BMC Middleware Automation

Quickly deploy applications and expertly manage their configurations — without scripting — for faster service delivery and fewer application outages.

Key Benefits

» Dramatically reduce application release cycles from weeks to hours

» Complete deployment and configuration management — without scripts — for Java EE™ and IBM® WebSphere® Portal applications

» Eliminate errors with consistent deployments across multiple environments — physical, virtual, or cloud

» Enable continuous integration and continuous deployment initiatives

» Greatly reduce dependence on experts to handle repetitive and mundane tasks

» Simplify troubleshooting of configuration-related problems

» Reduce installation and configuration risk by eliminating manual processes

» Improve productivity by eliminating deployment script maintenance and release process documentation

Business challenge

Cloud computing, web-based applications, and Agile development create unprecedented service delivery challenges for development and IT operations. As organizations develop and deploy Java™ Enterprise Edition (Java EE) applications more and more quickly, they struggle with the increasingly complex and time-consuming task of troubleshooting and configuring web application server environments. The process is typically cumbersome, error prone, and inefficient, leading to unacceptably long release cycles and frequent service outages.

The BMC solution

BMC Middleware Automation deploys, configures, and troubleshoots Java EE applications quickly, efficiently, and safely. It is a vital tool for anyone who needs to ensure consistency of deployment environments or quickly diagnose problems in application server configurations.

Model-based configuration management

Using a data-modeling approach, BMC Middleware Automation interrogates any supported web application server to create a configuration snapshot — an abstract model of all unique settings and their interdependencies.

You can compare snapshots to detect configuration drift over time or to quickly identify inconsistencies between servers that can affect performance. This is a “must have” diagnostic capability for anyone responsible for service delivery with Java EE applications. BMC
Middleware Automation uses its internal data model to enforce data integrity and maintain correct values of interdependent settings, so you can edit snapshots with confidence to create new server configurations.

Distributed application deployment
For application deployment, BMC Middleware Automation combines a configuration with one or more Java EE applications (EAR, WAR, or JAR files) to create a deployment package. Any necessary variations across environments, such as server names, database connections, and clustering, can be represented with tokens that are replaced with their correct values at deployment. This maintains release process integrity by adapting deployment packages to target environments without actually modifying their contents. Applications and configurations are transferred directly to application servers (no FTP) running in any environment (physical, virtual, or cloud). The solution eliminates variations in deployment packages and environment configurations, while also ensuring consistent test results, preventing service outages, and avoiding long hours of root cause analysis.

Auditing and compliance reporting
By comparing snapshots over time, BMC Middleware Automation not only audits servers to detect configuration drift, but also can quickly remediate non-compliant servers by surgically updating incorrect settings. Establishing and maintaining standards for application server configurations and documenting adherence to those policies are the essence of compliance reporting. BMC Middleware Automation produces extensive pre-installation, installation, and comparison reports to support comprehensive compliance reporting. Details captured in reports include who made the changes, when the changes were made, which servers were affected, and exactly what was changed, including before and after values.

Application server migration
For many customers using older versions of IBM® WebSphere® and Oracle® WebLogic, migrating to a newer version is a top priority. However, conventional server migrations require a lot of time and effort documenting old configurations and translating them to the new version. Even after that substantial investment, there is often the unpleasant discovery that applications do not run reliably, and finding the underlying problem is another diagnostic nightmare.

BMC Middleware Automation automates the migration of IBM WebSphere and Oracle WebLogic application server configurations from older to newer versions. Performing a migration is just a special case of installing a configuration. BMC Middleware Automation uses its abstract data model to translate the old configuration to the newer release. With this capability alone, BMC customers have saved thousands of person-hours and delivered reliably working applications on currently supported versions of WebSphere and WebLogic.
Support for IBM WebSphere Portal
Portals are popular for their ability to aggregate content, personalize applications, and flexibly manage the look and feel of web-based applications. The problem is that with so much flexibility, the configuration and deployment of Portal applications can create real headaches.

With its data-modeling approach to configuration management, BMC Middleware Automation introduces an innovative and powerful capability to handle the dependencies that must be managed when making changes to — or releasing new — Portlets, applications, themes, skins, and content. Just as it does for Java EE application servers, BMC Middleware Automation enables IBM WebSphere Portal customers to deploy, manage, and configure their Portal instances without the use of scripts or manual intervention. It auto-detects dependencies and also packages new releases for automated and seamless delivery across development, test, stage, and production environments. It has the intelligence to include any dependencies in a deployment package. As a result, you no longer have to manually hunt for dependencies and discover them for yourself. Dependency management reduces complexity for Portal administrators and enables more rapid revisions and additions to your Portal environment.

With BMC, Portals become as easy to configure and deploy as they are to use — whether in physical, virtual, or cloud environments.

Alignment with best practices
The integrity of an application release process depends on consistency of deployment packages and environments. In-flight changes to either packages or environments can introduce inconsistencies that produce unpredictable results, including late delivery, poor application performance, and expensive outages. BMC Middleware Automation ensures deployment package consistency with parameterization and environmental consistency by making it easy to establish and maintain standardized configurations. Not only does the solution dramatically accelerate productivity, it does so with more predictable results at less cost.

Integration with BMC Release Lifecycle Management
BMC Middleware Automation is available as a stand-alone product or as a fully integrated component of BMC Release Lifecycle Management, part of the BMC Application Management Suite. This suite delivers comprehensive release planning, task coordination, automated deployment, configuration management, and performance management — from Development to Operations.
Supported Platforms:

» IBM WebSphere Application Server 5.1, 6.0, 6.1, 7.0, 8.0, 8.5
» IBM WebSphere Portal 5.0, 6.0, 6.1, 6.1.5, 7.0
» IBM WebSphere Virtual Enterprise 6.1, 7.0
» IBM WebSphere Process Server 6.2, 7.0
» Oracle WebLogic Server 8.1, 9.2, 10.0, 10.3, 11g (10.3.x), 12c
» Red Hat JBoss Application Server 4.2, 5.1, 6.0
» Red Hat JBoss Enterprise Application Platform 4.3, 5.1
» Apache Tomcat 6.0, 7.0
» SpringSource tc Server
» Apache Geronimo 2.2, 3.0

Technical Capabilities

» **Snapshot**: Automatically obtain configuration information from a known good instance. See exactly how your server is configured at a glance.

» **Compare**: Compare configuration snapshots from different servers for an “apples to apples” inventory of what is different across environments. Save hours of troubleshooting when time is critical.

» **Dependencies**: Select the part of your Portal that you want to promote through your release environments and automatically detect and promote the additional portions of your Portal that are dependent on the portions you selected.

» **Clusters**: Manage function independent of topology. Go from a stand-alone development instance to a clustered production instance with ease.

» **Preview**: Take deployments through a dry run to see what changes will be made without making them. Know what is going to happen before it happens and eliminate surprises.

» **Install**: Configure the application server and deploy the application in an intelligent and automated manner. No more scripts or manual steps.

» **Update**: Only make the changes to the application server that it needs to in order to fully configure the server. No more incremental scripts or “hot fixes” – catch up from any starting point to where that server needs to be.

» **Rollback**: Roll back to the last known good state if all or part of an installation fails. Your application server will never be left in a non-functioning state.

» **Migrate**: Automatically migrate older server configurations to new versions in minutes. Save months of lost productivity and avoid elevated support fees.

» **Audit**: Establish standard configurations and regularly compare production servers against the standard.

» **Report**: Log and capture all changes, including old and new settings, in detailed reports that can be saved as PDFs and used for change tracking and compliance reports.

Part of a Comprehensive Service Automation Solution

BMC Middleware Automation can be integrated to pre-production systems, such as source code control, build managers, and access control solutions. In addition, it can be integrated with the BMC Remedy IT Service Management Suite, BMC ProactiveNet Performance Management, and the BMC Atrium CMDB.

For More Information