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MILITARY COMPUTER SYSTEMS   March 28, 1980

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ATLANTA, GA....Are the computers which disseminate information during national crises out of date?

A Georgia Tech scientist says some computers in the United States' World Wide Military Command and Control System (WWMCCS) are outmoded. Moreover, he believes that the government's system of replacing its computer hardware compounds the problems of obsolescence.

WWMCCS (pronounced Wimex) made headlines recently when newspaper articles revealed the system had partially malfunctioned during several international emergencies of recent years.

"WWMCCS contains hundreds if not thousands of computers, some of which should be replaced," said Billy Wise of Tech's Computer Science and Technology Laboratory. "But because of the sheer size of the network and the cumbersome nature of government acquisition regulations, you just can't order a new computer and expect to plug it in tomorrow."

Wise said the government now uses a complicated purchase procedure which results in a seven-year lag from the time an order is placed until the computer is received.

"The system ensures that purchases will be carefully scrutinized and that bidding will be above board," he said. "But unfortunately this procedure was

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not designed for complex machinery. Computer technology is developing so fast that by the time you get a replacement it's out of date."

Georgia Tech computer experts are doing research on an alternate method for government acquisition of computers, known as accreditation. Using this concept, government purchasers would cease their current practice of buying computers to fit highly specified needs applicable to one function only. Instead, a list would be developed of readily-available products that could perform basic, but more general, computer functions.

Manufacturers whose products were judged most suitable for those tasks would be placed on a list of accredited vendors -- firms from whom the government could buy computers.

"This procedure could result in better prices, improved technology and less time in filling needs," Wise said. "The people in charge of coordinating systems like WWMCCS would have a say-so in compiling the accreditation specifications, so another result of this method could be a more efficient defense command and control system."

Accreditation isn't Georgia Tech's only foray into the field of military computer research. Wise said Tech scientists also are developing more precise ways to evaluate the performance of huge computer systems like WWMCCS.

"There is almost no commonly understood vocabulary or conceptual framework for designing or evaluating command and control systems," he said. "One of the government's biggest problems now is determining how to judge the success or failure of a network like WWMCCS."

Another Tech research effort focuses on ways to verify the accuracy of large computer information systems. Special methods of rapid verification are necessary, Wise said, because these networks are exceptionally large and their correct performance is unusually important.

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In another research area, Georgia Tech is helping the U. S. Army plan for its computer needs in the 1990's. Wise said the military lacks the personnel to do long-range planning of this sort. The Army has selected Tech and other institutions, he said, because they have expertise in forecasting future advances in computer technology.

"We don't design many new computers at Tech," Wise said. "The private companies are best suited for that kind of work. Our main thrust is computer applications -- making computers fit the roles they're needed to perform."

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