As we dive deeper into nanometer technologies, we must rethink the way we design. Tools, techniques, and methods that once worked without fail cannot hold up at the 65 and 45 nanometer depths, making it more challenging than ever to achieve yield. In nanometer technology, DRC is not enough. We must redefine the sign-off process itself to include a spectrum of new methods that assess design quality. Sign-off must include not only fundamental, rule-based physical verification and parasitic extraction but also a set of automated technologies that help improve yield by enhancing design itself. DFM solutions must deliver these automated technologies to the designer in a practical and easy to use way. This includes new ways to visualize and prioritize the data produced by the analytical tools. It also requires that existing tools expand their architectures to provide yield characterization and enhancement capabilities. Finally, the most successful DFM methodologies in the nanometer age will apply these new capabilities throughout the design flow - not just at the point of sign-off.

About Joseph Sawicki
Joseph Sawicki is the vice president and general manager of the Design-to-Silicon division, responsible for the Calibre nanometer platform including physical verification, parasitic extraction, resolution enhancement, mask data preparation (MDP) and design for manufacturability (DFM) products. After eight years as an IC designer, Joe joined Mentor Graphics, where for 15 years he has held positions in Applications Engineering, Sales, Marketing and Management. He holds a BSEE from the University of Rochester and an MBA from Northeastern University’s High Technology Program.