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Dr. Dobb's

THE WORLD OF SOFTWARE DEVELOPMENT

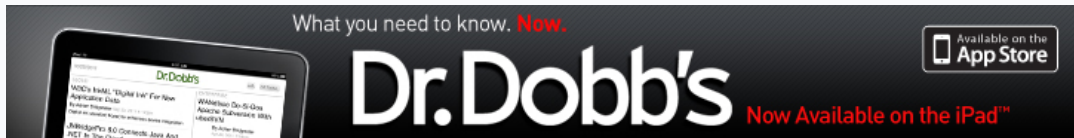
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Milepost GCC Now Available

June 30, 2009

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An open-source machine-learning compiler that intelligently optimizes applications

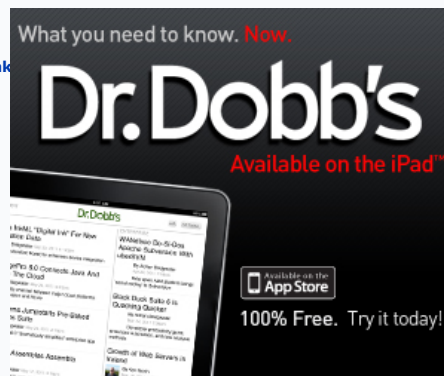
IBM announced the public availability of [Milepost GCC](#), an open-source machine-learning compiler that intelligently optimizes applications, translating directly into shorter software development times and bigger performance gains. Initial IBM experiments conducted on IBM System p servers achieved an average 18 percent performance improvement on embedded-application benchmarks.

The new compiler, a result of collaboration between IBM and its partners in the European Union-funded [Milepost Consortium](#), is expected to reduce time-to-market for new software designs. Applications can now be more quickly tuned for the targeted architecture, shortening the development cycle. For example, when a company wants to develop a new mobile phone, it normally takes application developers many months to get their software running at an acceptable level of performance. Milepost GCC can reduce the amount of time it takes to reach that level by a factor of 10.

"Our technology automatically learns how to get the best performance from the hardware -- whether mobile phones, desktops, or entire systems -- the software will run faster and use less energy," noted Bilha Mendelson, Manager of Code Optimization Technologies at IBM Research - Haifa. "We opened the compiler environment so it can access artificial intelligence and machine learning guidance to automatically determine exactly what specific optimizations should be used and when to apply them to ramp-up performance."

"We've developed a more cost-effective development process where you can choose to integrate additional functionality or use less power in your current system," added Mike O'Boyle, Professor of Computer Science at the School of Informatics, University of Edinburgh and Project Coordinator for Milepost. "Previously, the same devices could only support a limited list of features while still maintaining a high level of performance. Significantly boosting an application's performance means there's now more room for added functionality while maintaining high performance."

As a by-product of the Milepost technology, the consortium has launched a [code-tuning web site](#) available to the development community. Developers can upload their software code to the site and automatically get input on how to tune their code so it works faster.



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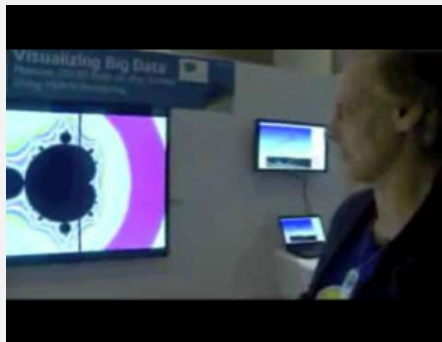
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This month, we focus on debugging and defect management with a guide on making issue tracking drive the development process, a refresher on debugging multithreaded applications in Windows, a review of post-mortem debugging approaches, **and much more!**

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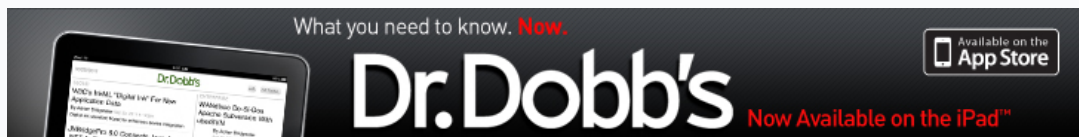
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