

XML Thunder Customer Case Study: JSON processing

Bi-directional JSON processing with CICS/COBOL application on z/OS

The challenge

A Fortune 500 financial and business services company with over 500,000 employees wanted to use JSON, a lightweight JavaScript protocol, for faster transport and integration of internal data between their z/OS mainframe based COBOL/CICS enterprise application and their Java based Open Systems Enterprise BPM.

Similar to many large IBM shops, the company has significant investment in IBM's WebSphere and RDZ (Rational Developer for System z). They had successfully employed a combination of WSDL and XML/SOAP in conjunction with their homegrown application. However, faster processing was needed than these technologies could provide.

JSON (Java Script Object Notation) was selected as a lightweight alternative to XML/SOAP because it eliminates much of the overhead inherent in XML/SOAP processing. JSON combined with WADL and their in-house developed COBOL/CICS application was the chosen combination that could yield significant performance improvement.

Having selected the JSON format they were still missing a solution that would parse or create JSON for the mainframe COBOL/CICS application. The requirements for any potential solution included high performance as high volume transactions would have to be processed. The COBOL application would have to both parse and create JSON messages in order to facilitate smooth data integration between the z/OS mainframe and Open Systems.

Their existing framework did not support this. Developing a solution in-house was not feasible because of the timeline and expense associated with addressing sophisticated JSON processing..

The solution

Project members discovered and tried an automatic code generation solution from Canam Software Labs called XML Thunder (www.xmlthunder.com). XML Thunder is a proven platform-independent product for COBOL and C - XML/SOAP transformation. It has been used on numerous large development projects in organizations worldwide in banking, financial, defense, industrial and government sectors..

However, JSON support was not a feature that was available for COBOL within the XML Thunder toolset. Given the vendors' experience and expertise the company was open to Canam's proposal to enhance the XML Thunder toolset to include JSON support. Canam was highly responsive to their project needs and added the JSON support capability in a timely fashion.

When the resulting XML Thunder generated JSON processing program code was tested and benchmarked the result was a 700 percent performance gain over existing XML/SOAP solution.

Now close to 100 JSON message types with millions of JSON message instances are handled in production at this organization. XML Thunder and Canam Software Labs made it possible for the company to quickly and easily automate the support of parsing and creating JSON in COBOL. This full-life cycle solution is a first of its kind for the COBOL market.

Rational Developer for System z and WebSphere are trademarks of the IBM Corporation.