

## **A BRIEF HISTORY OF THE IBM ES/9000, SYSTEM/390 AND zSERIES**

### **1990**

IBM makes its most comprehensive product announcement in 25 years by introducing the System/390 family consisting of 18 Enterprise System/9000 processors ranging from midrange computers for office environments to the most powerful computers IBM has ever offered. Featuring enhanced function and capability to manage information systems, the System/390 provides increased processing power, better network management, improved communication among multivendor systems and the Enterprise System/9000 processors. In many cases, customers currently using IBM Enterprise System/3090 systems can easily upgrade their systems to System/390 processors.

Other 1990 announcements include: several networking products to make it easier for customers to use their midrange, desktop and System/390 computers to communicate with non-IBM computers.

### **1991**

IBM unveils seven new Enterprise System/9000 processors and operating system software — Advanced Interactive Executive/Enterprise System Architecture (AIX/ESA) — for the System/390 family. AIX/ESA is a further step in IBM's implementation of open-systems computing across its product line and is based on UNIX and the Open Software Foundation's OSF/1 standards. The company begins shipping in volume and on schedule two top-of-the-line ES/9000 models that were announced in September 1990. IBM Japan says it will supply Enterprise System/9000 processors and operating system software to Mitsubishi Electric Corp. for remarketing. The agreement marks the first time IBM has sold large processors as an original equipment manufacturer for resale.

### **1992**

IBM introduces two entry-level Enterprise System/9000 processors and ships five new Enterprise System/9000 water-cooled processors — Models 520, 640, 660, 740 and 860 — one-to-four months ahead of schedule.

### **1993**

IBM announces 18 new models of Enterprise System/9000 processors, including the Model 982, the world's most powerful single-image, general purpose commercial processor. The Model 982 provides 60 to 70 percent more processing power than the largest model IBM has been shipping. The company also announces enhancements, such as the ESCON Multiple Image Facility, to the Enterprise System/9000 520-based models.

**1994**

IBM announces in April the System/390 Parallel Sysplex Offering, encompassing the Coupling Facility, the S/390 Parallel Transaction Server, high-speed coupling links and software enhancements. Also announced at that time are the S/390 Parallel Query Server, a specialized database server to the existing ES/9000 complex, the ES/9000 Model 9X2, and five new ES/9000 air-cooled processors. Six models of the System/390 Parallel Enterprise Server, along with new versions or releases of IBM mainframe operating systems, are rolled out in September.

IBM Belgium/Luxemburg announces the implementation of 16-megabit DRAM memory chip technology in an IBM ES/9000 processor at the Universite de Liege, the first 16M-bit memory chip installation in a large high performance processor in the world.

**1995**

IBM forms the Server Group, to include the AS/400, RS/6000 and Systems Technology and Architecture divisions, as well as the businesses that had been part of the Large Scale Computing Division (LSCD). Two new divisions replace LSCD: System/390 Division and the Power Parallel Division.

IBM unveils 12 new models of the System/390 Parallel Enterprise Server in June. The largest of the new servers, which all use complementary metal oxide silicon (CMOS) based processors, will provide customers up to 2.7 times the processing power of the largest CMOS-based IBM server in the marketplace. IBM ships more mainframe computing power in 1995 than in any year before.

**1996**

IBM introduces in September its third generation of microprocessor-based mainframes, the S/390 Parallel Enterprise Server. With twice the performance of IBM's previous high-end S/390 CMOS servers, it can be linked to other S/390 systems to deliver more than 10,000 MIPS. At the same time, IBM also launches the System/390 Multiprise 2000 line, designed specifically for customers who need more flexible networking capabilities and computing power. Shipments of mainframe power grow 50 percent during the year.

IBM introduces OS/390, a network-ready, open, integrated large server operating system that can run both MVS and UNIX applications, and a new release of the Virtual Storage Extended/Enterprise System Architecture operating system.

At the 1996 Centennial Olympic Games in Atlanta, Georgia, IBM demonstrates the largest integrated information technology system ever seen by a mass audience. IBM systems are deployed on 30 interconnected venues. An estimated three terabytes of time-sensitive, transaction-oriented data are collected during accreditation, games management, scoring and other events, and are passed through 7,000 microcomputers, 250 LANs, 500 data lines and 2,000 wireless computers and other system communications devices. The system also supports 80 AS/400 servers and four System/390 mainframe computers.

**1997**

IBM completes in June one of the most important product transitions in the company's history with the debut of a new generation of System/390 servers, all powered by advanced microprocessors. The microprocessor "engines" help make the S/390 Parallel Enterprise Server - Generation 4 (G4) more powerful and less costly to produce and maintain than previous models, which used bipolar processor technology. Four months later, IBM unveils 15 new models of the S/390 Multiprise 2000 server family.

Among IBM's other software products 1997 announcements is OS/390 Version 2 Release 4.

**1998**

IBM introduces in May the IBM S/390 - Generation 5 (G5) server, the most powerful S/390 computing system. Two months later, IBM says the S/390 G5 Parallel Enterprise Server 10-way Turbo model has smashed the 1,000 MIPS barrier, making it the world's most powerful mainframe. The company ships its 1,000th S/390 Parallel Enterprise Server - Generation 5 in November — less than 100 days after G5 manufacturing began, marking the largest ramp-up in S/390 history. In all, 1998 shipments of mainframe computing power, measured in MIPS, increase 60 percent over 1997.

IBM's e-business and network computing announcements during 1998 include the industry's premier system security for conducting business over the Internet encompassing a hardware/software solution integrated with IBM's flagship enterprise operating system, OS/390, and IBM S/390 Parallel Enterprise servers - Generation 3 (G3) and Generation 4 (G4).

**1999**

The company rolls out the S/390 G6 Server as the world's most powerful commercial enterprise server. The S/390 Parallel Enterprise Server - Generation 6 is the first enterprise server to use IBM's innovative copper chip technology, and extends customers' ability to handle millions of e-business workload transactions and large-scale enterprise resource planning applications. The S/390 G6 family's largest system can deliver more than 1,600 MIPS capacity.

IBM's S/390 G5 Server sets a new record for Internet performance, posting a rating of 21,591 hits per second — a 50 percent increase over the previous record.

The IBM S/390 CMOS Cryptographic Coprocessor chip — a key product for providing secure e-business — receives the U.S. government's highest certification for commercial security. To date, IBM offers the only two products to achieve a Federal Information Processing Standard 140-1 Level 4 certification.

**2000**

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.

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.

**2001**

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.

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.

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