

Federal Government Agency Performs SOA Date and Time Simulation Testing across their Enterprise Architecture

Background

The organization in this case study is a large US Federal agency, more than three quarters of a century old, supporting over 1,400 offices responsible for providing service to over 300 million clients nationwide. With such a large client portfolio, the agency had a need to ensure that its critical applications would always function correctly on all of their IBM mainframe and associated platforms, across all the United States time zones.

The agency provides sophisticated social insurance workers' programs consisting of retirement, disability, and survivors' benefits, including their spouses and children, and to the survivors of insured workers. The agency works with other municipal, county, state, local, federal and International partners to increase access and approval of benefits for those who are legally eligible.

Challenges and Requirements

The agency's application development teams needed a user-friendly solution for time travel testing application functionality by simulating dates and times (DTS testing) to ensure risk-free, accurate date and time logic in every transaction. This would enable them to ensure that applications with date-dependent logic (e.g. legalities, account statements, invoices, pensions, paychecks, renewals and a wide variety of other benefits) would function correctly, improving application reliability and increasing user satisfaction. They needed to simulate every legitimate (e.g. no February 30th) past or future system date and time within the range of their evolving SOA environments, which included their backend COBOL apps that ran and executed with batch, CICS and DB2 databases. They also needed integration with their increasing web-enabled Java application portfolio running with WebSphere Application Server under UNIX Systems Services (USS-OMVS), with the diversification of apps across other UNIX and/or Linux platforms.

Due to a highly complex environment, there was a serious need for maximum granularity in activation of any job step via JCL. This required a DTS tool that could simulate dates and times at the individual job step without impacting other jobs or users (it would also help minimize system overhead). Any DTS tool employed would not be able to make permanent changes to the IBM or any other vendor system code and it would need to support the IBM z/OS 64-bit environments.

All of this functionality needed to be in a single tool to access the whole z/OS-based SOA environment, where the incumbent MVS-based tool could not. The solution would also need to co-exist with all vendor (e.g. IBM) code and third-party products, including the incumbent DTS product.

Solution

The agency installed Softdate and after extensive testing, it was proven that Softdate met all of the system-level requirements and was fully backward compliant with the incumbent product, as both

could exist in the same z/OS LPAR(s). User adoption of features was very fast - users quickly learned how easy it was to quickly switch from the existing DTS tool to Softdate. They then moved onto their very modern SOA environments by DTS testing their z/OS-based Java apps in cohesion with many distributed IBM WAS (WebSphere Application Servers) with full integration with their back-end z/OS-based COBOL, CICS and DB2 apps. The end result was accurate, risk free dates and times in all their enterprise-wide web applications. Complete cohesion was accomplished, enabling them to provide higher quality service to their clients.

Benefits

Softdate's fully integrated features enabled this agency to fully DTS test all the SOA app suites that have Big Data on backend DB2 databases and front-end clients who self-serve via BYOD. The agency was also able to reduce the impact on the system thanks to the Softdate "minimum impact" design which means that there is essentially no impact on jobs that are not using Softdate (whereas the incumbent product intercepted every system date or time request, resulting in much higher overhead).

Softdate functions as a virtual time machine across all apps and databases under IBM's z/OS batch, CICS, IMS (including FastPath), DB2, UNIX Systems Services, WebSphere Application Server and TSO environments, plus every variety of Linux/UNIX and versions of Microsoft Windows. Softdate's Date and Time Simulation (DTS) is minimizing the potential for data errors that could otherwise escalate with exponential growth out of customer systems and into the lives and businesses of many citizens and customers. Softdate provides the most advanced SOA and Enterprise testing of date and time application logic, supporting both future and past DTS with no need to change the system clocks.

Softdate allowed the agency's Developers and Testers to thoroughly test the most advanced SOA application suites in the opening up of z/OS with WebSphere Application Servers and the integration and cooperation of Java apps with the backend CICS/DB2 Cobol apps, enabling them to providing better service for their large number of clients.

About DDV technologies

DDV technologies are committed to creating a better global and enterprise DTS development, testing and production experience. By combining decades of z/OS and Open systems expertise with the proven Softdate DTS Suite and an unmatched customer support team, DDV technologies delivers – helping application developers and production support create reliable high-quality enterprise applications faster and with ease. With the DDV's global reach you can count on tools that work as promised with knowledgeable support teams available 24/7 to answer questions.

PLAN FOR NOW AND THE FUTURE - WITH US.

To deploy the Softdate DTS Suite please call your local representative or go here and send an email: [mailto: <Softdate@ddvtechnologies.com.au>](mailto:Softdate@ddvtechnologies.com.au)