



## OpenMake® Meister® & Mojo 7.2 Feature Summary

A product review of Meister and Mojo 7.2

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This document provides an overview of the many enhancements included in the OpenMake® Meister® and OpenMake® Mojo 7.2 product release. It will be a useful guide for those evaluating this new release against a prior version of OpenMake Meister or OpenMake Mojo. For more information about OpenMake Software or Openmake Software products and services visit the website at [www.OpenmakeSoftware.com](http://www.OpenmakeSoftware.com) or contact a sales representative at 312.440.9545.

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## Openmake® Meister® and Mojo 7.2 Overview

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Feature improvements in the 7.2 products include enhancements in four primary areas. The first of these areas address both Meister and Mojo and involve improvements in workflow processing and reporting. The use of the Postgresql database has been added for reporting improvements. A new browser based reporting portal has been introduced, called the "Management Control Console". Public Workflows can be executed from the Management Control Console, and all reports and logs can be viewed from this central location. The Management Control Console allows non-developers to execute workflows and view results through a web based interface, without needing to install any components on their local machines. The Management Control Console is helpful in globally distributed sites allowing easy access to build and workflow information from any location.

Secondly, Meister's Build Services were enhanced for both java and Microsoft developers. Meister's Build Services have been enhanced to assist java developers when managing custom output location mappings such as is used with MyEclipse and IBM-RAD. Meister has been extended to support Visual Studio 2008, Team Foundation Server and Team Build with the ability to perform x-platform and x-language builds.

Thirdly, enhanced continuous integration build processing is supported through Meister's continuous integration build scripts. Continuous integration build scripts allow developers to automatically synchronize builds running inside the Eclipse or Microsoft IDE with the builds scripts running outside of the IDE. This synchronization improves the agile process by supporting a continuous integration build that can automatically adapt to source code changes made by the developer, minimizing broken continuous integration build loops due to out of date build scripts.

And lastly, Meister Insight is introduced in version 7.2. Meister Insight provides Build Audit Reporting, binary Footprinting and Impact Analysis reporting. Meister Insight provides traceability between source code and binaries. This level of traceability

ensures that the binaries you are releasing to production match the source code you are managing in your version control repository.

## **Mojo and Meister Workflow Processing Enhancements**

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A new database component has been added to Meister and Mojo's workflow processing. This database component connects to the workflow for activity logging. In addition, our job submittal component has been enhanced for faster processing. This component, called `omsubmit.exe`, has been redesigned for better overall activity coordination and orchestration between remote build machines.

## **Mojo and Meister Management Control Console**

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The management Control Console is a web based portal that allows you to execute workflows and view reports and logs. This portal is intended for globally distributed companies where distributed teams need a quick and easy method for executing workflows and viewing workflow results. It can also be used by non-developer teams, such as configuration management teams and production control teams, for executing production builds and viewing production workflow metrics.

## **Meister Build Services Enhancements**

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Build Service enhancement include updates for both the java and Microsoft developer.

### **Java Enhancements**

Eclipse based IDEs, such as IBM-RAD and MyEclipse, support custom layouts for .jars, .ears and .wars. Meister 7.2 has been enhanced to support builds that use these custom layouts. Default and custom Eclipse mappings have been added so that a developer can specify input and output locations for source and class files in the .jars, .ears and .wars.

In addition to the custom mappings, the Build Methods for Java have been enhanced to improve the performance of large Java builds. No changes to builds using these Java Build Methods are required. The underlying Perl modules that support the Java builds have been profiled and performance tuned.

### **Microsoft Visual Studio 2008, TFS and Team Build Support**

Meister 7.2 has been enhanced to support Microsoft Visual Studio 2008, Team Foundation Server(TFS) and Team Build. For VS 2008, Meister's add-in has been enhanced to address changes in the VS 2008 IDE. Meister's dependency discovery has been updated to handle build decision making and Build Avoidance for VS 2008 objects.

Meister has been integrated to leverage TFS in the build process. Meister can retrieve source code from TFS, build the binaries and store the binaries back into TFS. In addition, Meister uses the TFS item history for tracking precisely what objects were used in the build, displayed via a Meister Insight's Build Audit Report. The Build Audit Report shows all items included in the build, even when it is not stored in TFS. The Insight Build Audit Report is a footprint of what occurred in the build and can be used to audit the build against what is stored in TFS.

Meister 7.2 also integrates with Team Build for coordinating workflow information that contains build activities. Meister passes to Team Build "execution commands" for Team Build to manage and orchestrate. These execution commands, which are Meister Workflows, can include the execution of tasks across multiple machines and languages. This means that Team Build can use Meister to orchestrate a build across diverse operating systems and languages. A build could include the compiling of Visual Studio 2008 objects on a Windows machine and Java objects on a Unix machine.

Meister has extended the MS Build functionality in order to enable Team Build interaction with Meister's Multi-platform and Multi-language support. MSBuild is the link between Team Build and Meister.

## **X-language and X-platform Build Support for Microsoft Developers**

Microsoft Visual Studio provides streamlined functionality of executing builds outside of the IDE using MSBuild. Because it is intended to support specifically Visual Studio, MSBuild's primary functionality is to support builds at the Solution Level, creating C#, and VB.Net objects. OpenMake Meister 7.2 extends the functionality of Visual Studio 2008 Builds supporting the creation of multiple language and platform objects including

Microsoft Visual Studio 6, VS .Net (2003), Visual Studio 2005, as well as any extended Visual Studio objects such as Biztalk. Table 1.1 shows what objects are supported by MSBuild and how OpenMake Meister extends the build capabilities of Microsoft Visual Studio.

Language	MSBuild/Team Build	Meister
C#	Yes	Yes
J#	Yes	Yes
VB.NET	Yes	Yes
C .Net	Yes, via VCBuild.exe	Yes
ASPX	Yes, via ASPCompile.exe	Yes
Multiple Solutions	No	Yes
C – VS 6	No	Yes
C++ – VS 6	No	Yes
VB – VS 6	No	Yes
MSI Installers	No	Yes
Old .Net Project file formats, Biztalk 2005	No	Yes
Java	No	Yes
Cobol	No	Yes

## Meister Continuous Integration Build Scripts

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Continuous Integration builds are the heart beat of the agile development methodology. Meister 7.2 supports continuous integration (CI) build scripts. CI build scripts integrate into the Eclipse, IBM-RAD, and Microsoft IDEs to synchronize the IDE builds with the build running on the Meister continuous integration server. By synchronizing builds in this way, coding changes made inside the IDE that have impacted the build scripts, are automatically reflected in the builds running outside the IDE on the Meister CI build server.

## Meister Insight

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Gathering and reporting on the creation of binaries is the job of Meister Insight. Meister Insight provides Build Auditing, which is the process of monitoring the build at the compiler level and reporting on each component used by the compiler during a build.

This level of reporting goes beyond just reporting on the files managed inside your version control repository. It instead list any object used in the compile even when the object is not stored in a version control tool. And if the object is found inside a version control tool, Meister Insight records the version control item history information. The results of the Build Audit can also be footprinted into the binary object for a bomb proof method of matching your binaries to your source code.

Meister Insight also provides full impact analysis showing how objects in the build are inter-dependent. Impact analysis reporting can be used to determine how a change in source code will impact the overall application as well as predict production compatibility.

## 7.2 Customer Enhancements

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OM.EXE can now handle Build Control Files that have Targets with no dependencies.

OM.EXE was updated to adjust the Target Names in the temporary project files for VS 2005 and 2008.

OM.EXE enhanced to support project to project references for website projects in VS 2005 and 2008.

The Meister .Net Add-in now supports importing of Microsoft Visual Basic targets.

BLDMAKE.EXE was enhanced to support the .noext dependencies that have a "." in the file name.

OMSUBMIT.EXE now handles the management of multiple submit functions regardless of user id.

Meister/Mojo 7.0.0 no longer downloads obsolete files from the 6.41 Knowledge Base Server.

Meister now encrypts passwords for activity plug-ins.

Visual Studio 2005 and 2008 Target generation fixed so that name truncation does not occur when the project files are higher in the directory structure than the solution file.

Meister enhanced to support replacement of macros that involve environment variables referenced in the command to be executed.

Meister enhanced to create the Management Control Console Windows Start Program items when Meister is installed as plug-in into Eclipse.

The Meister 7.2 Microsoft Add-in will now backup the solution and project files prior to executing a build.

Remote Build Server startup processes enhanced to for new runtime jar files.

Remote Build Server startup process corrected to create the appropriate registry key for windows service references.

Meister 7.2 Microsoft IDE Add-in enhanced to enable using Devenv build service.

Meister 7.2 Microsoft IDE Add-in enhanced to support forcing an output directory.

Meister 7.2 enhanced to support integration with 1.4.X JDK.

Meister 7.2 Target generator enhanced to enable the override of the WORKSPACE\_ROOT and TARGET\_DEFINITION settings.

## **Additional Information**

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For more information on all the features Meister can bring to application build processes to enhance Visual Studio .NET, please review the Meister datasheet available from a OpenMake Software representative or in downloadable form at [www.openmakesoftware.com/meister-info/](http://www.openmakesoftware.com/meister-info/)

## **Company Overview**

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OpenMake Software is a premiere provider of Build and Release Management software and consulting services dedicated to assisting customers with the implementation of standardized builds across the enterprise. OpenMake Software has specialized in the design and implementation of reliable and repeatable application builds for Global 2000 organizations since 1995.

### **North American Headquarters**

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