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Editor: Lori Weisenbach
Tel: 954/340-6740
Fax: 954/255-1974
E-mail: lw4bcc@aol.com

Production Editor: Kathleen Flynn

BCC Newsletter Group
Editorial Director: Alan Hall
Director of Operations: Robert Butler
President: Louis Naturman

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TRAFFIC MANAGEMENT

A New Wind Blows in ITS?

Modcomp (1650 W. McNab Rd., Ft. Lauderdale, FL 3309-1088; Tel: 954/977-1917, Fax: 954/977-1250, Email: parrishb@modcomp.com, Website: www.modcomp.com) will soon complete the installation of a control system designed for Virginia Dept. of Transportation's (VDOT, 1401 East Broad St., Richmond, VA 23219; Tel: 804/786-2701, Fax: 804/786-2940) Hampton Roads Bridge and Tunnel. VDOT was looking to replace the current traffic control center with a low cost, nonproprietary system. Morris Pearson, a VDOT computer systems engineer who will operate the new system, says that Modcomp's solution allowed "a multi-million dollar project to be done for a lot less."

A key factor in the deployment is Modcomp's use of supervisory control and data acquisition (SCADA) software. SCADA is process and control software that is used to control and monitor industrial manufacturing processes. Intellution's (One Edgewater Dr., Norwood, MA 02062; Tel: 781/769-8878, Fax: 781/769-1990 Website: www.intellution.com) process and control software package interfaces with the field hardware and collects the data. Both digital and analog data can be collected by a SCADA system, and SCADA is completely scalable. Additional PCs can be linked to the system using well known SCADA protocols, thus expanding system capability quickly and cheaply with a few lines of code.

Other benefits to using SCADA include lower initial system costs, shorter put-in-use time, lower risk to contractor and end user, lower life cycle costs, and is easy to upgrade or add functions. The system as designed is compatible with the national architecture, and is flexible enough to be altered if necessary. Although Modcomp is the first to design a SCADA application in Intelligent Transportation systems (ITS), Frank Roark, principal project engineer, notes that SRI, Inc. first published a paper describing the advantages of SCADA for traffic applications.

The system will control and monitor traffic lights, overhead signs, speed, and environmental warnings. Operators can choose between preset traffic control programs or make adjustments in real time to control traffic flow. Roadbed sensors are used to calculate traffic volume, calculate traffic speed, and detect accidents. Eight PCs will replace an entire wall of monitors. All the information currently displayed

on the monitors will be accessible to the operators on each PC.

The system is a commercial off-the-shelf (COTS) system. The eight PCs, running Microsoft Windows NT operating system, form the computing system. Windows NT was specified by VDOT, but is not a requirement; most of Modcomp's process control projects use the UNIX operating system. VDOT specified that only proven technology be used. Intellution's software is installed in over 80,000 applications. A Microsoft SQL database is used to collect the filed data.

ITS is often promoted as a "dual use" application for technology originally designed for military purposes. Many defense contractors have entered ITS markets, and followed the same proposal and quotation practices as in the defense industry. Modcomp, in contrast, approached its contract with VDOT as it would a commercial client, according to Bud Parrish, MTS III engineer. Modcomp's proposal was designed to meet as many of the specifications as the possible and then priced competitively.

Rather than a request for quotation (RFQ), this project was done using a request for proposal (RFP). The goal for the RFP is to get the best technical solution—rather than focusing on price. Modcomp's bid was two and a half-time less than the closest other bid received, but need not have been the low bid, Parrish says. Using an RFP system, he explains, "allows the technical people to choose the best system solution, rather than the lowest bid."

In this project, Roark notes, Modcomp has been so successful meeting goals and keeping costs down, that Pearson has been required to explain "how could that be?" to his superiors. Modcomp is very proud that there have been no cost overruns, no delays and no change orders during the project, which is scheduled to be completed by summer.

Parrish predicts that the successful completion of this project, on time with no cost over-runs, will be the genesis of a new era in ITS funding. "A new wind will be blowing through the ITS industry," Roark agrees, if the project concludes successfully. VDOT considers the current project is considered a pilot project, and if completed successfully, additional contracts will be granted.