

MDA: What is in the standard?

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Model-Driven Architecture (MDA) is both an OMG standard and a generic way to develop software. The standard is currently a moving target, but it should be set in stone within the next year. The OMG standard incorporates, among others, Unified Modeling Language (UML), the Meta-Object Facility (MOF), the XML Meta-Data Interchange (XMI) and the Common Warehouse Meta-model (CWM).

The two most important elements to making the MDA plan work are UML -- the modeling format introduced by Rational Software (now owned by IBM) and later adopted by the OMG as a standard -- and MOF, which helps to translate the models into specific code. For its part, XMI is mostly about being able to share models and other development artifacts over the Web.

Both MOF and UML have new versions going through the standards process. The newest versions were due to be voted on by OMG members at the group's June meeting in Paris, and it was widely expected that both would be accepted at that point. From there, it will probably be between nine months and a year before all announced MDA vendors are up to speed with the standard, although some will be on board sooner rather than later. Among its other features, UML 2.0 improves the support for component-based software, essential in the MDA world. The new version reportedly scales better, too.

Jochen Seemann, group product manager at IBM Rational, explained why UML 2.0 is so crucial for MDA. "It's not enough to draw some lines and boxes; all the tools must understand the reasons behind the lines and boxes." With Version 2.0, both developers and tool vendors will be able to use common semantics through integrated tools. "And UML 2.0 comes with technical defined compliance levels," Seemann said. "In the future, we will be able to precisely say that we fulfill a certain level of compliance."

In addition to adopting V2.0, Rational will be making related announcements this summer that Seemann could not discuss at press time. But one has to do with Rational Rapid Developer, a new product based on technology Rational received when it acquired NeuVis last year. Rapid Developer will allow users to create "large portions" of the application from models, said Alan Brown, director of product strategy at IBM Rational. "It will leap between platform-specific and platform-independent technologies," he said, "so you don't have to have large numbers of developers coming up to speed in the servlet technology in WebLogic," for instance, he explained.

For its part, Compuware is not promising full support for every MDA-related standard right off the bat. "This is a process," said Wim Bast, the Amsterdam-based chief architect for OptimalJ. And even while Compuware is involved in "all aspects" of that process, he said, "we can't push OptimalJ as being standard in all aspects. There will be some changes and additions we'll implement as those standards evolve." There is a new version of OptimalJ due this summer, but a Compuware spokesman would not talk about specific features that would be part of that release.

In the meantime, though, Bast said MDA is helping UML to become more “real” to developers. “In the past you’d have this nice picture to help communicate with other people,” he said. “Then the ‘real’ work of coding had to be done. MDA makes modeling concrete -- UML is becoming a programming language again, something that really executes.”

Still, until all the best-laid MDA plans become reality, Cris Kobryn, chief technologist at Telelogic, cautioned users about different levels of standard compliance. “MDA is a wonderful conceptual architecture, and it’s evolving in terms of the standards that are part of this architecture.” To his way of thinking, UML 2.0 is “essential” to fulfill the promise of MDA. “If the modeling language has limitations, it’s not complete enough or precise enough to specify everything” needed to make the vision of MDA truly viable, he said.

MDA is already in danger of going off the hype-meter, Kobryn warned. He likened MDA today to object-oriented technology when it became hot, and then “everything became an object. There’s a point where good ideas become diluted. We need to be on solid ground with a more mature standard and more mature tools.”

That is what the OMG is hoping to do, said Jon Siegel, vice president of technology transfer at the organization. “By putting this into the spec for the MDA, we’re giving the industry a direction to follow — so all tools that implement MDA will work in the same way.”

For more specifics about the standard and information on which products their makers already consider to be MDA-compliant, check out the OMG Web site at www.omg.org/mda.

<http://www.adtmag.com/article.asp?id=7851>