TotalStorage FASTT500 Storage Server disk storage -- doubles the Service's computing power. IBM will expand the system to reach a peak speed well in excess of 100 teraflops by 2009. It would take one person with a calculator more than 80 million years to tabulate the number of calculations a 100 teraflop supercomputer can handle in a single second.

An initial small-scale prototype -- roughly the size of a 30-inch television -- of IBM's Blue Gene/L supercomputer is ranked as the 73rd most powerful supercomputer in the world. The prototype is roughly 1/20th the physical size of machines of comparable computing power.

When completed, Blue Gene/L is expected to operate at a peak performance of about 360

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teraflops (360 trillion operations per second) and occupy 64 racks -- taking up only about the same space as half of a tennis court.

IBM and the European Organization for Nuclear Research (CERN) announce that IBM is joining the CERN openlab for DataGrid applications to collaborate in creating a massive data-management system built on Grid computing. IBM's innovative storage virtualization and file management technology -- Storage Tank -- will play a pivotal role in this collaboration, which aims at creating a data file system to help CERN scientists understand some of the most fundamental questions about the nature of matter and the universe. By 2005 the CERN openlab collaboration with IBM is expected to be able to handle up to a petabyte (a million gigabytes) of data, which is the equivalent to the information stored in 20 million four-drawer filing cabinets or 500 million floppy disks or 1.5 million CD-ROMs.

IBM, United Devices and Accelrys announce a project supporting a global research effort to develop new drugs that could possibly combat the smallpox virus post infection. The project will be powered through a massive computing "Grid" that will enable millions of computer owners worldwide to contribute idle computing resources with the goal of developing a wide collection of potential anti-smallpox drugs.

IBM and China's Ministry of Education announce they have begun using grid technology to enable universities across the country to collaborate on research, scientific and education projects. This is one of the world's largest implementation of Grid computing -- which takes untapped application, data and computing resources from different computing systems and makes them available where and when they are needed, resulting in a single, virtual system.

IBM creates the world's smallest solid-state light emitter. This research breakthrough -- the first electrically-controlled, single-molecule light emitter -- demonstrates the rapidly improving understanding of molecular devices. The results also suggest the unique attributes of carbon nanotubes may be applicable to optoelectronics, which is the basis for the high-speed communications industry.

Scientists from Columbia University, IBM and the University of New Orleans announce the first three-dimensional assembly of magnetic and semiconducting particles only billionths of a meter across.

IBM researchers develop an innovative chip design that can improve performance fourfold or reduce power consumption fivefold in wireless devices compared to the state-of-the-art thin-silicon bipolar technology.

IBM reports that a team at the University of Texas at Austin and IBM's Austin Research Laboratory will collaborate to produce an adaptive, high-performance microprocessor that could revolutionize computing by providing supercomputer performance on a single chip.

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Grady Booch, Dr. Donald Chamberlin, Dr. George Galambos, Rod Smith and Charles Webb are named as IBM Fellows, the company's preeminent technical distinction. Only 175 individuals -- including 56 active employees -- have earned this designation in the company's history.

Japan's largest national research organization orders an IBM eServer Linux supercomputer that when completed will deliver more than 11 trillion calculations per second, making it the world's most powerful Linux-based supercomputer. The system with a total of 2,636 processors will include 1,058 eServer 325 systems with 2,116 AMD Opteron processors.

Facilities

In January, IBM announces that Sanmina-SCI will acquire or lease IBM manufacturing equipment and buildings in Guadalajara, Mexico and Greenock, Scotland that support IBM NetVista desktop systems, ThinkPad notebooks and eServer xSeries systems. This is part of an agreement to outsource to Sanmina-SCI a significant portion of IBM's manufacturing of low and midrange xSeries and IntelliStation workstations for customers in the Americas, mainland Europe, the Middle East and Africa. Similarly, Solectron will acquire a significant portion of the manufacturing operations of Global Asset Recovery Services, an offering of IBM Global Financing that restores end-of-lease PCs and other information technology equipment for resale. Solectron will acquire the IBM refurbishing center that supports this operation in Research Triangle Park, N.C.

The company starts up its first facility designed to deliver supercomputing power to customers over the Internet. The new deep computing facility is located in IBM's Poughkeepsie, New York, plant and is initially equipped with a cluster of IBM eServer xSeries Intel-based Linux systems with related disk storage. GX Technology Corporation, which produces high resolution subsurface images from large volumes of seismic data, is one of the facility's first users.

IBM establishes a new center in Bangalore, India, to provide technology design services for advanced chips, cards and systems to companies in India and across Asia. The center is part of IBM's Engineering & Technology Services division.

In April, the company opens a new center in London for the financial sector, the latest of nine new IBM Linux competency centers IBM has across four different continents.

In July, IBM establishes a new center in Haifa, Israel to provide technology design services for other companies that need advanced chips.

Corporate Citizenship

IBM introduces a first-of-its-kind initiative -- the IBM On Demand Community -- to encourage and sustain corporate philanthropy through volunteerism. The program will arm employees with valuable IBM technology tools targeted for non-profit community organizations and schools in 91 locations around the world.

U.S. Secretary of Labor Elaine L. Chao announces that IBM is receiving a 2003 New Freedom Initiative Award from the U.S. Department of Labor in recognition of its training and mentoring

programs for the disabled. In addition to its equal opportunity hiring practices, the company is also recognized for its dedication to making technology products and services available to people of all abilities, as well as its commitment to research in this area through the IBM Accessibility Center.

IBM expands its Asset Recovery Solutions, services providing small and medium businesses with a cost-effective, environmentally-responsible and easier way to deal with IT systems -- such as PC servers, notebooks, desktop PCs, monitors and printers -- they no longer need.

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Business Performance

IBM revenue from continuing operations increases eight percent over the year before to \$96.5 billion, while income from continuing operations increases 11 percent to \$8.4 billion. There are 329,009 employees and 660,628 shareholders at year-end.

Organization

In January, the former Systems Group and Technology Group are combined into a new Systems and Technology Group.

Lenovo Group Limited -- the leading Personal Computer brand in China and across Asia -- and IBM announce in December a definitive agreement under which Lenovo will acquire IBM's Personal Computing Division to form the world's third-largest PC business. The move brings IBM's leading enterprise-class PC technologies to the consumer market and gives Lenovo global market reach beyond China and Asia. Lenovo will be the preferred supplier of PCs to IBM, enabling IBM to offer a full range of personal computing solutions to its enterprise and small and medium business clients. IBM will have an 18.9 percent ownership share in the Lenovo Group. Approximately 10,000 current IBM employees -- more than 40 percent of whom already are in China and less than a quarter of whom are in the United States -- will join Lenovo. IBM will receive at least \$650 million in cash and up to \$600 million in Lenovo Group common stock, subject to a lock-up period expiring periodically over three years. The transaction is expected to be completed in the second quarter of 2005.

IBM agrees to acquire Trigo Technologies, Inc., of Brisbane, Calif., a leading provider of product information management middleware. The transaction is completed in April, and Trigo Technologies is integrated into IBM as part of the WebSphere brand, a strategic component of the IBM Software Group.

IBM acquires Candle Corporation, a privately-held company based in El Segundo, Calif. Candle, which offers a broad range of solutions to help customers develop, deploy and manage their enterprise infrastructure, is integrated into IBM Software Group.

IBM agrees to acquire the Business Continuity Services unit of Schlumberger. With operations in Europe and the United States, SBCS offers IT infrastructure and data recovery services in case of unplanned events or outages, and will become an organization within IBM Global Services.

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IBM completes an agreement to acquire Alphablox Corporation, based in Mountain View, Calif. Its software technology enables customers and business partners to embed analytics -- such as customer buying trends -- into existing business processes. Alphablox's operations will be integrated into IBM's Information Management software business and Alphablox products will be available from IBM and its Business Partners.

In July, IBM agrees to acquire Cyanea, of Oakland, Calif., a leading provider of software that monitors and manages the performance of Web-based applications. Cyanea's operations will be integrated into IBM's Tivoli systems management software business and its products will be available from IBM.

IBM acquires Venetica, a privately held company based in Charlotte, N.C. Venetica is a leading provider of enterprise content integration software that enables organizations to access unstructured information such as business documents, still images, digital media and Web pages, and integrate it into existing business processes. In October, Venetica's business operations and employees are integrated into the IBM Information Management Software division, and its VeniceBridge technology is integrated into IBM's DB2 Information Integrator family of products.

IBM acquires Systemcorp A.L.G. Ltd., a leading provider of Project Portfolio Management software that provides organizations with a comprehensive view of IT projects across the enterprise. Systemcorp's operations will be integrated into IBM's Rational software development business.

IBM and RBC Insurance report in November that IBM has agreed to acquire Liberty Insurance Services Corp., the U.S. business process services and solutions operations of RBC Insurance. This acquisition will establish IBM as a leader in life insurance and annuity processing and administration, both in North America and globally. Following the acquisition, LIS will become an IBM subsidiary.

In December, IBM completes its acquisition of the Danish companies Maersk Data and Dmdata. The acquisition represents a multi-billion dollar emerging market opportunity as IBM moves aggressively into the Business Transformation Services arena. IBM also says that it has completed new contracts worth in excess of \$1 billion with A. P. Moller - Maersk, one of the world's largest container shipping companies and Danske Bank, one of the largest banks in the Nordics for the provision of consulting and IT services.

IBM launches the Center for Business Optimization, combining management consulting, advanced mathematical research, business performance management software capabilities and deep computing power to help solve some of the most complex problems facing businesses and government agencies around the world. The Center will draw on the analytical resources of IBM Research, which hosts the largest population of management scientists, mathematicians and computer scientists in the industry. It also will work closely with IBM's business strategy and business intelligence consultants of IBM Business Consulting Services, and the business performance management experts of the IBM Software Group. In addition, the Center for

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Business Optimization will use the computing power of IBM's global network of on demand supercomputing centers, including those in Poughkeepsie, N.Y.; Houston, Tex.; and Montpellier, France.

LGIBM PC Co. announces that the joint venture will be dissolved into its separate parent companies, LGE and IBM Korea, effective January 1, 2005. LGIBM PC Co. was established in November 1996 and had become a leader in the Korean computer marketplace.

Products & Services

The company announces the IBM eServer zSeries 890, a powerful mainframe for medium-sized enterprise customers. It extends the capabilities of the company's flagship IBM eServer zSeries 990 mainframe to mid-sized companies at a lower entry cost and size.

In February, an IBM eServer p690 server system with 32 POWER4+ microprocessors running on DB2 Universal Database v8.1 shatters the world record for computing processing power using half the number of chips of the competition to process 1,025,486 transactions per minute.

On October 5, IBM announces the IBM eServer p5-520 and p5-550 Express models. Based on the IBM POWER5 microprocessor, these Express servers introduce mainframe-inspired technology and performance to clients at prices and configurations that fit the budgets of even the smallest midsize firms. Ten days later, the company rolls out the IBM eServer p5 595 and eServer i5 595 to provide powerful capacity, virtualization capabilities and performance, along with the new 32-way IBM eServer p5 590 -- up to 45 percent faster and costing 45 percent less than its predecessor, the highly successful eServer pSeries p690. The three new systems introduce new economics to the IT industry by providing the ability to run over 250 virtual servers on a single machine. The next month, an IBM eServer p5 595 running DB2 attains a milestone in computing history, soaring past the barrier of three million transactions per minute on the TPC-C benchmark and setting a new world record for computing speed.

IBM unveils in November a pre-release version of a new sleek, high-density POWER5 processor-based server system -- the p5-575 -- that can be easily clustered for high performance supercomputing.

The company in May introduces the eServer i5, the first systems to be powered by the much anticipated POWER5 microprocessors. Running i5/OS, the next generation of OS/400, the new eServer i5 systems provide small and medium-sized businesses with unprecedented power, flexibility and cost benefits. The eServer i5 Model 520 (one to two-way POWER5 processors) and eServer i5 Model 570 (one to four-way POWER5 processors featuring Capacity on Demand) offer up to 40 percent in system price/performance improvements over previous iSeries models.

In January, IBM introduces the eServer BladeCenter HS40, an ultra-slim, 4-way Intel Xeon MP processor-based blade server that offers unprecedented, on-demand processing power for consolidation-minded businesses. Blades are ultra-slim servers that are stacked in a chassis side by side, much like books on a shelf. Because they take up significantly less space than traditional

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rack servers, Blade servers enable customers to reduce “server sprawl” and better manage their computing infrastructures. That announcement is followed two months later by the debut of the IBM eServer BladeCenter T, a powerful extension of IBM’s industry-leading BladeCenter family of products that is designed to address the unique needs and requirements of the telecom industry.

IBM announces in March the eServer xSeries 206 and xSeries 306 with innovative features that help lower the ownership cost of entry level servers. The new systems include revolutionary new simple-swap Serial ATA drives and integrated management and data protection features never before available in entry level systems. In August, the company introduces new “scale-out” IBM eServer xSeries servers that include high-performance features inspired by IBM mainframes and supercomputers. The new eServers include the x206, x226, x236, x306, x336 and x346.

IBM rolls out in September the eServer 326, the only second-generation server based on the AMD Opteron processor from a major vendor. The e326 incorporates sophisticated mainframe-inspired features to provide reliable performance for compute-intensive applications such as financial modeling, digital rendering, life sciences analysis, design automation, database management and other high-performance business and research tasks. That same month, the company introduces the IBM eServer OpenPower 720, a POWER5 microprocessor-based server tuned for Linux. It brings a decade of 64-bit architecture experience and mainframe-inspired reliability features to an entry level server.

In March, IBM announces the IntelliStation A Pro workstation -- the first workstation from a major, worldwide vendor to be powered by AMD Opteron processor technology. The A Pro is designed to meet the increased memory and graphics requirements of next-generation applications and offers customers a seamless transition from 32-bit to 64-bit computing.

IBM unveils in February its completely redesigned ultraportable notebook computer, the IBM ThinkPad X40, setting new standards for portability, battery life and wireless connectivity in ultraportable systems. Starting at only 2.7 pounds, the new X40 is the lightest and thinnest ThinkPad ever and boasts the smallest footprint in its class with a full-size keyboard. Two months later, the IBM ThinkPad R50e, R51 and G40, all equipped with cost-saving IBM ThinkVantage Technologies, are debuted. In May, the company rolls out the IBM ThinkPad T42 and T42p, new 15-inch models providing increased flexibility and comfort with larger, brighter and higher resolution screens. Select models come with “Flexview” technology, offering 170-degree viewing angles in all directions. (The new ThinkPad T42p mobile workstation is selected in November as the central information hub for the Clever Homes’ NewHouse demonstration home. The ThinkPad works with the integrated home network system to monitor household functions such as energy usage, security, lighting and music.) In October, IBM introduces the first ThinkPad with an integrated fingerprint reader. Selected models of the ThinkPad T42 offer an unmatched level of data protection through a new biometric capability and embedded security subsystem. That same month, the company launches the IBM ThinkPad G41, a powerful notebook that incorporates the dynamic processing power and high-precision graphics of a desktop in a mobile system.

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The IBM ThinkPad notebook computer becomes the first product to be named to *PC World's* World Class Hall of fame. The magazine's editors recognize the ThinkPad because it has consistently embodied innovative design, excellent reliability and powerful features since its 1992 introduction.

The company introduces the IBM ThinkCentre A51p, incorporating advanced performance graphics and enhanced processing power for small and medium business customers looking to run multiple applications simultaneously without overwhelming the PC.

IBM announces sleek, rugged new SurePOS 500 point-of-sale systems for the demanding food service and hospitality industries, with faster, more compact, easier-to-use models that feature infrared touch-screen technology and "cooling tunnel" technology designed to help protect sensitive electronics from the heat, smoke and crumbs in a restaurant kitchen.

The company introduces the Store Integration Framework -- the architecture and technology tools to link a retailer's point-of-sale systems with new wireless devices such as kiosks, Webpad tablet computers, smart shopping carts and Personal Digital Assistants, and then link all of these to the rest of the retailer's systems across the entire store and into the supply chain.

During the year, Pathmark Stores, the first IBM supermarket customer to use scanning point-of-sale systems 30 years ago, is upgrading all of its stores to advanced IBM SurePOS 700 systems and new supermarket application software to speed checkout and increase capabilities. Meanwhile, Sears Roebuck and Co. is updating its existing POS systems with IBM's new SurePOS 740 systems, 4610 receipt printers and flat panel touch displays throughout its U.S. retail stores.

IBM says that will provide the systems integration for a groundbreaking Radio Frequency Identification (RFID) project with METRO Group, the world's fifth largest retailer. RFID tags enable physical objects to be identified at any point during manufacturing and distribution. At METRO Group's Extra Future Store in Rheinberg, Germany, all RFID components communicate through one flexible central system hub developed by IBM.

During 2004, IBM announced a number of storage products, including:

- In January, IBM TotalStorage NAS Gateway 500 storage system, using POWER 4 microprocessors and networking software designed to help clients speed shared data across various locations where data reside.
- In February, IBM TotalStorage Data Retention 450, for clients facing looming government and industry regulations who need to retain and preserve electronic business records quickly and safely. The system integrates storage, server and software retention components into a single, securable cabinet.
- In April, IBM TotalStorage Enterprise Storage Server 750, designed to help customers in the midrange leverage many of the reliability and advanced functions of the Enterprise Storage

Server while meeting the smaller capacity and price needs of new mainframe and other system servers.

- In May, IBM TotalStorage FAStT100 Storage Server and Write Once Read Many (WORM) media technology for the IBM TotalStorage Enterprise Tape Drive 3592 designed to provide companies with tools to address data retention and government regulatory needs while offering new levels of security, reliability and technology investment protection.
- In September, IBM TotalStorage DS300, the industry's lowest price entry-level storage server designed to give midsize businesses a simple, reliable and affordable option to transport data through standard Internet protocols.
- In October, IBM TotalStorage DS6000 and DS8000 data storage systems that bridge the gap between once incompatible high-end and midrange storage classes. (The DS6000 series begins at just 580GB and scales up to 67.2 terabytes in a box only slightly larger than a VCR. The DS8000 series is available in with dual two processor or dual four processor configurations, and can address over 96 petabytes of data -- or more than 4,500 times the amount of information found in the Library of Congress.)
- And in November, IBM TotalStorage 3580 LTO (Linear Tape-Open) Generation 3 Tape Drive, the industry's fastest midrange tape drive, offering up to 80 MB per second and capable of storing the data equivalent to five million entries of a telephone book in as little as three seconds.

IBM announces three printers in 2004: the Infoprint 1410 multifunction printer that enables customers to print, copy, fax and scan from a single machine; the Infoprint Color 1334 printer, an entry-level laser printer designed specifically for small businesses or work groups requiring a fast, reliable monochrome printing solution, with capabilities for the occasional color job; and the Infoprint 1412, an evolution from the Infoprint 1312, -- a monochrome laser printer featuring faster page output, an enclosed paper drawer and a two-element toner cartridge.

Also introduced is the IBM ThinkVision C220p monitor, a high performance cathode ray tube that delivers precise imaging and color clarity at about half the price of some comparable screen size flat-panel monitors.

During 2004, IBM makes a number of software product announcements, including:

- In February, new security technology with the latest release of its mainframe operating system, z/OS 1.5, providing the industry's first single point of control for managing a multilevel security environment. Combined with IBM's DB2 Universal Database for z/OS Version 8, the IBM solution provides multilevel security on the eServer zSeries mainframe to help meet the stringent security requirements of government agencies and financial institutions.
- Also in February, new middleware software solutions designed to help customers in financial markets, banking and insurance to solve business problems unique to their industries.
- In March, the general availability of DB2 Universal Database for z/OS Version 8 for IBM's eServer zSeries mainframes. The new database software delivers over 100 new features and functions that help businesses automate the way information flows throughout the enterprise.

- Also in March 2004, a new suite of storage infrastructure management software to centralize, automate and simplify the management of complex and heterogeneous storage environments. The new IBM TotalStorage Productivity Center is designed to help companies better control the rise in consumption of storage hardware while maintaining system uptime that can lower costs across the enterprise.
- In addition in March, new software to help customers streamline operational efficiencies and solve key business challenges that are specific to the automotive and electronic industries.
- In May, new middleware software solutions to help customers in healthcare, life sciences, retail and telecommunications solve industry-specific problems.
- In September, general availability of DB2 Universal Database (code name Stinger), the industry's first software that automatically self-manages and self-tunes databases containing key business information without human intervention.
- In October, Tivoli Monitoring for Transaction Performance 5.3, to help give customers a more complete map of Web-based transactions while identifying transaction failures and inefficiencies.
- In November, IBM Workplace products and solutions to help customers accelerate their migration from traditional PC-centric computing deployments to standards-based, network-centric workplaces.
- In December, the immediate availability of software -- IBM Global Data Synchronization for WebSphere Product Center -- that enables retailers, distributors and manufacturers to collaborate with one another so they can share critical business information and integrate it with their internal systems.
- Also in December, new WebSphere software designed to extend computing to the edge of business, offering remote locations such as retail stores, distribution centers or manufacturing sites the same computing capabilities for local applications and business processes that are available to enterprise headquarters.

IBM develops a new method of manufacturing low power, high performance microprocessors using an industry-first combination of silicon-on-insulator, strained silicon and copper wiring technologies. IBM puts the technique immediately to work in volume 90 nanometer production at its 300mm manufacturing facility in East Fishkill, N.Y. The company's award-winning 64-bit PowerPC 970FX microprocessor is the first chip built using this trio of IBM technology breakthroughs.

The company says that Sony Group is investing \$325 million to facilitate production of next generation 65 nanometer chips in IBM's state-of-the-art 300mm semiconductor manufacturing facility in East Fishkill. This investment will help IBM provide capacity for the manufacture of the new microprocessor -- code named Cell -- and other chips to be used in future computer entertainment systems and Sony's wide array of next generation digital consumer electronic

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products. Pilot production of Cell microprocessors and other chips for Sony is expected during early 2005.

Sprint and IBM announce a five-year, multi-billion dollar customer service agreement. The agreement is the core of Sprint's new consumer customer service strategy. Teaming with IBM Business Consulting Services will enable Sprint to have greater flexibility to scale to service according to demand and to adapt in real-time to changing market conditions and new product and services offerings.

IBM Business Consulting Services announces that it has entered into a seven-year, multi-million dollar agreement with Marathon Oil Company under which it will administer select accounting functions.

Nokia, the world's leader in mobile communications, signs an information technology (IT) services agreement with IBM valued at approximately 200 million Euros under which IBM will globally run IT Helpdesk operations as well as manage and further develop Nokia's desktop IT environment.

IBM states that it is working with the New York Stock Exchange on a new order management and messaging system in support of the 1.6 billion shares traded daily. The system will be one of the world's most sophisticated examples of "Extreme Availability," relying on IBM computers, infrastructure software and engineering expertise for a network designed to virtually eliminate downtime.

The company unveils a new IT service in which IBM remotely automates, manages and supports a customer's multi-platform data center, while the customer retains ownership of all IT systems and staff. The new flexible support service -- based on Universal Management Infrastructure -- helps customers improve the use and cost management of their data centers.

IBM launches a major healthcare initiative to help healthcare providers and payers manage costs, reduce medical errors and deliver better patient care. The initiative will infuse an estimated \$250 million of investments into IBM's healthcare business over the next three years for the hiring of new healthcare specialists, solutions development, R&D projects, IBM Business Partner collaborations and other programs.

The U.S. Department of Defense selects IBM Business Consulting Services to help manage and support the development of policy on the use of Radio Frequency Identification Device (RFID) tags by 43,000 defense suppliers. RFID tags enable physical objects to be identified at any point during manufacturing and distribution.

IBM announces E-mail Security Management Services, a new managed security service designed to help companies reduce the risks inherent with e-mail communications.

IBM Global Services introduces new offerings designed to help retailers meet a January 1, 2005, deadline when new bar code standards become effective.

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The company rolls out IBM Desktop Management Services, a new suite of “price-per-suite” remotely-delivered services to help small and medium-sized businesses manage their PCs and printers, including the ability to alleviate the growing headache of viruses and spam.

IBM broadens its IBM Express Portfolio -- which offers hardware, middleware, services and financing tailored to the needs of small and medium businesses -- with the first Infoprint Express and Education Pack offerings, along with new Express models of the ThinkPad X40 together with the ThinkPad R50e and R51 notebooks.

IBM announces new identity management solutions designed to help businesses and government agencies approach identity management as a core business requirement and protect their data, computer systems, users and facilities from unauthorized access.

The company introduces IBM Solution for Compliance in a Regulated Environment (SCORE), a new regulatory compliance solution intended to make it easier and more cost-effective for pharmaceutical, biotechnology and medical device companies to comply with regulatory mandates for R&D, manufacturing, and sales and marketing processes.

IBM expands its Asset Recovery Solutions program -- which provides customers a secure, cost-effective method to retire unneeded computer hardware -- from the Americas to all regions of the world.

Alliances

Mayo Clinic and IBM announce a broad collaboration to accelerate advances in patient care and research with an aggressive set of technology initiatives. The collaboration will focus on new techniques to harness patient data to improve diagnoses, deep computing power to model diseases to find cures, and new devices to access information to transform how patients and physicians interact, leading to more individualized care. Under the collaboration, Mayo Clinic will be the first medical institution to tap the power of IBM’s Blue Gene supercomputer.

RealNetworks, Inc., and IBM announce they will develop and bring to market a solution that will enable media companies, network operators and other businesses to create, protect and deliver on demand consumer digital audio and video services based on open standards.

Samsung Electronics joins a strategic semiconductor technology development partnership with IBM, Chartered Semiconductor Manufacturing and Infineon. Initially, the four companies will focus on 65 nanometer technology and will extend, over time, to include 45 nm process development.

IBM and Intel Corporation announce their collaboration on a new Linux-based mobile workstation pilot to increase the productivity of engineers working in Electronic Design Automation.

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IBM and Cisco Systems, Inc., announce that the two companies have collaborated to design and build the world's most complex, programmable custom chip to power the Cisco Carrier Routing System, a new class of routing system for moving data, voice and video across Internet Protocol networks. The Cisco Silicon Packet Processor is the world's most sophisticated 40-Gbps (gigabits per second) application specific integrated circuit (ASIC), featuring an unprecedented 38 million gates, approximately 185 million transistors and 188 high performance programmable 32-bit RISC processors executing 47 billion instructions per second.

IBM and 14 other companies announce their intention to form Power.org, an open standards community around chips and systems which use Power Architecture technology.

Eastman Kodak Company and IBM say they will collaborate on the development and manufacture of image sensors to power mass market consumer products, such as digital still cameras and camera phones.

Boeing and IBM announce an alliance to address an estimated \$200 billion market for ground and space-based systems to enhance U.S. military communications, intelligence operations and homeland security.

PeopleSoft Inc. and IBM announce they will establish the most significant enterprise applications alliance in the history of the two companies.

IBM and Massachusetts General Hospital announce they are working together to study how the development of a grid-based, distributed computing infrastructure can facilitate improved collaboration and information sharing among cancer researchers.

IBM and Karolinska Institutet, the Nobel Prize-awarding research institute, announce they will team to build Sweden's first IT-enabled biobank to advance the understanding of the links between genetics, environment and disease.

Science & Technology

With 3,248 patents in 2004, IBM earns more U.S. patents than any other company for the twelfth consecutive year. IBM has 1,314 more patents than any other company. This is the fourth consecutive year IBM has received more than 3,000 U.S. patents and remains the only company to receive more than 2,000 patents in one year.

The University of California at Irvine selects a powerful IBM supercomputer as its Earth System Modeling Facility (ESMF) to model and predict changes to the Earth's surface, atmosphere and oceans up to 300 years into the future. The ESMF is capable of calculating 528 gigaflops (a billion floating-point operations per second) and consists of seven IBM eServer p655 systems, connected together with IBM's clustering technology, each with eight POWER4+ microprocessors, and one IBM eServer p690 system, with 32 POWER4+ microprocessors.

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IBM and the Spanish Minister of Education & Science unveil the most powerful supercomputer in Europe. Named "MareNostrum," the system is built with highly scalable and flexible IBM eServer BladeCenter JS20 blade servers and is based on the Linux operating system and IBM's POWER microprocessors. MareNostrum has already reached a sustained performance of 20.53 teraflops and is expected to ultimately reach as many as 40 teraflops of peak performance.

IBM and ASTRON, a leading astronomy organization in the Netherlands, announce they will use IBM's Blue Gene/L supercomputer technology as the basis to develop a new type of radio telescope capable of looking back billions of years in time.

IBM reports that scientists at AIST, a leading Japanese research laboratory, will use an IBM Blue Gene/L supercomputer to advance their research in proteins, potentially accelerating breakthroughs in drug design. Expected to be installed in February 2005, the Blue Gene/L system will consist of four racks, with a peak processing speed of 22.8 trillion calculations per second (22.8 teraflops). Blue Gene/L will be 24 times more powerful and use a fraction of the floor space compared to the current computer systems installed at the AIST's Computational Biology Research Center.

Company researchers at the Thomas J. Watson Research Center in Yorktown Heights, N.Y., develop a simple, low-cost process to make extraordinarily thin films of semiconductor materials that allows electrical charges to move through them about 10 times more easily than had been reported for all other similar approaches. A significant scientific milestone, such an increase can lead to a broad array of low-cost electronics and new pervasive-computing applications.

IBM reports that the University at Buffalo Center of Excellence in Bioinformatics of the State University of New York will use an IBM supercomputer and research expertise to study the structure and behavior of human proteins. The outcome of the research could lead to more targeted drugs to treat diseases as cancer, Alzheimer's, AIDS and multiple sclerosis. The new supercomputer, capable of a peak performance of more than 1.32 teraflops, will consist of a cluster of 266 IBM eServer BladeCenter HS20 systems, each with two 2.8 GHz Intel Xeon processors and 1 GB of memory. Seven IBM xSeries 345 Intel processor-based servers connect to five terabytes of IBM TotalStorage FAStT700 storage servers to house large volumes of biological and research data. The supercomputer forms the basis of the IBM eServer Cluster 1350, a pre-packaged and tested supercluster that is ultra-dense and incredibly easy to manage.

IBM and the University of Texas at Austin report they plan to build the largest university grid computing project in the United States. The UT Grid will unite the vast computational resources of the nation's largest university campus, with more than 50,000 students and 20,000 faculty and staff members. Meanwhile, the University of Oregon, Electrical Geodesics, Inc., and IBM announce a new project that uses Grid computing, Linux and IBM supercomputer technology to speed and improve the diagnosis of Epilepsy, stroke and depression.

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IBM researchers develop a high-speed photodetector that could greatly increase the speed at which information travels to and from microchips, boosting performance in computers and other types of electronic systems.

IBM scientists achieve a breakthrough in nanoscale magnetic resonance imaging by directly detecting the faint magnetic signal from a single electron buried inside a solid sample. This achievement is a major milestone toward creating a microscope that can make three-dimensional images of molecules with atomic resolution.

The U.S. Department of Defense selects new high-performance computing systems from IBM for deployment at the Naval Oceanographic Office's Major Shared Resource Center. Once deployed, the systems are expected to be the fastest supercomputer in the U.S. military and one of the fastest supercomputing clusters in the world. The supercomputer will consist of IBM eServer p655 systems connected together with IBM's clustering technology, based on POWER4+ microprocessors and using the AIX operating system environment.

IBM introduces a breakthrough chip morphing technology, leading to a new class of semiconductor products that can monitor and adjust their functions to improve their quality, performance and power consumption without human intervention.

IBM scientists measure a fundamental magnetic property of a single atom -- the energy required to flip its magnetic orientation. This is the first result by a promising new technique they developed to study the properties of nanometer-scale magnetic structures that are expected to revolutionize future information technologies.

The company announces the latest series of Shared University Research awards, bringing the IBM's contributions to foster collaborative research to more than \$70 million over the past three years. The new awards will support 20 research projects with 27 universities worldwide. The projects range from a multiple university exploration of on demand supply chains to an effort to find biomarkers for organ transplants.

IBM researchers demonstrate a technique that triples the performance of a standard transistor used in semiconductors by a process that is compatible with conventional CMOS technology, a major step toward achieving continued performance enhancement of chips and the electronic systems that use them.

IBM, Sony Corporation and Sony Computer Entertainment, Inc. say they have powered-on the first Cell processor-based workstation. Cell is the code name for an advanced microprocessor under development by IBM, Toshiba and Sony Group. The companies expect that a one rack Cell processor-based workstation will reach a performance of 16 teraflops or trillions of floating point calculations per second.

2004**Facilities**

In May, IBM opens its first Deep Computing Capacity on Demand center in Europe. The new facility, located in Montpellier, France, is the second of its kind in the world, and will provide customers access via the Internet, to immensely powerful, highly secure supercomputers. The Montpellier center joins IBM's Deep Computing Capacity on Demand center in Poughkeepsie, N.Y., as the only two facilities in the world at the time to offer supercomputing power on tap to companies in industries such as petroleum, life sciences, digital animation and financial services. Three months later, in response to the petroleum industry's increasing need for supercomputing power in oil exploration and production, IBM announces plans to open the third IBM Deep Computing Capacity on Demand (DCCOD) center in Houston, Tex. The new DCCOD in Houston will join IBM's existing centers in Poughkeepsie and Montpellier which enable customers to easily draw on massive supercomputing power to help meet critical short-term business needs, while avoiding large upfront capital outlays and long-term fixed IT costs.

IBM opens an European RFID (radio frequency identification) Testing & Solution Center in La Gaude, France, to allow companies based in Europe to test RFID solutions in real customer environments. The La Gaude facility complements existing IBM development centers in Gaithersburg, Md., and Tokyo, Japan.

The company opens a new SMB Innovation Center in Beijing, China, giving IBM researchers and independent software vendors (ISVs) access to over ten million small and mid-sized business in China. IBM is providing the ISVs with resources to develop open solutions designed to help SMB customers improve their global supply chain. The SMB Innovation Center will be an extension to IBM's China Research Lab, which will double in size to accommodate the new facility.

IBM establishes the IBM eServer xSeries Taiwan Development Center (xTDC), IBM's first xSeries development center in Asia Pacific and the first such center opened by IBM outside the United States. The Taiwan xTDC will play a key role in connecting local vendors with IBM's global resources for Intel-based server development.

Corporate Citizenship

At the end of the year, IBM Chairman Samuel J. Palmisano authorizes a preliminary allocation of \$1 million to support relief efforts for the victims of the tsunamis that struck southern Asia on December 26. IBM Crisis Response Teams in India, Indonesia, Sri Lanka and Thailand are deployed to assist local governments and relief organizations.

IBM, along with representatives of the world's leading science, education and philanthropic organizations, launches World Community Grid, a global humanitarian effort that applies the unused computing power of individual and business computers to help address the world's most difficult health and social problems.

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The company announces the next step in its On Demand Community volunteer initiative by enabling its approximately 160,000 retirees to leverage new technology tools to increase the impact and value of volunteer efforts in schools and local agencies across the globe. For retiree volunteers who donate time to community organizations, On Demand Community provides access to innovative new IBM technology that will help clients of senior centers and organizations for the disabled access and see the Internet better. Other tools include curricula for after school community programs, and tools that lead community nonprofits through a step-by-step technology assessment and the creation of a technology plan that will help the organization better serve its clients.

An extraordinary partnership between the Egyptian government and IBM creates “Eternal Egypt,” providing worldwide access to more than 5,000 years of Egyptian history. IBM funded the project through a \$2.5 million grant of technology and expertise from its Research and Services teams in the United States and Egypt, and the Egyptian government contributed a team of experts who developed the system’s content. The Eternal Egypt project combines the most important locations, artifacts, people and stories from Egypt’s history into an interactive multimedia experience.

HP, Dell and IBM release an Electronics Industry Code of Conduct to promote industry standards for socially responsible business practices across their global supply chains.

2005**Business Performance**

IBM revenue reaches \$91.134 billion, a decline of five percent compared to 2004, and net income of \$7.934 billion is six percent higher than the year before. There are 329,373 employees and 637,133 stockholders at year-end.

Organization

IBM announces plans in May to implement a series of restructuring actions designed to improve the company’s efficiencies, strengthen its client-facing operations and capture opportunities in high-growth markets.

The company then realigns its operations and structure in Europe to improve the speed of execution and better meet the needs of its clients. The realignment is aimed at reducing bureaucracy and infrastructure in lower-growth countries and creating teams that can work across country borders, thereby shifting more employees into direct client roles that support the company’s plans to deliver high-value services and products. These steps eliminate the need for a traditional pan-European management layer to coordinate activity.

Effective July 4, IBM replaces the former European management system with two Integrated Operating Teams (IOT) -- Northeast Europe and Southwest Europe -- each comprising four Integrated Market Teams (IMT) focused on specific countries or clusters of countries. Additional

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shared centers of competence are created to support specific sales-related activities in the IMTs and IOTs.

Also in July, the company changes its leadership team for IBM Global Services, creating three overall organizations, each led by a senior vice president: Information Technology Services, Enterprise Business Solutions, and Integrated Operations.

IBM acquires several businesses during the year, including:

- SRD, a privately held company based in Las Vegas, Nev., and a provider of identity resolution software.
- Corio, Inc., an enterprise application management provider based in San Carlos, Calif. The company's application services will be marketed by IBM Global Services.
- Equitant, a global business transformation outsourcing provider that focuses on the management and optimization of the Order-to-Cash cycle for large companies.
- Ascential Software Corporation, a publicly held company based in Westboro, Mass., and a provider of enterprise data integration software. IBM establishes Ascential Software's operations as a business unit within IBM's Information Management Software division and incorporates the company's technology and solutions into IBM's Information Management and Software Group offerings.
- Healthlink Incorporated, the foremost healthcare process improvement and IT consulting services company in the United States. The Healthlink team becomes the core of the provider transformation practice for the healthcare industry within IBM Business Consulting Services.
- Gluecode Software, a privately held company based in El Segundo, Calif., and a provider of software and support services for open source application infrastructure software.
- Isogon Corporation, a privately-held company based in New York, N.Y., and a provider of technology that can automatically track inventory and measure usage of software running on mainframe computers. Isogon's operations are integrated into IBM's Tivoli infrastructure management software business.
- Meiosys, a privately-held company based in Palo Alto, Calif., and Toulouse, France, and a provider of unique software technologies that enable applications to be dynamically moved from one server or set of servers to others without disruption.
- PureEdge Solutions Inc., a privately held company based in Victoria, B.C., and a developer of electronic forms. IBM integrates PureEdge e-forms into its portfolio of collaboration technology, including IBM Workplace and Lotus offerings.
- DWL, a privately held company based in Atlanta, and a provider of customer data integration middleware.
- iPhase Systems, Inc., a privately held company based in Bedford, Mass., and a developer of software that improves e-commerce, online service and support, and call center productivity.
- Collation, a privately held company based in Redwood City, Calif., and a developer of software that automatically captures information about IT resources and displays it on a detailed map.

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- Bowstreet, Inc., a Massachusetts-based provider of portal-based tools and technology that helps companies bring together corporate applications, documents, databases and other enterprise information into a single portal application.
- Micromuse, Inc., a publicly held company based in San Francisco, and a provider of network management software used by banks, telecommunications carriers, governments, retailers and other organizations to manage their technology infrastructures. Following completion of the acquisition, IBM establishes Micromuse's operations as a business unit within IBM's Tivoli software division and incorporates its software technology and solutions into IBM's Tivoli software offerings, and IBM's hardware and service.

Lenovo Group Limited completes the acquisition of IBM's Personal Computing Division in May for \$1.25 billion. IBM's ownership in Lenovo upon closing is 18.9 percent.

Products & Services

The company introduces the IBM System z9 mainframe in July. Representing a three-year, \$1.2 billion development effort encompassing 5,000 IBM engineers, software developers, technology professionals and security experts from around the world, the System z9 performs as the hub in a new era of collaborative computing. Available in two models (the z9-109 and z9-S54), the new mainframe system can process one billion transactions a day, more than double the performance of its predecessor (the IBM zSeries z990 ["T-Rex"]), run five world-class operating systems, and process up to 6,000 secure online handshakes per second (about three times as many as before). IBM begins shipping the z9 on September 16.

IBM announces the availability of its Blue Gene (*see* Science & Technology) supercomputing system, the most powerful supercomputer, at its newest Deep Computing Capacity on Demand Center in Rochester, Minn. The new Center will allow customers and partners, for the first time ever, to remotely access the Blue Gene system through a highly secure and dedicated Virtual Private Network and pay only for the amount of capacity reserved.

In February, the company rolls out the IBM eServer p5-510, designed to bring POWER5 performance and advanced virtualization capabilities to an entry level UNIX and Linux server. In June, IBM previews details of a planned high-density POWER5-based system for high-performance computing. The planned 16-way IBM eServer p5-575 cluster node is capable of sustaining 87.3 Gflops of performance and can achieve up to 55 percent greater speed than the eight-way IBM eServer p5-575 cluster node that was introduced in the fall of 2004. In October, the company debuts four new UNIX systems -- including the IBM System p5-550Q, p5-520, p5-550 and p5-505 -- that are equipped with POWER5+ microprocessor technology and are intended for small and medium-sized businesses. The following month, IBM previews a pre-release version of the upgraded high-density POWER5+ IBM p5-575 supercomputer.

An IBM eServer p5-570 running Linux attains a milestone in computing history in August, soaring past other servers and setting a new world record for online transaction processing

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performance for four-processor servers of 197,669 transactions per minute. In May, the IBM eServer p5-595, IBM TotalStorage DS8300 and IBM DB2 Universal Database 8.2.2 combine to set a new world record on the three-tier SAP Sales and Distribution Standard Application Benchmark.

During 2005, IBM company announces: the IBM eServer OpenPower 710, a low-priced IBM POWER5 processor-based rack-mounted server running the Linux operating system ... the IBM eServer xSeries 226, 236, 336 and 346. ... the IBM eServer BladeCenter HS20, based on Intel's new 64-bit Xeon DP processor that use new technologies to increase server efficiency. ... the IBM eServer xSeries 460, an X3 Architecture-based system for database processing and virtualized server environments. ... the IBM xSeries 100 server, the most affordable server entry point available from a top-tier vendor... the IBM xSeries 206m and xSeries 306m systems. ... the IBM xSeries 260, a high performance four-processor server with X3 Architecture designed for remote office locations or storage-intensive applications. ... and the IBM xSeries 460 and xSeries 366 servers.

The IBM IntelliStation A Pro 6217, featuring AMD's new Dual-Core Opteron processor Model 275, debuts in April. At the same time, IBM announces that its eServer 326 high-performance 1U server line will be expanded to include the Dual-Core Opteron processors. Four months later, the IBM IntelliStation M Pro 6218, a workstation using a dual-core Intel processor built from the ground up with server design teams and rigorous xSeries server-proven testing, is launched.

In January, IBM unveils the ThinkPad T43, the company's fastest-performing thin-and light notebook computer to date; a month later, the IBM ThinkVision L190 19-inch liquid crystal display is rolled out, and two months after that, IBM unveils the ThinkPad X41 ultraportable notebook, weighing only 2.7 pounds. Three new security technologies for IBM's ThinkPad notebooks and ThinkCentre desktops -- including new biometric fingerprint options, data encryption solutions and embedded notebook traceability tools -- are announced in February.

The company adds the following to its storage products lineup in 2005: the IBM TotalStorage DS4800 (Models 82A & 84A), a new four gigabit per second midrange storage system; and the IBM System Storage N5200 and IBM System Storage N5500, two members of a new series of networked storage systems designed to help midrange customers -- particularly enterprises operating distributed networks across remote sites -- dramatically reduce their total cost of ownership. In September, IBM ships the 500,000th IBM TotalStorage Linear Tape Open drive (to Sony Pictures Imageworks) since the LTO technology was introduced in mid-2000. The ultra-powerful IBM tape drive is one of the fastest-selling tape drives in history.

Among the printers introduced during the year are: the IBM Infoprint 6700 R40, an RFID (radio frequency identification) printer; the IBM Infoprint 6700 Models R60 and R80 that produce high quality 6-inch and 8-inch bar codes, respectively; the IBM Infoprint 1532 Express, IBM Infoprint 1552, IBM Infoprint 1572 and IBM Infoprint 1585 monochrome laser printers; the IBM Infoprint

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Color 1567 color laser printer; and the next generation of the IBM Infoprint 4100 family of high-speed, high-volume continuous forms printers.

The company rolls out the IBM Self Checkout Models 171, 151, 152, 153 and 131; and “Cool Blue,” a technology component (formally the IBM eServer Rear Door Heat eXchanger) that can use the existing chilled water supply for air conditioning systems already located in the majority of customer datacenters to reduce server heat emissions by up to 55 percent.

On the 20th anniversary of its flagship Lotus Notes product, IBM launches a broad array of new open standards-based software and technologies. Along with new enhancements to Lotus Notes and Domino, IBM introduces new WebSphere Portal and Workplace solutions.

Driven by double-digit growth and more than 500 competitive customer wins in the first-half of the year, IBM unveils a major upgrade to its flagship platform with the launch of Lotus Notes and Domino 7.

The company unveils details of the next-generation DB2 database (“Viper”), which is designed to help customers manage and access data across a service oriented architecture (SOA) with unprecedented flexibility and speed.

IBM introduces radically advanced disk, tape and storage software technologies, including: incorporating the third-generation Linear Tape Open format into the company’s complete line of LTO-based automated tape storage systems; performance and capacity enhancements for the IBM TotalStorage DS4000-series of disk storage systems; IBM TotalStorage SAN Volume Controller 2.1; and IBM TotalStorage SAN File System 2.2.1.

The company says it plans to invest \$100 million over three years to expand Linux support and technology across its Workplace software portfolio.

Among IBM’s software announcements in 2005 are: general availability of Informix Dynamic Server version 10, a next-generation database, and the most significant upgrade to the Informix platform since 1999. ... the Tivoli OMEGAMON software suite that automates real-time systems management and monitoring capabilities for the IBM eServer zSeries. ... and first-of-its-kind software that allows organizations to anonymously share and compare information without revealing private or sensitive personal details.

The company rolls out IBM Policy Management for Autonomic Computing and the IBM Touchpoint Simulator to allow developers to simplify the development and management of their autonomic systems and products. Since introducing autonomic computing in 2001, IBM has paved the way for mainstream adoption. IBM has woven more than 475 autonomic features into more than 75 distinct products, making it the broadest portfolio of autonomic-enabled products, services and solutions in the industry.

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In February, IBM, Sony Corporation, Sony Group and Toshiba Corporation disclose details of their breakthrough jointly developed “Cell” microprocessor featuring supercomputer-like floating point performance with observed clock speeds greater than 4 Ghz. The team has collaborated on the development of the “Cell” microprocessor at a joint design center established in Austin, Tex., since March 2001. The prototype chip integrates 234 million transistors and is fabricated with 90 nanometer SOI technology. Initial production of “Cell” is expected to begin at IBM’s 300mm wafer fabrication facility in East Fishkill, N.Y., followed by Sony Group’s Nagasaki Fab. In August, the team releases key documents that describe details of the Cell Broadband Engine Architecture as the next major milestone in the Cell project. In November, IBM and Sony release new software components and documentation -- including extensions to Linux that support Cell programming -- for the Cell Broadband Engine Architecture technology.

The company introduces the IBM PowerPC 970MP, the newest member of the Power Architecture family of microprocessors.

IBM announces the availability of its fourth generation silicon germanium (SiGe) foundry technology -- 8HP -- with more than twice the performance of the previous generation. The new 130 nanometer SiGe bipolar complementary metal oxide semiconductor (BiCMOS) foundry technology can reduce the cost of mobile consumer products, advance high-bandwidth wireless communications and lead to innovative new applications, such as collision-avoidance automobile radar.

Fireman’s Fund Insurance Company in January selects IBM to create an on-demand technology infrastructure that will automate many IT tasks, substantially increase system performance and free up capital for growth-oriented activities. In May, Fireman’s Fund awards IBM a ten-year, \$94 million contract to modernize a major portion of the property casualty insurer's application, development and maintenance software into an On Demand infrastructure that could reduce the number of major applications by 70 percent while improving customer service.

IBM announces the availability of Grid Accelerated Design Service, an IBM Global Services offering to help clients implement more productive Grid solutions.

The company’s Engineering & Technology Services organization says it will offer new design services to help companies integrate the microprocessor technology known as “Cell” into a wide range of electronics products.

IBM reports that it will launch a new service that allows companies to tap into IBM’s award-winning product design and usability expertise, creating breakthrough products for other companies. With this new service -- part of IBM’s efforts to gain share of a \$500 billion market opportunity called Business Performance Transformation Services -- IBM design experts will consult directly with clients who want insight into how their consumers or customers might interact with future products or services. The new IBM Product Design Consulting Services has been established in conjunction with IBM Engineering & Technology Services and IBM Business Consulting Services.

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IBM rolls out two new offerings that will help insurance companies transform complicated, manual processes into Web-automated business components. (In the past 12 months, 850 companies have joined IBM's PartnerWorld Insurance Network -- software vendors and technology companies that have aligned themselves with IBM's insurance industry infrastructure offerings, middleware solutions and consulting services.)

NiSource Inc. and IBM reach an agreement for IBM to provide a broad range of business transformation and outsourcing services to NiSource beginning in July. The ten-year agreement is estimated to be worth \$1.6 billion to IBM in service fees and project costs and is expected to deliver upwards of \$530 million in operating and capital cost savings across NiSource's 15 primary operating subsidiaries over the course of the contract.

The company introduces Grid and Grow, a packaged set of software, hardware and services to deliver the benefits of Grid computing to businesses of all sizes.

In August, IBM announces the first in a series of podcasts to expand on the traditional investor Web site content by discussing industry-wide trends and IBM specific innovations in a variety of emerging business and technology areas.

In October, the company rolls out 22 new IBM Express Portfolio offerings designed to help medium-sized business with security, supply chain management, backup and recovery, enterprise resource planning and other critical applications.

Alliances

IBM and AT&T announce they will jointly offer a packaged team collaboration solution that will make it easier for small and medium-sized businesses to buy and deploy collaboration software with integrated Internet access capabilities.

IBM and Network Appliance announce a strategic storage relationship to drive information on demand solutions and to expand IBM's portfolio of storage solutions.

Mercury Computer Systems, Inc., partners with IBM to integrate the "Cell" microprocessor technology to build new breakthrough computer systems for data-intensive applications.

Science & Technology

U.S. President George W. Bush announces that IBM has been awarded the 2004 National Medal of Technology by the U.S. Department of Commerce and the Technology Administration in recognition of more than four decades of innovation in semiconductor technology. The award cites such IBM breakthroughs as the development of multicore-processor integration, DRAM (Dynamic Random Access Memory), the use of copper on-chip wiring, Silicon on Insulator (SOI) technology and high-speed Silicon Germanium chips. The National Medal of Technology is the highest honor awarded by the President of the United States to the nation's leading innovators.

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For the thirteenth consecutive year, IBM earns more U.S. patents than any other company. The 2,941 patents issued to IBM in 2005 derive from the innovative work of more than 4,500 employees.

IBM pledges open access to key innovations covered by 500 IBM software patents to individuals and groups working on open source software. This is the largest pledge ever of patents of any kind and represents a major shift in the way IBM manages and deploys its intellectual property portfolio.

The company unveils the world's largest privately owned supercomputer -- the Watson Blue Gene (BGW) system installed at the IBM Thomas J. Watson Research Center in Yorktown Heights, N.Y. With a processing speed of 91.29 teraflops, BGW is expected to join its sister machine -- the Blue Gene/L supercomputer (*see below*) installed at the Lawrence Livermore National Laboratory, and currently the world's fastest -- as one of the top three supercomputers in the world. BGW is comprised of 20 refrigerator-sized racks, less than half the size of conventional systems of comparable power and has three times the performance. One of the first applications to be deployed on BGW will be Blue Matter, the software framework developed as part of the science effort within the Blue Gene project at IBM Research.

The world's foremost supercomputing authority names IBM's Blue Gene/L as the most powerful supercomputer in the world, with a sustained performance of 280.6 teraflops. Along with Blue Gene/L in the TOP500 list's top three supercomputers are IBM's own Blue Gene Watson system at 91.29 teraflops and the recently unveiled ASC Purple supercomputer (*see below*) at the Lawrence Livermore National Laboratory with 63.39 teraflops.

IBM reports that it has successfully demonstrated ASC Purple on time and beyond performance objectives. The system is the result of a long-term collaboration between the U.S. Department of Energy's Advanced Simulation and Computing (ASC) Program (known earlier as ASCI) and IBM, with the U.S. Lawrence Livermore Laboratory (LLNL) as the lead lab. LLNL says that the Purple machine will conduct simulations of nuclear weapons performance. In August, the first of 25 trucks loaded with the ASC Purple supercomputer leaves IBM's Poughkeepsie, N.Y., plant and heads west to its final destination at LLNL in California.

The U.S. National Center for Atmospheric Research, in collaboration with the University of Colorado, acquires an IBM Blue Gene supercomputer with a peak performance of 5.7 teraflops. The supercomputer will be used to simulate ocean, weather, and climate phenomena that impact agricultural output, heating oil prices and global warming.

IBM and The Ecole Polytechnique Fédérale de Lausanne announce a major joint research initiative -- the Blue Brain project -- to take brain research to a new level. Over the next two years, scientists from both organizations will work together using the huge computational capacity of IBM's eServer Blue Gene supercomputer, to create a detailed model of the circuitry in the neocortex.

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Researchers create a tiny device called a photonic crystal waveguide to slow light down to less than 1/300th of its usual speed. Such a device represents an advance toward the eventual use of light in place of electricity in the connection of electronic components.

In July, IBM and the National Geographic Society announce a groundbreaking, five-year research partnership -- the Genographic Project -- to deepen the understanding of how the human race populated the planet. One aspect of the project involves the collection and field analysis of DNA samples from more than 100,000 members of the last remaining indigenous populations on the planet -- one of the largest DNA collections ever assembled. A second aspect involves inviting members of the public to purchase cheek swab kits and submit their own DNA for analysis. Participants will then receive customized genetic maps with specific details of the migratory paths followed by their own ancestors. Data collected from all these samples will be analyzed and managed securely using IBM systems and custom database technology.

IBM launches a new research effort to help battle AIDS using the massive computational power of World Community Grid, a global community of computer users who have joined the philanthropic technology initiative by simply donating time on their personal computers.

IBM, Infineon and Macronix announce a joint research initiative to explore the potential of a new form of computer memory technology called phase-change memory (PCM). The research will be performed at IBM's research facilities in Yorktown Heights, N.Y., and Almaden, Calif.

Facilities

New York Governor George E. Pataki announces more than \$2.5 billion in investments in the state by an IBM-led consortium of high-tech companies from across the globe. The investments include \$1.9 billion that IBM, Sony, Toshiba, Samsung, Infineon, AMD and Charter will spend on nanoelectronics manufacturing and development in East Fishkill.

IBM says it will open more than a dozen new development centers in China, Brazil and Russia in an effort to accelerate innovation around the adoption of open standards based solutions in emerging markets. These centers are designed to help business partners develop, test and deploy solutions based on IBM's open technology infrastructure, and they will complement the 25 Innovation Centers IBM already operates for business partners worldwide.

In August, Brazil's President Luiz Uinacio Lula da Silva visits the IBM Global Command Center, housed in IBM's Technology Center (CTIBM) in Hortolândia, Brazil. President Lula's participation in the official ribbon-cutting ceremony marks the first visit to an IBM facility by a Brazilian president. The CTIBM is IBM Brazil's hub for services operations, and the newly inaugurated Global Command Center there can house 480 employees to support outsourced IT operations.

IBM opens a new Global Services Delivery Center in Dalian, China. The new facility will initially house 600 employees to provide Business Transformation Outsourcing services.

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IBM announces plans to open its first global Wireless Center of Excellence, at the company's site in Research Triangle Park, N.C. The Center, a multi-million dollar investment, will mimic a variety of workplace environments to demonstrate wireless technology in applications ranging from offices to warehouses.

Corporate Citizenship

In testimony before the U.S. Senate Subcommittee on European Affairs, IBM calls for support of consistent worldwide accessibility standards so that everyone, especially people with disabilities and the aging population, can have easy access to information technology and the Web.

IBM announces it will help address the critical shortage of math and science teachers by enabling some of its most experienced employees to become fully accredited teachers in their local communities upon electing to leave the company. The IBM Transition to Teaching program will begin as a pilot with as many as 100 U.S. employees in various areas across the country. Each employee will be able to participate in both online course work and more traditional courses, including online mentoring while remaining at the company and student teaching for up to three months in order to meet state certification requirements. IBM will reimburse participants up to \$15,000 for tuition and stipends while they student teach.

The company receives the Freedom to Compete Award from the U.S. Equal Employment Opportunity Commission in recognition of its innovation and dedication to recruiting underrepresented university minorities, women and people with disabilities through its Project View programs.

Early in the year, IBM provides technology and services valued at just over \$3 million (and employees donate another \$1.2) million to assist the victims of the tsunami that devastated parts of Asia in December 2004. In September 2005, IBM makes a \$3.2 million donation of services and technology in support of relief and recovery operations following Hurricane Katrina in the United States. An IBM Crisis Response Team in Baton Rouge, La., provides technical assistance to state and federal officials, and IBM's Corporate Community Relations team works with local governments and not-for-profit organizations throughout the affected area. In October, IBM and its employees support a humanitarian relief effort following a devastating earthquake in South Asia. An IBM Crisis Response Team donates technology, equipment and consulting expertise, and IBM employees across the world open their wallets to support the disaster's victims in Pakistan.

2006**Business Performance**

IBM revenue reaches \$91.4 billion, up 4 percent excluding the divested PC business, and net income of \$9.4 billion is 18 percent higher than the year before. There are 355,766 employees and 613,933 stockholders at year-end.

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IBM chairman and chief executive officer Samuel J. Palmisano says in November that the company will invest \$100 million over the next two years to pursue ten new businesses generated by Innovationjam, an unprecedented experiment in employee collaborative innovation held earlier in the year.

Organization

IBM announces the opening of a subsidiary office in Ukraine in October. (Some 2,000 Ukrainian companies -- including Kyivstar and Ukrostsbank -- had previously become IBM customers over the years.)

In January, IBM acquires CIMS Lab, Inc., a privately-held software company based in Roseville, Calif., and a leading provider of software that helps businesses track the usage of computing resources across virtualized technology environments. CIMS Lab's operations will be integrated within IBM's Tivoli organization and its technology will be incorporated into IBM's software, hardware and services.

Also in January, IBM acquires INFICON's ARGUS semiconductor software and related intellectual property, a leading system for lithography advanced process control for semiconductor manufacturing. IBM's Engineering & Technology Services and Microelectronics businesses will continue to provide global sales, support and services coverage to ARGUS software clients. Critical development and support personnel from INFICON will join IBM.

In February, IBM acquires Viacore, Inc., a provider of business process integration solutions for real-time supply chain visibility.

Also that month, IBM completes its acquisition of Micromuse, Inc., a publicly-held company based in San Francisco. Micromuse's operations are integrated into IBM's Tivoli software business.

IBM agrees in March to acquire Language Analysis Systems, Inc., a privately-held company based in Herndon, Va., that develops multicultural name recognition technology.

In May, IBM acquires BuildForge, Inc., a privately-held software company based in Austin, Tex. BuildForge products help customers to automate their software development processes. The company's operations are to be integrated into IBM's Rational software business.

IBM reaches an agreement in May to acquire Rembo Technology, a privately-held software company based in Geneva, Switzerland. Rembo is a leading provider of software that helps organizations to automatically install or upgrade operating systems on thousands of computers simultaneously. Upon completion of the acquisition, IBM integrates Rembo's operations within IBM's Tivoli organization and includes Rembo in the IBM's Virtualization portfolio.

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In August IBM acquires Webify Solutions, a privately-held provider in Austin, Tex., of industry-specific hardware and services for building service oriented architecture (SOA). IBM will deliver Webify software as part of its WebSphere portfolio.

That same month, IBM enters into a definitive agreement to acquire MRO Software, Inc., a publicly-held company based in Bedford, Mass., at a price of approximately \$740 million. MRO is the leading provider of asset and service management software and consulting. IBM completes its acquisition of MRO in October.

Also in August, IBM enters into a definitive agreement to acquire FileNet, a publicly-held company based in Costa Mesa, Calif., at a price of approximately \$1.6 billion. FileNet is a leading provider of business process and content management solutions. Upon completion of the acquisition, which takes place in October, IBM combines FileNet's operations with its Content Management business in IBM's Information Management unit. (810)

IBM enters into a definitive agreement in August to acquire Internet Security Systems, Inc. (ISS), a publicly-held company based in Atlanta, Ga., at a price of approximately \$1.3 billion. ISS provides security solutions to thousands of the world's leading companies and governments, helping to proactively protect against Internet threats across networks, desktops and servers. IBM completes the acquisition of ISS in October, and it becomes an integrated business unit within the Infrastructure Management Services organization of IBM Global Services.

IBM announces on September 16 the formation of an Integrated Communications Services unit to focus on the delivery of innovative network and communication service products that are asset-based, replicable and standardized for clients ranging from Fortune 500s to small and medium-sized businesses. With more than 7,000 highly-skilled employees, the IBM Integrated Communications Services unit will offer: converged communications services; network strategy and optimization services; mobility, wireless and RFID services; and network integration and management services.

In October, IBM reports the relocation of its global procurement headquarters from Somers, N.Y., to Shenzhen, China.

IBM acquires Palisades Technology Partners, a privately-held company and provider of services and technology to the mortgage lending industry. Based in New Jersey, Palisades Technology Partners is integrated into the IBM Global Technology Services division and its SOA-based Impact Lending Suite technology is integrated into IBM's family of banking and financial solutions.

IBM agrees in November to acquire Vallent Corporation, a privately-held company based in Bellevue, Washington, and a supplier of network performance monitoring and service management software for wireless service providers worldwide. Following completion of the acquisition, Vallent is to be integrated into IBM's Software Group as part of the Tivoli Software unit.

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IBM enters into an agreement in December to acquire Consul risk management, Inc. [sic], a privately-held software company headquartered in Delft, the Netherlands, with a principal office in Herndon, Va. Consul is a provider of compliance and security audit software that helps clients track, report and investigate non-compliant behavior. Upon completion of the acquisition, Consul is to become part of IBM's Tivoli Software unit.

Products & Services

IBM announces plans in January to deliver a breakthrough mainframe specialty engine -- the System z9 Integrated Information Processor -- that will reinforce the IBM System z9 as a trusted data platform.

The company launches in April a new IBM System z9 Business Class mainframe. With pricing starting at \$100,000, the new z9 is designed to tackle the critical computing challenges of our time: the coming wave of automated Service Oriented Architecture, new heightened expectations for data security and the rapid expansion of emerging markets. At the same time, IBM enhances its System z9 Enterprise Class server with features that increase the system's business flexibility.

IBM reports in October on a cross-company effort to make the IBM System z mainframe easier to use for a greater number of computer professionals by 2011. The company says that the goal of this five-year effort -- which will include an investment of approximately \$100 million -- is to "enable technology administrators and computer programmers to more easily program, manage and administer a mainframe system, as well as to increasingly automate the development and deployment of applications for the mainframe environment."

IBM introduces in February eight new IBM System p5 servers, including several based on the fastest POWER5+ processors available. In addition, the company announces that the new IBM System p5 570 has set a new record for transaction processing performance in a 16-core system. The new servers include the IBM System p5 185 Express, IBM System p5 510 Express, IBM System p5 510Q Express, IBM System p5 520 Express, IBM System p5 520Q Express and IBM System p5 560Q Express.

Dow Jones Indexes selects the IBM System p5 570 server in March as the platform to calculate its suite of worldwide indexes and averages, such as the Dow Jones Industrial Average.

In July, the company introduces the IBM System p5 595 -- the world's most powerful server -- a 64-core speed demon capable of a record-shattering four million transactions per minute, and the IBM System p5 590 server.

IBM launches in August a broad range of servers designed to provide industry-leading performance in blade, deskside and rack-mounted systems for mid-sized businesses and expands its leadership POWER5+ Quad Core module-based family of entry-level servers. Included in the launch are the IBM System p5 505Q Express, 5054, 510, 510Q, 520, 520Q and 550Q. Also introduced at the same time are IBM BladeCenter JS21 Express blade server and IBM IntelliStation POWER 285 Express workstation.

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The company rolls out in January the IBM System i5 line, an “all-in-one” IT platform for small and mid-sized businesses. The new product line has a POWER5+ processor, a dual-core “system on a chip” that runs at speeds up to 2.2 Ghz, and shows up to a 33 percent increase in performance over existing POWER5-based iSeries models. Also announced in January is i5/OS 5.4, a new version of the i5’s integrated operating system.

IBM debuts in February powerful new BladeCenter H computing systems that enable data to travel across corporate networks up to 10 times faster than previously possible. The new systems include a dual-core POWER processor-based BladeCenter JS21, an ultra low-power Intel-based BladeCenter HS20, and a nine-core IBM Cell blade. Also introduced that month is a blade computing system based on the Cell Broadband Engine designed for businesses that need the dense computing power and unique capabilities of the Cell BE processor to tackle tasks involving graphic-intensive, numeric applications.

IBM says in April that it would address unprecedented demand for large-scale x86 virtualization technologies with System x scalable servers featuring its Enterprise X-Architecture technology -- X3 -- and new software to help clients speed their virtualization efficiencies. The company introduces IBM System x, an evolution of its x Series product line to help customers move to a systems-based approach to x86 computing. Three new high-performance systems are rolled out: the IBM System x3950, IBM System x3850 and IBM System x3800 -- all designed to deliver enterprise-class capabilities for server consolidation and scalable database, ERP and CRM applications.

In June, the company debuts the IBM BladeCenter HS21; IBM System x3650, System x3550, System x3500 and System x3400 server; and IBM zPro z30 workstation. Those new products are followed in August by the IBM BladeCenter LS21 and LS41; and IBM System x3455, x3655 and x3755.

IBM announces on September 12 that it is making its first computing system based on the Cell Broadband Engine generally available on a global basis. The IBM BladeCenter QS20 is a Cell BE-based blade system designed for businesses that can benefit from high performance computing power and the unique capabilities of the Cell BE processor to run graphic-intensive applications.

IBM announces in November that it is enhancing its line of x86 servers with the introduction of four, quad-core IBM systems, and a new blade utilizing the quad-core Intel Xeon 5300 processor. Included in the announcement are the IBM System x3650, x3550, x3500, x3400 and BladeCenter HS21. That same month, the company rolls out a new lineup of next-generation processor systems and blades, high-speed connectivity and coprocessor acceleration technology for the IBM System Cluster 1350.

In August, IBM announces one of the single largest expansions of its storage portfolio with the introduction of new and faster systems, enhanced products across its storage product line and a new Enterprise Choice warranty service option for the IBM System Storage DS6000 Series. At

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the high-end, the company rolls out the IBM System Storage DS8000 Turbo models (DS8100 Turbo and DS8300 Turbo) based on POWER5+ processors. Also introduced are the IBM System Storage N7600 and N7800.

Other IBM storage-related announcements during the year include: in February -- the IBM System Storage DS40000 EXP810, a new four-gigabit-per-second expansion unit for increased density and capacity..... in May -- the IBM System Storage DS4700 Express, a high-bandwidth storage system featuring industry leading front-to-back-end four gigabits technology also in May -- the IBM System Storage N5000, to act as a “storage bridge” between Storage Area Networks and Network Attached Storage environments for small and medium businesses,..... in August -- the IBM System Storage DS4200 Express, boosting the scalability, capacity and performance of the groundbreaking DS4000 Series; and major enhancements across other models in the DS4000 family to support the storage needs of small- and medium-sized businesses..... in September -- the IBM System Storage TS7700 Virtualization Engine, a mainframe virtual tape offering designed to improve tape processing while also supporting business continuity through Grid connectivity and automated replication..... in October -- six new models of the IBM System Storage 3599 tape media, the first to feature 700 GB physical capacity and in November -- the IBM System Storage DS4700 Express Models 70-DC and 72-DC, two new midrange storage servers for companies requiring “hardened” infrastructures, along with the enhanced IBM System Storage DS4000 EXP810,. Finally, IBM announces in December that the IBM System Storage DS8300 Turbo -- introduced on August 22 -- is the fastest enterprise class storage system in the industry.

The company rolls out a number of new printer offerings in 2006, including: the IBM Infoprint 1540, 1560, 1570 and 1580 multifunction printers in February IBM Infoprint 1572 and IBM 1650 multifunction printers, and the IBM Infoprint M40 MFP option for the IBM Infoprint 1552n and 1572n printers in May the IBM Infoprint 1654 and 1664 color office printers in July and the IBM Infoprint 1612 Express, Infoprint 1622 Express and Infoprint Color 1634 Express in October.

IBM celebrates the 20th anniversary of the AIX operating system. Introduced in January 1986, AIX was the catalyst for leading IBM into the world of open systems and standards, such as UNIX, TCP/IP and the Ethernet.

The company announces in January: new releases of its core IBM Workplace products; new programs, business partner offerings and platform support to extend the value of the Lotus Notes and Domino platform; IBM Embedded ViaVoice 4.4, incorporating a voice technology breakthrough that allows automobile drivers and handheld device users to speak commands naturally without memorizing specific predetermined commands; the availability of DB2 Universal Database Express-C, a versatile and easy to deploy data server for download, at no cost, to customers, developers and partners; and IBM Rational Systems developer to help systems engineers manage their development environment and trace industry-specific regulatory requirements from design to implementation.

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Software products rolled out in February include: IBM Infoprint Process Director, which automates many tasks in the print shop that are handled manually; IBM Tivoli Access Manager For Enterprise Single Sign-on, to reduce the clutter and confusion caused by nonstop requests to enter or change IDs and passwords; Tivoli Identity Manager Express, new security software to help small and mid-sized businesses deal with security threats by blocking unauthorized access to sensitive company data; and new IBM Tivoli Express software enabling small and mid-sized companies to automate the management of PCs, servers, storage and security technology across their entire infrastructures.

In March, the company debuts IBM Workplace Services Express 2.6.

In April, IBM launches an open test drive of the next-generation DB2 data server (“Viper”), which is designed to help customers manage and access data via an information-centric approach to service oriented architecture (SOA) with unprecedented flexibility, speed and security. Also that month, IBM WebSphere Portal 6.0 is announced.

In May, IBM introduces: a new version of IBM WebSphere Product Center to provide unmatched master data management capabilities for managing product information in the retail, consumer packaged goods, consumer electronics and manufacturing industries new self-managing autonomic software called IBM Batch-on-Grid that changes the way organizations manage Grid computing environments and allows them to continue operating during system failures, natural disasters or while complex applications are being updated across a Grid environment IBM WebSphere Content Discovery for Business Intelligence, the first industry solution that combines enterprise search and unstructured information discovery software with advanced reporting and analytics IBM Tivoli Change and Configuration Management Database and three types of IBM Tivoli Process Manager software to automate IT processes across a multi-platform environment and IBM System Storage SAN Volume Controller 4.1.

IBM unleashes in June the next-generation DB2 9 data server (“Viper”) to deliver the most significant database technology enhancements in more than two decades. Viper marks the culmination of a five-year IBM development project involving more than 750 software developers in eight countries. DB2 Viper transforms traditional, static database technology into an interactive, vibrant data server that enables users to improve their ability to manage all types of information, such as documents, audio and visual files, images, Web pages and digitally signed XML transactions

In July, the company announces the availability of IBM Lotus Notes on Linux, the industry’s first business-grade collaboration software to support Linux on the desktop; and IBM Tivoli Security Operations Manager -- new security software that helps corporate IT departments, telcom service providers and IT outsourcing companies keep their computer networks running despite security attacks.

IBM says in August that IBM Lotus Sametime will provide server and desktop support for Linux.

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The following month, IBM introduces Tivoli Provisioning Manager -- new virtualization software that enables companies to deploy and install software on tens of thousands of laptops, desktop PCs, wireless devices and servers.

The company ships Lotus Sametime 7.5 software in September, enabling businesses to extend their real-time collaboration beyond instant messaging and Web conferencing to a platform for unified business collaboration.

IBM successfully delivers an advanced speech-to-speech translation system to U.S. forces in Iraq. The bi-directional English-to-Arabic translation software is designed to improve communication between military personnel and Iraqi forces and citizens.

The company introduces in October IBM Information Server, the first-of-a-kind software platform that enables clients to deliver trusted, consistent and reusable information to applications and business processes.

In December, IBM reports that IBM Lotus Sametime users will have the ability to send and receive instant messages with, and view the "presence awareness status" of, more than 157 million instant messaging users worldwide -- the world's largest IM community -- including those with AOL's AIM, Google talk and Yahoo! Messenger.

That same month, IBM and Yahoo! Inc. introduce new, free enterprise search software with Web search services powered by Yahoo! that enables departments and businesses of all sizes to quickly and easily find, access and capitalize on information stored within organizations and across the Web.

IBM announces in October new, low-power additions to its Power Architecture line of microprocessors -- the PowerPC 970GX and the CPC965 -- and new processor cores that address the growing demand for high-performance processors that conserve energy.

Gap, Inc. selects IBM in January as its provider for IT infrastructure services for 10 years and to provide mainframe, server, network, help desk and deskside support services to stores and corporate locations across North America. The contract is valued at approximately \$1.1 billion.

IBM receives a \$9.4 million contract to assist the state of Arizona in developing and implementing a statewide system to make voter registration more secure and accurate.

IBM reports in January that it has won a Blanket Purchase Agreement to streamline and modernize the U.S. Department of Justice's financial management system.

General Motors selects IBM to participate in the operation and support of its global IT computing infrastructure. The award could be worth up to \$500 million over the next five years.

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The Centers for Medicare & Medicaid Services signs IBM and two partners to a contract in March to consolidate 17 data processing centers in the United States into three “high efficient” centers over the next three years. IBM’s portion of the CMS services contract is valued at approximately \$200 million, making it one of the largest federal outsourcing transactions in history.

IBM wins a contract in March valued at more than \$110 million over six years to provide the U.S. Department of the Interior with services to analyze and integrate the agency’s financial and business management systems.

The U.S. Defense Information Systems Agency awards IBM Global Services a \$17 million contract in July to provide net-centric collaboration services.

The U.S. Department of Veterans Affairs selects IBM to help transform its information technology organization. The two-year VA contract is valued at approximately \$16 million.

Singapore’s Land Transport Authority selects IBM’s elite High Performance On Demand Solutions (HiPODS) Labs to build a highly customized, smart card e-payment infrastructure for Singapore’s mass transit network of buses and trains.

The company introduces in January its Systems Solutions for Retail Stores based on IBM’s BladeCenter platform. The offering is designed to help users optimize their technology infrastructure by consolidating all in-store servers, storage, networking and applications into a single physical package with a common management infrastructure.

IBM announces “Billy Goat” in March as a novel intrusion detection tool to provide early detection of worm attacks and to reduce the false alarm rate.

The next month, the company introduces a Tax Audit and Compliance Solution that uses advanced analytics to help revenue agencies zero in on questionable tax returns. Also in April, IBM announces the MediaHub Solution Framework, using for the first time Service-Oriented Architecture (SOA) to combine business operations for the media and entertainment industry with information technology.

IBM’s Retail Solutions organization introduces in May the IBM Anyplace Kiosk 17” -- the first ultracompact kiosk with a 17-inch touch screen.

IBM unveils its Contingency Planning Assessment in June to help businesses understand their potential exposure to a pandemic outbreak and to implement strategies to safeguard employees and maintain operations should such an outbreak occur.

Also in June, IBM Global Business Services introduces a new management consulting capability -- the IBM R&D Management practice -- intended to help companies produce innovation and competitive differentiation from research and development spending.

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In addition, IBM Research announces a new technology and Web application called Contracts OnLine that enables small and medium businesses to execute and manage contracts entirely online, eliminating the need to work with paper documents.

In August, IBM unveils a radio frequency identification (RFID) system for tracking and tracing pharmaceuticals.

IBM rolls out on September 12 the first-of-its-kind encryption technology -- including the IBM System Storage TS1120 encryption drive -- and services that deliver the world's first enterprise-class solutions for securing consumer and corporate data privacy.

Alliances

IBM, Sony Corporation and Toshiba begin a new, five-year phase of their joint technology development alliance. The three companies will work together on fundamental research related to advanced process technologies at 32 nanometers and beyond.

In September, the United States Army Research Laboratory and the United Kingdom Ministry of Defence select an IBM-led consortium -- the newly-formed International Technology Alliance in Network and Information Sciences -- to undertake a research program exploring advanced technology for wireless and sensor networks to support future coalition operations, over a potential 10-year period, with a value of up to \$135.8 million.

Geisinger Health System and IBM announce in October a strategic relationship that will create a technology and data infrastructure to help lay the foundation for 21st century patient-centered care. As part of the agreement, Geisinger and IBM will collaborate to design and implement a first-of-its-kind Clinical Decision Intelligence System using open standards technology to provide Geisinger's integrated clinical, financial, operational, claims, genomic and other medical data in a format that allows for rapid analysis and reporting of vital insights from millions of patient encounters.

Also in October, IBM, Oracle and i-flex solutions announce that the companies will collaborate to provide joint banking customers with infrastructure, services and support for enterprise applications, core banking and risk management.

Science & Technology

With 3,621 U.S. patents, IBM surpasses its own record and earns more patents than any other company for the fourteenth consecutive year, exceeding the next closest patentee by 1,170.

IBM scientists report in February that they have created a small, low-cost chip set that could allow wireless electronic devices to transmit and receive ten times faster than current advanced WiFi networks.

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IBM and the Georgia Institute of Technology announce in February that one of the world's most powerful supercomputing clusters -- a 1000-node Cluster 1350 system built on IBM BladeCenter systems -- will anchor Georgia Tech's new Center for the Study of Systems Biology. The system will be capable of performing more than 8.5 trillion calculations per second. IBM and Georgia Tech report on June 20 that their researchers have demonstrated the first silicon-based chip capable of operating at frequencies above 500 Ghz by cryogenically "freezing" the chip to 451 degrees below zero Fahrenheit.

IBM researchers say in February that they have found a way to extend a key chip-manufacturing process to generate small chip circuits, potentially postponing the semiconductor industry's high-risk conversion to an extremely expensive alternative.

IBM announces in March that it has scored a fundamental performance breakthrough in the way that massive computer networks access and share information. Called Project Fastball, the historic results were achieved on the ASC Purple supercomputer -- the third most powerful supercomputer in the world -- located at the Lawrence Livermore National Laboratory (LLNL). IBM and LLNL demonstrated over 102 gigabytes per second of sustained read and write performance to a single file using specialized software that manages the transfer of information between thousands of processors and thousands of disk storage devices. The world record was achieved using 416 individual storage controllers combined with 104 Power-based eServer p575 nodes. The resulting file system was a remarkable 1.6 petabytes in size -- one of the largest high performance file systems currently deployed in the world.

IBM scientists develop a powerful new technique for exploring and controlling magnetism at its fundamental atomic level. Disclosed in March, the new method -- called spin-excitation spectroscopy -- uses IBM's special low-temperature scanning tunneling microscope designed for use with a broad range of magnetic fields up to 140,000 times stronger than the Earth's.

IBM Research announces in April a new technology it has developed called "SecureBlue" which was designed to greatly increase the security of consumer products, medical devices, defense systems and digital media. "SecureBlue" protects the confidentiality and integrity of information on a device through encryption, encoding it to prevent its unauthorized use, even by an adversary who has physical access to or control of the device.

Researchers at the IBM Almaden Research Center report in May they have demonstrated a new nanoscale method that both rapidly separates very small numbers of molecules and also delivers them precisely onto surfaces with unprecedented control. When fully developed, the new technique has the potential to improve such diverse applications as medical lab tests and future nanoelectronic circuit manufacturing.

Also that month, Almaden Research Center researchers announce that they have set a world record in data density on linear magnetic tape by packing data onto a test tape at a density of 6.67 billion bits per square inch -- more than 15 times the data density of the most popular contemporary industry standard magnetic tape products.

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The U.S. Department of Energy's National Nuclear Security Administration (NNSA) and IBM announce on June 22 that a new mark was achieved on BlueGene/L -- the world's fastest computer. This world record for a scientific application was set by achieving a sustained performance of 207.3 trillion floating-point operations per second on the "Qbox" computer code for conducting materials science simulations critical to national security. The computer is housed at NNSA's Lawrence Livermore National Laboratory.

Scientists and researchers at the IBM Almaden Research Center outline on September 6 a number of key projects detailing the future of the data center, including Storage-Class Memory, Intelligent Data Storage, Storage Systems That Compute and the intersection of virtualization and autonomic computing. The event is timed to mark the 50th anniversary of IBM's introduction of the world's first commercial hard-disk drive system -- the [IBM 350 Disk Storage Unit](#) and the [305 RAMAC Computer](#) -- regarded as one of the most significant products in the history of information technology.

IBM reports on September 6 that the U.S. Department of Energy's National Nuclear Security Administration has selected the company to design and build the world's first supercomputer to harness the immense power of the Cell Broadband Engine (Cell B.E.) Processor and be capable of a sustained speed of up to 1,000 trillion calculations per second (1 petaflop). The hybrid supercomputer ("Roadrunner") will be installed at DOE's Los Alamos National Laboratory in New Mexico beginning later in 2006, with completion scheduled for 2008.

IBM, in conjunction with Harvard University's Division of Engineering and Applied Sciences, announces in October the implementation of CrimsonGridBGL, the largest IBM System Blue Gene solution in U.S. academia. The system offers a peak performance of 11 trillion floating point calculations per second and would currently rank among the top 50 fastest supercomputers in the world.

Researchers at IBM's India Research Laboratory report in October that they have developed a Web-based, interactive language technology to help people who speak English as a second language improve their speaking skills.

The U.S. National Center for Atmospheric Research acquires a new IBM supercomputer {"blueice"} that nearly triples the Center's sustained computing capacity. With a peak speed of 12 teraflops, blueice will enable scientists to enhance the resolution and complexity of Earth system models, improve climate and weather research, and provide more accurate data to decision makers.

The U.S. Department of Energy announces in November that its Office of Science, the National Nuclear Security Administration and IBM will share the cost of a five-year, \$58 million research and development effort to further enhance the capabilities of the fastest computer in existence.

Also in November, the U.S. Defense Advanced Research Projects Agency awards IBM a four-year, \$244 million contract to develop a machine that provides 100 times the sustained

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performance of current general purpose supercomputers and is dramatically simpler to program, administer and use.

ASTRON -- one of the world's leading astronomy research organizations -- announces in December a new collaborative agreement with IBM focusing on the design, engineering and manufacturing of customized, high-performance analogue and mixed signal processing chips. The chips will be used in thousands of antennas as part of ASTRON's project to build a new prototype radio telescope called SKADS/EMBRACE, which will be the precursor for the world's largest radio astronomy telescope -- the Square Kilometer Array.

IBM reports in December that its researchers have built a device capable of delaying the flow of light on a silicon chip, a requirement that could eventually allow computers to use optical communications to achieve better performance.

Facilities

IBM announces the opening of the AIX Collaboration Center. Through a two-year, \$200 million investment, IBM will use the center based in Austin, Tex., to collaborate with customers, developers, ISVs and academics to drive innovation around AIX technology; and to develop, test and adopt new applications and middleware for the AIX operating system.

IBM opens a new Electronics Innovation Center in February as an extension of the company's Tokyo Research Lab. The new center will bring together real-world marketplace experience with IBM Research's electronics industry expertise to deliver differentiating innovation in the turbulent electronics industry.

IBM announces in March a new Global Business Solution Center in Bangalore, India, that will enable IBM to provide clients worldwide with a range of high-value solutions through its global network of delivery centers.

IBM says in March that it is opening a new global delivery center in Shanghai, China, to address the growing global demand for the delivery of application services to clients from Japan, Europe and North America. Covering 84,000 square feet, the center will have a seating capacity of more than 700 seats and consolidate IBM's existing delivery sites in Shanghai into a single location. The next month, the company announces a laboratory in Shanghai that will develop software for the IBM System z and perform related testing.

IBM chairman Samuel J. Palmisano opens the Russian Systems and Technology Laboratory (RSTL) in Moscow on June 20. Already staffed with more than 40 employees, the RSTL population is expected to grow to more than 100 by the end of 2006, reaching a level of more than 200 employees by year-end 2008. IBM will invest \$40 million over the next three years in the new lab. As the RSTL has the mission to design, implement, test and support IBM products that will be distributed worldwide, it will report into, and take business direction from, the IBM Systems and Technology Group and operate as part of IBM Russia.

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IBM reports on June 22 the expansion of its Business Transformation Outsourcing (BTO) Center in Brisbane, Australia, to meet the growing demand for multilingual business and technology services across the Asia Pacific region.

IBM announces on September 5 the opening of a multi-million-dollar, high-performance software and services laboratory in Sao Paulo, Brazil. The first of its kind on the continent, the High Performance On Demand Solutions Lab (HiPODS) is designed to support the growth of business across the emerging markets of Latin America by finding answers to the most vexing business and technology questions. The Brazil lab joins a global grid of six specialized IBM facilities to deliver a growing range of software lab services, including the recently opened HiPODS in China and India, as well as Japan, the United Kingdom and the United States. The lab provides businesses access to servers, storage and high-value skills from IBM's top talent in Brazil and around the world, depending on the specific needs of the client.

IBM opens the IBM Oil & Gas Centre of Excellence in Stavanger, Norway, to provide world-class solutions and innovations for the oil and gas industry.

IBM announces that it will open a new IBM Innovation Center in Barcelona to help startup companies, software developers and independent software vendors in Spain and Portugal create new software applications and services.

IBM announces the launch of China's first Energy Competency Center (ECC), a joint effort by IBM and Intel Corporation. The ECC in Beijing will provide oil and gas companies in China and the Asia Pacific region with the technologies to find and extract hydrocarbon deposits more quickly and efficiently, while controlling costs and reducing risks. The Beijing facility joins two other IBM and Intel Energy Competency Centers: one in Moscow established in 2002 and another in Abu Dhabi, opened in 2004.

Corporate Citizenship

IBM and more than 20 major worldwide public health institutions, including the World Health Organization and the Centers for Disease Control and Prevention, announce on May 15 the Global Pandemic Initiative, a collaborative effort to help stem the spread of infectious diseases.

As part of its national public awareness initiative to provide technology access and training to Native People across the United States, IBM donates ten Young Explorer computer learning centers to the Cherokee Nation's Head Start program in Oklahoma.

The United States Environmental Protection Agency announces in May that IBM has earned the 2006 Climate Protection Award for the company's outstanding efforts to protect the Earth's climate. The EPA says that IBM and 12 other Climate Protection award recipients have demonstrated ingenuity, leadership and public purpose by improving their environmental performance and encouraging others to do the same.

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IBM launches a program in August to equip computer science majors at colleges and universities with the technical skills to develop or adapt computer programs for people with disabilities, the maturing population, and non-native language speakers so that they can more easily access, navigate and use the Web and electronic office documents.

In partnership with the Native American Chamber of Commerce and with SeniorNet, a leading nonprofit technology educator of older adults, IBM announces on September 28 Hope and Harmony for Humanity -- a grant-based initiative designed to bring computer technology access and education to low-income and remote Native American reservations across the United States.

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