

# **CSC Demonstrates Scalability of WebSphere MQSeries Integrator**

*Attains 300 messages per second on an IBM S80*

**Implementing complex and high  
volume messaging systems  
requires a combination of  
technical expertise and sound  
technology. CSC can help clients  
implement high volume business  
solutions using the results of its  
extensive performance evaluation  
and the power of  
IBM's MQSeries Integrator.**

## **Transforming Vision into Reality: Meeting the Challenges of STP CSC Systems Performance Center proves IBM's MQSeries Integrator Version 2**

### **Product – MQSeries Integrator**

IBM MQSeries Integrator is part of the MQSeries family, which enables application integration by helping business applications to exchange information across different platforms.

MQSeries Integrator is a powerful information broker that selects and distributes information to the applications, databases, and people that need it. Users can implement real-time, application-to-application message transformation and intelligent message routing quickly and easily. Using MQSeries to deliver messages, MQSeries Integration enhances the capability of the MQSeries network by orchestrating the flow of information based on policies or business rules. It can enrich and transform data, dynamically routing it in the format required by the recipient.

The latest release is available in 10 national languages, and extends support for existing AIX, Sun Solaris and Windows NT/2000 platforms to include HP-UX and a solution for eserver iSeries (AS/400) that significantly increases integration opportunities. It also supports MQ Series Everyplace and SCADA protocols to enable closer integration with remote users.

### **Background**

In February 2001, CSC Consulting Group approached IBM with a proposal to pilot the CSC Systems Performance Center component of their new technology solutions strategy with a structured evaluation of IBM's MQSeries Integrator<sup>(R)</sup> (MQSI). The Systems Performance Center is the key element of CSC's strategy responsible for evaluating and coordinating choices of strategic technologies and publishing the results to support and direct architecture practitioners in the field. CSC planned a focused effort to derive the product's architectural considerations and performance characteristics by using MQSI in a business case context.

CSC's Financial Services Industry Practice recommended straight through processing (STP) as a prime example of a topical business case context for the research. The financial services industry faces a complex set of business challenges ahead as they address the necessary reengineering of processes and systems for STP and T+1. Critical success factors will include minimizing transaction latency, reducing exception handling, and streamlining business processes. STP will be a key competitive advantage for these firms, but the path to attaining that advantage has a number of technology challenges that can only be met with a robust enterprise infrastructure. A well-designed, appropriately abstracted technical architecture can provide a suitable base for the implementation of STP, providing scalability and performance to meet increasing transaction volumes, as well as the flexibility to implement innovative e-business initiatives. Message-oriented middleware such as MQSI is key to building and maintaining this type of systems architecture.

The goals of this effort were:

- To use CSC's Performance Center evaluation process to generate deep shared knowledge of the functional and performance characteristics of MQSeries Integrator Version 2;
- To pilot the Performance Center structure to disseminate the research results to the field for use on projects, providing key benefits to the mutual clients of IBM and CSC;
- To present the results of this research to both internal and client audiences at the CSC 2001 Business and Technology Solution Conference and the IBM 2001 Transaction and Messaging Conference

### **Approach**

CSC wanted to understand how MQSeries Integrator could be used with MQSeries to support high message volumes for a range of workloads. Besides studying the scalability of MQSI, CSC also wanted to measure and derive performance metrics for the core product functions. CSC and IBM designed, built, and tested a system prototype, based on the published specifications for the Global Straight Through Processing (GSTP)

Concentrator. The GSTP Concentrator was chosen as the workload to be tested as it gave a business context for the workload and set real world performance goals. Besides the technical and performance challenges, the GSTP Concentrator workload required solutions for keeping state information, dynamic routing, complex data validations, and data translations. These requirements provided realistic specifications for testing the software.

The team used MQSeries Integrator Version 2 to provide the messaging and integration services that were needed. The prototype also used MQSeries for message routing. Using the CSC Systems Performance Center's comprehensive four-step evaluation process, performance tests were conducted using a rigorous methodology based on a formal benchmarking approach. Tests are executed in a stand-alone environment with a bounded and well-defined System Under Test (SUT), utilizing an IBM RS6000 S80 12-way and attached ESS. All results were proven by demonstrating repeatability. The Center used previously developed testing tools to automate the collection of performance measurements, thereby ensuring accurate results.

### **The Results**

The results, and the collaborative work performed by the combined CSC and IBM project team, demonstrated that this research project was highly beneficial to both companies and our mutual clients.

The MQ products demonstrated the performance and scalability objectives by successfully processing the industry-specified workload for the GSTP Concentrator.

Presentations of the results were given to clients at two conferences, the 2001 IBM Transaction and Messaging Conference and the 2001 CSC Business and Technology Conference. A future presentation is planned for IDUG (International DB2 User Group) May 2002. Best practices, design guidelines, and performance metrics were produced from the evaluation results. Architects can use the performance metrics to build predictive performance models when comparing the performance of design options. Having actual performance experience with key products reduces risk and helps ensure that systems will meet performance requirements.

### **Client Benefits**

The real winners of this research effort are the clients. To achieve the STP business and technical objectives will require a partner like CSC who understands the business issues and drivers, has performed in-depth research on products such as IBM MQSeries Integrator, and can apply their experience to the critical architecture design decisions. CSC helps clients achieve their vision and reduce risk in turning the conceptual architecture into reality by applying the knowledge gained by CSC's research and experience to the design of real client solutions.

On the surface, helping clients apply STP best practices to their systems will allow them to comply with regulatory mandates for T+1. Beyond the regulatory mandates, these solutions create lasting value for clients by:

- Streamlining their business processes, eliminating wasted time and resources;
- Reducing systems complexity, driving out wasted time, cost, and risk;
- Facilitating value chain optimization, increasing the flow of information between systems, across organizations, and between enterprises;
- Reducing transaction costs, resulting in improved margins and ability to be more competitive;
- Decreasing IT maintenance expenses, allowing more time to be spent on priority systems development activities.

### **Further Information**

For more details, please contact:

- Jane Peugh, Marketing Director, CSC Consulting Group – [jpeugh@csc.com](mailto:jpeugh@csc.com), 001-781-290-1681

- David Cho, Solution Manager, IBM – [dcho@us.ibm.com](mailto:dcho@us.ibm.com), 001-513-762-2053