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## GM CTO Says Software Will Be Part Of Bumper-To-Bumper Warranties

GM is facing major changes in the role of information technology, with software a growing component of vehicle cost and performance, and its use of outsourcing changing with the end of its EDS contract.

By Tony Kontzer, [InformationWeek](#)

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With General Motors Corp. less than two years from the end of its mammoth 10-year outsourcing contract with EDS, chief technology officer Tony Scott told a gathering of software executives Tuesday that the automaker's next-generation outsourcing model will have a more modular contract structure and will be built around fast-evolving IT requirements as more software code is pumped into new GM vehicles.

The increasingly software-intensive nature of auto design places a greater emphasis than ever on issues such as software quality, licensing practices, and compliance with the global business process standards GM has implemented in recent years, Scott said during a keynote address at the SoftSummit conference in Santa Clara, Calif.

Primary among GM's software requirements is the need to support an increasingly global business that's growing more dependent on sharing data during the design process. One example is an ongoing effort to use more standardized parts across brands and makes throughout the world. Another is collecting information from its OnStar in-car communications system. "What we need is software that's going to move information about product across this whole ecosystem," Scott said.

During GM's current contract with EDS--which GM owned for 12 years before spinning it off in 1996--the automaker has reduced its IT budget by about \$1 billion a year, to \$3 billion, with EDS owning about three-quarters of the contract. (GM's IT operation is nearly 100% outsourced, with oversight by an internal IT staff of 1,700.) The new outsourcing model, Scott said, will break the contract up into numerous contracts--the exact number hasn't been disclosed--covering individual areas such as desktop services, manufacturing systems, and financial systems. The total value is expected to be \$15 billion, with most of the agreements lasting five years. Scott says there are no rules as to how much of the business can be awarded to a single vendor. Software vendors will work directly with the IT outsourcing provider responsible for the related area, with Accenture, EDS, Hewlett-Packard, and IBM expected to be the leading contenders for the bulk of the contracts.

Software has for years been an increasing part of the vehicle design process, and GM has been among the leaders in replacing clay models and paper processes with software-powered, math-based design environments, which have helped the company cut to as little as 18 months the time it takes to turn a concept for a car into a vehicle ready for sale.

Now, software and electronics have become the biggest single expense in the actual production of a vehicle, accounting for a third of the cost, he said, and that trend figures to accelerate. The total lines of software code contained in a GM car, which had grown from 100,000 to 1 million lines between 1970 and 1990, will reach a staggering 100 million by 2010, Scott predicted. "What that tells me is that GM's going to have a major software problem between now and 2010, and we're going to need your help," he said.

Software vendors will be required to include their products in the bumper-to-bumper warranties that car buyers have come to expect, Scott added.

Numerous new features will drive the use of software in next-generation vehicles. GM is looking to meet increasing demand for the ability to interface with cell phones, MP3 players, and other mobile devices. Navigation systems continue to grow in popularity and sophistication. Adaptive cruise control, which automatically slows a car if the vehicle in front of it slows, will begin to appear in products over the next couple of years. And GM's OnStar offering, which has more than 2.6 million subscribers, constantly feeds more and more data into GM systems. For instance, more than 20,000 remote diagnostic reports come in via the service each month, all of which GM needs to use to address problems in the manufacturing process.

With software looming so large in GM's plans, Scott has a word of advice to software vendors: Stop dwelling on up-front licensing costs, which account for less than 30% of GM's total software spending, and make maintenance programs and upgrade paths less complex and more affordable. Keeping up with vendors' tinkering with long-term licensing fees creates a heavy burden for GM, which frequently has to revisit outsourcing contracts that were based on existing licensing agreements, Scott said. "None of that has any benefit for GM," he added. "It's just a cost."



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