

ETG 032006

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FMTC open sources EtherCAT master library

The Flanders Mechatronics Technology Centre has decided to release their EtherCAT master implementation as open source software. The EtherCAT master library, together with its technical documentation can be obtained from <http://ethercatmaster.berlios.de>. Technical discussions and patches are welcomed on the mailing list, accessible from the same website.

“When we started our investigation of Ethernet fieldbus systems two years ago, EtherCAT was still an upcoming technology”, explains Bob Koninckx, program manager at FMTC. “We saw, however, great potential for Motion Control applications. Also the possibility to use CANopen as the application layer, allowing for an easy upgrade of existing CAN-based applications was much appreciated”, he continues.

FMTC member companies are machine builders, active in very specialized markets, like textile, sheet metal working, agriculture etc. Often they build their own control solution, simply because they can not find solutions that meet their needs on the market. A fieldbus, regardless of its technical merits, that can not be easily integrated with their in-house developed controllers, will therefore never be interesting to them. “In order to assess the usefulness of EtherCAT for our member companies, we were more or less obliged to make our own implementation”, Bob Koninckx says.

“We were pleased that our steering committee agreed with the above ideas and allowed us to release our EtherCAT master implementation as open source software at the end of the project. Also the support we got from the EtherCAT Technology Group was much appreciated”, he adds. In his opinion, this was one of the strongest arguments they could possibly make to prove that EtherCAT indeed is an open technology.

Martin Rostan, Executive Director of the EtherCAT Technology Group: “The FMTC open source EtherCAT master library is a most welcome enhancement to the EtherCAT technology offering. It provides EtherCAT

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connectivity to the open source community and will contribute to the success story of our high performance Ethernet- based fieldbus system.

The concerns that open source projects might dilute conformance with the standard were met by careful additions to the GNU public license: code developed in this project has to remain compatible with the EtherCAT specs and a valid EtherCAT implementation.”

“The software has been written for and has been tested with the eCos operating system (<http://ecos.sourceforge.org>)”, explains Klaas Gadeyne, FMTC’s lead developer of the library. “It has however been written with portability in mind. We did our best to limit the dependencies on the operating system to a bare minimum and localized them in only a few files. Porting to another operating requires as little as 700 lines of source code to be inspected and possibly modified”, he continues.

“I think we provided something useful”, Bob Koninckx concludes. “The sources are now available. I really hope that the project will pick up and that people will start using them, improving them, porting them and contribute their modifications.”

About FMTC

The Flanders Mechatronics Technology Centre is a centre of excellence in mechatronics, founded in 2003 by AGORIA, the Belgian multisector federation for the technology industry, and fourteen leading mechatronic companies in Flanders. FMTC is supported by the Flemish government and tries to bridge the gap between academic know-how in mechatronics and the implementation thereof in industrial applications, in order to facilitate faster product innovations and thereby safeguard and improve the competitiveness of its member companies. In order to accomplish this mission, FMTC has a rather unique business model of joint research projects, classified in three research programs; machine diagnosis, modularity of machines and machine dynamics. More recently, provisions have been taken to allow also non-member companies to participate in joint research projects. FMTC also offers the possibility of contract research.

EtherCAT Technology Group is an international user and vendor organisation in which key user companies from various industries and leading automation suppliers join forces to support, promote and advance the EtherCAT technology.

Please send readers' questions to:

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