Test integration earlier

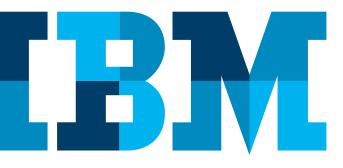*Virtualize WebSphere MQ end points*

The challenges of modern development and testing

Development teams are focused on delivering innovative high quality software at an accelerated rate to meet the needs of the business. However, heterogeneous environments hosting composite applications make testing all layers of the application throughout the development lifecycle a daunting task, and **testing has become the new development bottleneck**.

Development projects these days are complex, typically involving enterprise application integration (EAI), service-oriented architecture (SOA), electronic design automation (EDA) and distributed systems connected by an enterprise service bus that is implemented by middleware. Because of these complex connections and the protocols used to distribute information between machines (for example, SOAP, XML), **traditional approaches to test automation – focused on the user interface – are now impractical**. And with an accelerated rate of delivery, having test teams wait for a more stable release is not an option because **delayed testing defers risk to the later stages of a project**. In short, development teams need capabilities that eliminate their middleware end point dependencies earlier in the development cycle.

Testing WebSphere MQ integration earlier with Rational test automation capabilities

For many complex systems, IBM® WebSphere® MQ software acts as the middleware layer and brokers communication between integrated applications. Being able to validate integration earlier in the development lifecycle where it matters – at the integration layer – can help decrease the cost of resolving expensive defects,

avoid late-stage integration issues and reduce the overall cost of quality. IBM Rational® test automation capabilities are ideal for WebSphere MQ because they are designed to help:

- Virtualize or simulate dependent software and services. When deployed, a simulation stub monitors the message queue for incoming requests and posts responses based on the message format and content of the request.
- Run continuous integration and testing. Record or author test cases of virtualized dependent services for validation of all application layers without having to wait for the user interface to be made available and with typically less test script maintenance needed.

Addressing WebSpere MQ project performance concerns

Have you ever tried to measure how many transactions you can drive through a specific component or understand how an application will react to a long running transaction? Or, how can you emulate the condition of a long running response proactively to minimize the risk of such a response when composite software is deployed to a production environment? Rational test automation capabilities can help with these WebSphere® MQ project performance concerns:

- Virtual services can be configured to limit throughput, which enables you to measure the impact on other components.
- Performance constraints can be lifted from virtual services to measure the maximum throughput you can drive through your components.

Rational test automation solutions can make constant transformation sustainable for your WebSphere MQ projects. They are designed to provide reusable test assets and virtualization that can help you deliver enduring software quality and performance that exceeds expectations.

For more information

To learn more about Rational test automation solutions for your WebSphere MQ projects, contact your IBM sales representative, IBM Business Partner or visit: **ibm.com**/software/rational/offerings/quality. See also:

- IBM Rational Test Workbench **ibm.com**/software/rational/products/rtw
- IBM Rational Performance Test Server **ibm.com**/software/rational/products/rpts
- IBM Rational Test Virtualization Server **ibm.com**/software/rational/products/rtvs

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