



Making the best buying decisions

Best Buy is one of America's most successful electronic retail chains. With over 400 stores, plus an ecommerce site, this household name recently undertook an ambitious IT project, which used IBM® MQSeries® and MQSeries Integrator (MQSI) to create the hub for an exciting new IT infrastructure.

Best Buy's success is based entirely on delivering what the customer wants, at the right price. A price-matching

guarantee, locally arranged prices and instant updates all work together to ensure that its customers have access to the best deals around. But it hasn't always been this simple. Until a year ago, Best Buy's IT systems were struggling to keep pace with the growing demands placed on them. Which is why the company turned to IBM MQSeries and MQSI as the basis for an entirely new IT architecture that would allow it deliver on its customer promises now and grow with its future success.

Communicating customer value
With the launch of more stores and the company's website, Best Buy has grown significantly over the last few years. This has placed an increasing strain on its supply chain management facilities. Previously, stock level information was sent on a nightly basis from each store to the main Best Buy mainframe within the corporate office. Unfortunately, at peak times, such as the weeks leading up to Christmas, the volume of information from each store exceeded the batch

Software	DB2® IBM MQSeries Integrator Version 2.0 IBM MQSeries
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IBM Services	IBM Global Services: Architecture mapping, design of interfaces
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Customer Benefits	Increased speed to market Ability to roll out new applications quickly Delivery of timely business data to remote stores and website Increased stability and automation of processes Guaranteed delivery Ability to reuse business logic
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With IBM MQSeries, Best Buy has a leading edge system that connects every single application in its growing IT environment.

“In a consumer focused market like ours, first to market is often the only thing that matters, so its essential to ensure that the information we deliver to the market is both timely and accurate.”

window for each transmission and this meant that throughout the night there were delays as all the store computers queued to send stock information to Best Buy's corporate office.

This inability to provide timely stock updates caused two problems. The first was that the stores had to keep higher stock levels than was desirable to avoid outages and also, during the night, the website's ability to assess stock levels within stores was compromised by the unavailability of accurate information. This gave rise to the possibility of customers ordering goods for collection that were not available within the stores.

Also and more importantly, the lack of this information meant that Best Buy's stores were unable to change pricing information quickly in response to competitor prices. This was critical because of Best Buy's Price Promise Guarantee which states that if a customer can prove that a competitor's price is lower, Best Buy will reduce the price of that item accordingly.

Until recently, however, this information was not communicated to the corporate office until the store closed. It would then be added as a message to the overnight batch delivery to the corporate office which would in turn send a new price out to local stores, based on their proximity to the competitor store. Each store then manually changed the price at the point of sale.

Unfortunately, this meant that at least twelve hours passed before the price change was communicated to the stores, thereby compromising the company's ability to offer the best price for products. Jamey Salsberg, COE Leader of Best Buy said: “In a competitive industry like ours, the ability to guarantee the lowest prices is essential, so we needed a way to reduce the time taken to report stock levels and pricing information, without compromising day to day operations.”

A new vision for IT

After reviewing its IT infrastructure, Best Buy envisioned a completely new IT infrastructure that would allow it to replace ageing mainframe systems with leading edge ERP and supply chain technology over the course of several years. This would enable it to become more reactive to customer demands and provide almost real time stock information to all stores and the ecommerce site.

Salsberg explained: “It had come to a point when we had outgrown our data upgrade systems and needed to act fast to maintain our competitive advantage. We knew we needed a partner who could deliver leading edge data transport tools and so we turned to IBM.”

Best Buy's choice of IBM was the continuation of a long-term relationship with the IT leader. IBM had previously been responsible for the selection and integration of several hardware systems within Best Buy, including its mainframe system. Salsberg said: “IBM was the natural choice, as their consultants really understood our company's needs and IBM had the best range of products on the marketplace to complete this project.”

Developing its requirements

Salsberg commented: “With stores across America and an ecommerce site, we really have to be available 24x7. So to minimise downtime, we needed to divide this project into manageable chunks that would allow us to maintain our critical business systems while progressing to our new IT set-up.”

IBM proposed MQSeries and MQSeries Integrator to transmit and transform messages between Best Buy's various applications. The company agreed to this and piloted a small-scale project which used MQSeries to transform and transmit stock information from stores to the mainframe.

This development increased the frequency of communications between the corporate office and the stores, and created event driven messaging. This means that whenever price alerts are sent through MQSeries, from the stores to the mainframe, they pass through MQSI. MQSI analyses and transforms the message according to business logic that calculates which stores need to change their prices. This information is then immediately sent to the stores involved, which automatically update all point of sale applications.

This development also allows the company to poll the branches on a regular basis using MQSeries, to check stock levels. So, rather than having to wait for the stores to close to order more stock, dwindling stocks are flagged on the messaging system for reorder.

This not only ensures that in-store pricing and stock levels remain correct, but also ensures that when a customer buys a product from Best Buy's website, they can check, in near real-time, whether that item is available for collection from local stores. "We are the only company offering this service and thanks to MQSeries, we are reaping the benefits of being able to be respond to customer demand."

Putting MQSeries at the heart of the enterprise
Best Buy was keen to implement several business solutions, such as Oracle® Retec and i2® to streamline its supply chain management and other critical business processes. Without the time or knowledge to develop an integration solution, however, Best Buy asked IBM to help map an IT architecture that would allow it to continue to use its legacy databases and applications, while simultaneously migrating to its new IT solutions.

IBM proposed a detailed architecture with MQSeries residing on staff workstations and MQSI as the main



messaging hub. This would allow messages sent from both new and legacy applications to be transformed by the MQSI hub into information that could be understood by all of the applications that needed the data, ensuring the seamless flow of information into and out of the corporate offices.

Rolling out IBM MQSeries
Thanks to IBM training, Best Buy was able to roll out MQSeries and MQSI very quickly. Salsberg commented: "Both MQSeries and MQSI provide a range of powerful functions "off the shelf". Together with MQSeries connectors, we were able to just pick the products we needed to integrate all our new applications and very quickly transform our IT environment."

Salsberg enthused: "With MQSeries and the support of IBM, we have been able to build an IT infrastructure that will grow with us. We've gone from having an overstretched IT architecture that had performance problems, to a leading edge system that interconnects every single application in our growing IT environment."

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Delivering Best value

IBM MQSeries and MQSI have delivered extensive flexibility benefits to Best Buy. Salsberg said: "With IBM MQSeries, we can rapidly develop new services and dynamically change product prices according to predetermined business logic. This is critical to our business success."

This system is also expected to offer further flexibility benefits in the future. "MQSeries and MQSI are seamlessly extendible so if we want to add another application, all we have to do is add another adaptor," commented Salsberg.

Salsberg also remarked on another of MQSeries' benefits: "With MQSeries, you get guaranteed delivery. If one of our applications breaks down, therefore, all the messages on the network are placed in a queue, so we don't have to worry about creating a new feed. When normal service is resumed, the messages continue automatically. This means we can be sure that every message will reach its destination, where previously, we would have had to resend the whole batch order."

"Most impressively though," concluded Salsberg, "is MQSeries' speed of development. In a consumer focused market like ours, first to market is often the only thing that matters, so its essential to ensure that the information we deliver to the market is both timely and accurate."

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