FROM SPECIFICATION TO EMBEDDED SYSTEMS APPLICATION

IFIP – The International Federation for Information Processing

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

> *IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.*

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

• The IFIP World Computer Congress, held every second year;
• Open conferences;
• Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is in information may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

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IFIP TC10 Working Conference:
International Embedded Systems Symposium (IESS),
August 15-17, 2005, Manaus, Brazil

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Preface

The International Embedded Systems Symposium (IESS) is an IFIP TC-10 Working Conference that brings together experts from industry and academia to create through presentations and discussions an atmosphere conductive to innovation and development. The discrepancy between the venue conference, Amazon forest in Manaus (Brazil), and the technological research provides an harmonic atmosphere for the technology transfer within the participants.

As almost no other technology, embedded systems is an essential element of many innovations in automotive engineering. New functions and improvements of already existing functions, as well as the compliance with traffic regulations and customer requirements, have only become possible by the increasing use of electronic systems, especially in the fields of driving, safety, reliability, and functionality. Along with the functionalities that increase in number and have to cooperate, the complexity of the entire system will increase.'

Synergy effects resulting from distributed application functionalities via several electronic control devices, exchanging information through the network bring about more complex system architectures with many different sub-networks, operating with different velocities and different protocol implementations.

To manage the increasing complexity of these systems a deterministic behaviour of the control units and the communication network must be provided for, in particular when dealing with a distributed functionality, resource management or redundant realization.

The topics which have been chosen for this working conference are very

timely: design methodology, modeling, specification, software synthesis, power management, formal verification, testing, network, communication systems, distributed control systems, resource management and special aspects in system design.

We all hope that this working conference in this beautiful part of the world will be a memorable event to all involved.

Achim Rettberg, Mauro C. Zanella and Franz J. Rammig

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