

IBM Ushers In Era of Stream Computing

New Software Delivers Real-Time Business Analytics Platform to Enable Smarter Business Decisions

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At its annual investor briefing today, IBM announced the availability of its unique "stream computing" software that enables massive amounts of data to be analyzed in real time, delivering extremely fast, accurate insights to enable smarter business decision-making. The new software is called IBM System S.

(Photo: <http://www.newscom.com/cgi-bin/prnh/20090513/NY16192>)
(Logo: <http://www.newscom.com/cgi-bin/prnh/20090416/IBMLOGO>)

IBM also announced today the opening of the IBM European Stream Computing Center, headquartered in Dublin, Ireland that will serve as a hub of research, customer support and advanced testing for what is expected to be a growing base of European clients who wish to apply stream computing to their most challenging business problems.

Additionally, IBM is making System S trial code available at no cost to help clients better understand the software's capabilities and how they can take advantage of it for their business. This trial code includes developer tools, adapters and software to test applications.

System S is built for perpetual analytics -- utilizing a new streaming architecture and breakthrough mathematical algorithms, to create a forward-looking analysis of data from any source -- narrowing down precisely what people are looking for and continuously refining the answer as additional data is made available.

For example, System S can analyze hundreds or thousands of simultaneous data streams -- stock prices, retail sales, weather reports, etc. -- and deliver nearly instantaneous analysis to business leaders who need to make split-second decisions. The software can help all organizations that need to react to changing conditions in real time, such as government and law enforcement agencies, financial institutions, retailers, transportation companies, healthcare organizations, and more.

"System S software is another example of IBM helping clients through our long-term investments in business

analytics and advanced mathematics," said Dr. John E. Kelly III, IBM senior vice president and director of IBM Research. "The ability to manage and analyze incoming data in real time, and use it to make smarter decisions, can help businesses and other enterprises differentiate themselves."

The enormous potential of this technology represents a significant advancement in information technology: using computers to rapidly analyze multiple streams of diverse, unstructured and incompatible data sources in real time, enabling very fast, accurate and insightful decisions. As the world becomes increasingly interconnected and instrumented, the amount of data is skyrocketing - not just structured information found in databases - but unstructured, incompatible data captured from electronic sensors, web pages, email, blogs and video. By 2010, the amount of digital information is expected to reach 988 exabytes, roughly the equivalent of a stack of books from the Sun to Pluto and back.

Traditional computing models retrospectively analyze stored data and can not continuously process massive amounts of incoming data streams that affect critical decision-making. System S is designed to help clients become more "real-world aware," seeing and responding to changes across complex systems.

This first-of-a-kind software platform features a combination of more than 20 years of IBM information management expertise, five years of development by IBM Research, and more than 200 patents to create a powerful high-performance computing system that is adaptable to run on a variety of hardware. This software, already in use by select clients worldwide, illustrates how IBM Research can help expand the company's opportunity for growth and provide powerful new solutions for clients.

Client Examples

Uppsala University and the Swedish Institute of Space Physics are using System S to better understand "space weather," which can influence energy transmission over power lines, communications via radio and TV signals, airline and space travel, and satellites. By using the LOIS Space Center radio facility in Sweden to analyze radio emissions from space in three dimensions, scientists use this technology to compile endless amounts of data and extract predictions on activities in space. Since researchers need to measure signals from space over large time spans, the raw data generated by even one antenna quickly becomes too large to handle or store. System S analyzes the data immediately as it streams from sensors. Over the next year or so the project is expected to perform analytics on at least 6 gigabytes per second or 21,600 gigabytes per hour - the equivalent of all the Web pages on the Internet.

The Marine Institute of Ireland plans to use System S to better understand fragile marine ecosystems. As a

core component of this collaboration, a real-time distributed stream analytical fabric for environmental monitoring and management is under development. Acting on large volumes of underwater acoustic data and processing it in real-time, the Institute extracts useful information such as species identification of marine life, population count and location. Future extensions to the analytics platform, using acoustic data sampled at alternate frequencies might allow correlation and modeling in areas such as weather and marine traffic, extending the value of the recently announced SmartBay project.

TD Securities and IBM collaborated to develop a revolutionary prototype of the world's fastest automated options trading system using System S. With this system, scientists at IBM collaborated with TD Securities to achieve a 21 times performance improvement on the volume of data consumed by financial trading systems.

IBM and the University of Ontario Institute of Technology (UOIT) are using testing System S to help doctors detect subtle changes in the condition of critically ill premature babies. The software ingests a constant stream of biomedical data, such as heart rate and respiration, along with clinical information about the babies. Monitoring "preemies" as a patient group is especially important as certain life-threatening conditions such as infection may be detected up to 24 hours in advance by observing changes in physiological data streams. The type of information that will come out of the use of System S is not available today. Currently, physicians monitoring preemies rely on a paper-based process that involves manually looking at the readings from various monitors and getting feedback from the nurses providing care.

For more information about IBM's System S software, visit <http://www-01.ibm.com/software/data/infosphere/streams/>. System S is available as a part of the InfoSphere Product line.

For more information about IBM, visit: <http://www.ibm.com/think>

Editors' Note: Photos are available via the Associated Press Photo Network and on the Internet at Feature Photo Service's link through <http://www.newscom.com/>

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