



Overview

Country or Region: United States

Industry: Energy Utility Provider

Customer Profile

Consolidated Edison Company of New York (Con Edison) is a regulated utility that provides electric service throughout New York City (except for a small area of Queens) and most of Westchester County.

Business Situation

Con Edison had various internal Microsoft Windows Web Servers that run approximately 100 distributed applications and needed a solution to manage distributed transactions for an asset inspection system spanning mixed platforms involving SQL, IBM Mainframe and Unix in a client server, .Net and Mainframe environment.

Solution

The Henson Group devised a strategy to have the MSMQ-MQSeries Bridge enable Con Edison applications to exchange messages between IBM MQSeries on the IBM mainframe and MQSeries on HPUX with Microsoft Message Queue Server (MSMQ) easily and efficiently. Therefore, the MSMQ-MQSeries Bridge would provide connectionless, store-and-forward messaging across Con Edison's various messaging systems.

Results & Benefits

- Centralized message queuing
- Connectionless, store-and-forward messaging across various messaging systems
- Automated link with field engineers and internal administration
- Remote access via ADO.NET and COM+
- Access and visibility into gas inspection and leak-related info
- More effectively response times for Gas Business Unit
- Supporting a daily average of 2,000 transactions
- Plans to extend solution to support other applications.
- 60% less expensive than a solution based on IBM middleware technology

MAJOR ENERGY UTILITY INCREASES FIELD OPS RESPONSIVENESS AND EFFICIENCY

CONSOLIDATED EDISON

Microsoft Host Integration Server 2004

“Our goal was to establish a centralized message queuing server and this Microsoft technology exceeded our expectations.”

Joseph Arcaro, Con Edison IT Executive

Award-winning Microsoft Gold Certified Partner The Henson Group, Inc. (THG) implemented Microsoft's MSMQ 2.0 and Microsoft's Host Integration Server 2004 (HIS) to automate transactional support and fault tolerance for certain critical applications at utility Consolidated Edison, Inc. (Con Edison).

BUSINESS SITUATION

Consolidated Edison Company of New York (Con Edison) is a regulated utility that provides electric service throughout New York City (except for a small area of Queens) and most of Westchester County. Con Edison also provides natural gas service in Manhattan, the Bronx, and parts of Queens and Westchester; and the utility owns and operates the world's largest steam system, providing steam service to most of Manhattan.

Con Edison is a subsidiary of Consolidated Edison, Inc., one of the nation's largest investor-owned energy companies, with approximately \$12 billion in annual revenues and \$25 billion in assets.

As part of Con Edison's massive technology infrastructure, the utility had various internal Microsoft Windows Web Servers that run approximately 100 distributed applications (or an application that is stored at a central site and distributed through the network on demand).

Con Edison developed a requirement to handle distributed transactions for an asset inspection system spanning mixed platforms involving SQL, IBM Mainframe and Unix in a client server, .Net and Mainframe environment.

Message Queuing (MSMQ) is essentially a messaging protocol that allows applications running on disparate servers to communicate in a failsafe manner. MSMQ 2.0 is a version of MSMQ that is fully integrated into Windows 2000. This integration includes features to make the use and migration of MSMQ quite compelling for Con Edison.

To rectify in-doubt transactions, Con Edison looked at two options, expanding the use of MQ Series and implementing an HIS/MSMQ platform.

“We already had the conduit, MQ Series,” says Joseph Arcaro, of the Information Technology Planning department in Con Edison. “What would have been required was that we put the MQ Series Client, or preferably, MQ Series Manager on our Intranet Servers, which house 100 applications.”

Inevitably, Arcaro and his team felt this installation of either client or server would have compromised its servers and the stability of its 100 other applications, which are not related to the dispatching application.

“Instead we chose to use the MSMQ approach and recommended a solution that encompassed MSMQ on the Intranet servers and a service running on another server that read the queue and interfaced with MQ Series,” Arcaro says. “It was then that we reached out to Microsoft and they said that Host Integration Server did that. The only problem was we didn’t know HIS. That is where The Henson Group came in.”

As one of only a few partners globally that are currently listed on Microsoft’s Host Integration Server page as consulting experts in HIS (<http://www.microsoft.com/hiserver/partners/si.asp>), The Henson Group is not just Microsoft Gold Certified in HIS, but a proven global provider for HIS related services. Microsoft assigned this opportunity to The Henson Group based on the consultancy’s expertise in this area.

The Henson Group provides expert assistance in leveraging the MSMQ-MQSeries Bridge as an external gateway between two otherwise incompatible message queuing systems, to provide a seamless interface between Microsoft Message Queue Servers (MSMQ) running on Windows 2000, Windows NT, or Windows 95/98 computers and IBM MQSeries running on mainframes and other systems.

SOLUTION

To achieve the automation it sought, Con Edison was evaluating Microsoft’s MSMQ 2.0 and the MSMQ-MQSeries Bridge, which is part of Host Integration Server 2004 Enterprise Edition.

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The MSMQ-MQSeries Bridge is an external gateway between two otherwise incompatible message queuing systems.

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MSMQ-MQSeries Bridge provides a seamless interface between Microsoft Message Queue Servers (MSMQ) running on Windows 2000, Windows NT, or Windows 95/98 computers and IBM MQSeries running on mainframes and other systems.

With MSMQ-MQSeries Bridge, MSMQ and MQSeries applications can send messages to each other, between the message queuing systems. MSMQ-MQSeries Bridge achieves this by mapping the messages and the data fields of the sending system and the values associated with those fields, to the fields and values of the receiving environment.

After the mapping and conversion, MSMQ-MQSeries Bridge completes the process by routing the message across the combined MSMQ and MQSeries networks.

In this instance, The Henson Group endorsed a strategy to have the MSMQ-MQSeries Bridge enable Con Edison applications to exchange messages between IBM MQSeries on the IBM mainframe and MQSeries on HP/UX with Microsoft Message Queue Server (MSMQ) easily and efficiently. Therefore, the MSMQ-MQSeries Bridge would provide connectionless, store-and-forward messaging across Con Edison's various messaging systems.

RESULTS & BENEFITS

“Our goal was to establish a centralized message queuing server and this Microsoft technology exceeded our expectations,” Con Edison's Arcaro says.

The Henson Group achieved Con Edison's objectives of automating its link with field engineers and internal administration by implementing an MSMQ 2.0 and an MSMQ-MQSeries Bridge. This solution now provides Con Edison technicians with remote access via ADO.NET and COM+ to connect to a Windows application that utilizes HIS 2004 MSMQ to MQ Series Bridge to access and update tickets in the GIS system.

Specifically, to facilitate exchange, The Henson Group deployed an MSMQ 2.0 infrastructure with local MSMQ installs specifying the IC option to allow Con Edison's GIS application to store messages locally, in the event of a network or server outage. MSMQ-MQSeries Bridge and MSMQ 2.0 route messages to the MQSeries Queue Manager. And, the MQSeries Queue Manager was also configured to send messages to MSMQ for additional application integration.

Most importantly, this solution can now provide Con Edison's employees access and visibility into gas inspection and leak related information instantaneously. Among other things, this enables Con Edison to more effectively meet response-time requirements of the Gas Business Unit.



“My advice is to stay with stuff within the operating system and don’t be afraid to pull people in from outside to help you get a critical piece of knowledge.”

About The Henson Group

Founded by former Microsoft engineers in 2000, The Henson Group is an award-winning Microsoft Gold Certified Partner specializing exclusively in deploying Microsoft technologies, official product training, and strategic consulting for overcoming today’s business challenges.

The preferred solution provider for many major US and international corporations, The Henson Group is designated an official “Go To” partner for most major products, consistently ranked within the top three consultancies in Microsoft’s partner directory (found at: <http://directory.microsoft.com>), holds a seat on the national Microsoft Partner Advisory Council, has direct ties to the product groups, and offers a price guarantee that assures the highest quality service at an unbeatable value.

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For message delivery to and from MQSeries, The Henson Group set messages as transactional, which allows the “deliver-once” feature of MSMQ and MQSeries. This feature ensures that each message is delivered only once.

In the MQSeries to MSMQ direction, Con Edison can now send a transactional message pipe by specifying the appropriate remote queue manager alias.

Each messaging system sends and receives data in its native format. MSMQ-MQSeries Bridge converts the message formats automatically between the systems.

Applications can send messages using standard MSMQ or MQSeries API calls. (Con Edison does not need to recode existing applications to use MSMQ-MQSeries Bridge.)

And, MSMQ-MQSeries Bridge supports transactions and deliver-once features, ensuring that Con Edison’s messages will be properly delivered following recovery from a system failure.

Shortly after bringing the solution into production, Con Edison was reporting a daily average of 2,000 transactions from the Unix MQseries Server back to a Microsoft Server.

Based on this success, Con Edison is seriously considering extending the solution to support other applications.

In terms of costs, the Microsoft solution was more than 60% less expensive than a solution that would have been based on IBM middleware technology.

“In just the past 11 days, 92 million bytes of data were sent through, so this is not an insignificant amount of transactional throughput,” Arcaro says.

“We had to get up early to stay ahead of Greg Henson and his team,” Arcaro adds. “We were working with an area we never touched before, so we relied on the Henson Group to enlighten our staff.”

Throughout the course of the engagement, The Henson Group provided extensive knowledge transfer to various groups inside Con Edison, including the Active Directory group, the server support and technology planning teams, as well as its developers.

“THG was able to transfer a lot of knowledge and his experience down on to us, documenting step by step everything we needed to know,” Arcaro says. “I wouldn’t call myself a messaging expert, but I now know a heck of lot more since they got here. My advice is to stay with stuff within the operating system and don’t be afraid to pull people in from outside to help you get a critical piece of knowledge.”