



GM CTO sees more code on future cars

The amount of software loaded into a typical car is skyrocketing, says a GM CTO

News Story by Robert McMillan

OCTOBER 20, 2004 ([IDG NEWS SERVICE](#)) - The relationship between General Motors Corp. and the software industry will experience some major changes over the next few years as software becomes a more important component of the automobile, said Anthony Scott, chief technology officer for GM's Information Systems and Services organization, at a conference of software industry executives yesterday in Santa Clara, Calif.

More than one-third of the cost of GM's automobiles now involves software and electronic components, and the amount of software loaded into a typical automobile is skyrocketing, Scott said. In 1990, each car included approximately 1 million lines of software code, but this number will jump to about 100 million by 2010, he predicted.

The emergence of the automobile as a platform for software developers means a much broader range of software will be used in tomorrow's cars. Remote diagnostics software, media players and even database software all will run on automobiles at some point, Scott said. "I can't think of software ... that isn't going to run on the vehicle," he added.

But the growing quantity and diversity of automobile software will also present new challenges. "What that says to me is that GM is going to have a major software management problem between now and 2010," Scott told audience members at the SoftSummit 2004 conference being held this week.

GM will be looking to the software industry to help with this software management problem and to assume greater responsibility for product liability and quality assurance, he said.

"People love to sue GM when they get into an accident or have some sort of a problem," Scott said. "As more and more software comes into the car ... GM is going to expect you to participate at some level in that liability."

Scott, whose company expects to spend \$15 billion on IT operations between now and 2006, also had some advice for technology providers that seek to work with his company's IT organization: Keep things simple.

GM currently is winding down a 10-year "master services" agreement that has had Electronic Data Systems Corp., formerly a subsidiary of GM, operating the bulk of the company's IT services. As the

contract expires and GM's outsourced IT operations become open to bids from a wider array of companies, the automaker will be looking to simplify the relationships it has with contractors, Scott said.

"What you're going to see is a focus from GM's perspective on reducing complexity," he said. GM will now expect its contractors, and not GM's IT department, to manage relationships with smaller contractors. "What will emerge is a model like what you'd see in the aerospace industry or large development contracts," he said.

GM, which outsources all of its IT operations, now has thousands of contracts for IT services, Scott said. "What we've learned over the last 10 years is that it just doesn't make sense for us to manage that level of complexity," he said.

To reduce that complexity, GM has standardized on a common desktop environment, a global employee portal and a companywide computer-aided design system over the past decade. The company now has 3,000 legacy systems in its IT operations, down from approximately 7,000 in 1996, Scott said.

"When we started this current [IT] organization in 1996, it was viewed as big, slow, ponderous, inefficient," he said. "I think we've arrived at a much better place."

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