

## **IFIP WORKING GROUP 10.5**

### **REPORT OF ACTIVITIES JULY 2001 - JUNE 2002**

#### **1. Sponsored events**

The VLSI-SoC conference has been successfully organized in Montpellier, France, from December 5<sup>th</sup> to 8<sup>th</sup>, 2001. The conference had more than 120 attendees. Three keynote speakers gave invited talks on relevant topics. 70 papers have been selected for presentation. The best conference papers, already selected by the Programme Committee, have been included in a book to be published by Kluwer in 2002.

The CHARME'2001 - Working Conference on Correct Hardware Design and Verification Methods, sponsored by the WG and organized by SIG-CHARME, has been successfully organized in Livingston, Scotland, from September 4<sup>th</sup> to 7<sup>th</sup>, 2001. Proceedings have been published by Springer-Verlag, under Lecture Notes Volume 2144.

The DIPES'2002 – Workshop on Distributed and Parallel Embedded Systems, sponsored by the WG and organized by SIG-ES, will be held in August 2002, as a special track of the IFIP World Congress in Montreal, Canada.

#### **2. In-cooperation events**

The FDL'2001 - Forum on Design Languages, was held in Lyon, France, in September 2001. It has been organized by ECSI and co-sponsored by WG 10.5. Papers have been published on a CD-ROM, and best papers will be selected for a future book.

The SBCCI'2001 - Symposium on Integrated Circuits and Systems Design, was held in Pirenópolis, Brazil, in September 2001. It has been organized by SBC – Brazilian Computer Society and co-sponsored by WG 10.5. The proceedings have been published by IEEE Computer Society Press.

IP-BASED DESIGN, the International Workshop on IP-based Synthesis and SoC Design, has been held in Grenoble, France, from December 9<sup>th</sup> to 11<sup>th</sup> 2001. It has been organized by INPG and Design & Reuse and co-sponsored by WG 10.5. Proceedings have been published by the local organizers and distributed to the participants.

#### **3. Meetings**

Four regular meetings have been held in the last 12 months:

September 10<sup>th</sup>, 2001 - Pirenópolis, Brazil, concurrently with SBCCI

December 5<sup>th</sup>, 2001 - Montpellier, France, concurrently with VLSI-SoC

March 4<sup>th</sup>, 2002 – Paris, France, concurrently with DATE  
June, 12<sup>th</sup>, 2002 – Las Vegas, USA, concurrently with DAC

Next meeting is scheduled for Montreal, in August, during the IFIP World Congress and the WG-sponsored DIPES workshop.

#### **4. Special Interest Groups**

The creation of a Special Interest Group on "Formal Design and Verification Methods for Correct Hardware-like Systems" (SIG-CHARME) has been approved after consideration on the regular meeting in Montpellier, subsequent electronic discussion, and final formal approval at the regular WG meeting in Paris. The creation of SIG-CHARME has been submitted to TC10 for consideration. The first SIG chair shall be Steve Johnson, from Indiana University, who is an active WG 10.5 member.

A Special Interest Group on Embedded Systems (SIG-ES) is being created. It will be jointly sponsored by IFIP Working Groups 10.3, 10.4, and 10.5. This SIG has been first proposed in October 2000. It will be responsible for the organization of the DIPES conference - "Distributed and Parallel Embedded Systems". The current chair is Bernd Kleinjohann (C-Lab, Germany). This SIG still has to go through the WG analysis and approval.

#### **5. Changes of membership**

Luis Miguel Silveira, from INESC (Portugal), has been approved as new member during the regular meeting in Paris.

The WG has now 65 members, with the following distribution:

- North America - 22
- Europe - 32
- Asia / Pacific - 9
- South America - 2

#### **6. Aims and scope**

The WG is rediscussing its Aims and considering the definition of its Scope, which was never formally approved. The new proposal for the Aims is as follows:

Electronic system design demands a tight integration on a very large profile of knowledge and skills ranging from system architecture to semiconductor physics.

Functionality of complex embedded or stand-alone systems, to be applied in areas such as general-purpose computing, telecommunications, automotive, entertainment, and multimedia, may be realized by various combinations of analog and digital hardware and software parts.

Systems can be implemented by single or multiple integrated circuits that can be either of special purpose, programmable or reconfigurable.

The working group aims at providing a forum amongst creative experts to explore problem areas and solutions for the design of such complex electronic systems and also disseminating the solutions to a broader industrial and educational sphere.

A proposal for the Scope resulted from a survey on research interests of the WG members and includes following topics:

- VLSI Systems and Applications
- System Design Methods
- Modeling and Specification
- Design Validation
- Synthesis
- Design Environments
- Physical Design
- Test and Testability
- Power-aware Design
- Analogue and Mixed-Signal Systems
- Fundamental CAD Algorithms

## **7. New activities**

The WG is considering the launching of several new activities:

- The organization of an IFIP roadmap on design technologies, or the contribution to roadmaps of other organizations, such as ITEA, MEDEA and ITRS.
- The organization of a PhD forum gathering students from all continents. Its first edition could be held concurrently with VLSI'2003, in Darmstadt, Germany.
- The organization of a workshop for discussing the impact of new design technologies on Computer Science and Engineering curricula. The results of this workshop could represent a WG contribution to roadmapping efforts.

These and other new initiatives should give to WG 10.5 a relevant role in the international scenario, for instance:

- a) by coordinating national initiatives and stimulating international cooperation, without competing with national societies that are members of IFIP;
- b) by organizing activities in niches where there is no competition with other societies (examples are the DIPES and CHARME conferences);
- c) by organizing workshops on hot and speculative topics, that are not covered by other events. These workshops should constitute the main goal of the WG meetings. They could result in books, showing the view of the WG experts on subjects that are relevant for future research and industry development; and
- d) by organizing new types of activities on an international basis. Examples are the PhD forum, as well as tutorials from experts and summer schools, eventually organized in different regions of the world.

## **8. Officers**

Officers have not changed in this period. Chair is Flávio R. Wagner (UFRGS, Brazil), who has been elected at the regular meeting on March 12th, 2001. Three vice-chairs represent the three continents – Nikil Dutt (Irvine, USA), Masaharu Imai (Osaka University, Japan), and Eugenio Villar (Univ. of Cantabria, Spain).

## **9. Home-page**

The WG 10.5 home-page is located at  
<http://www.inf.ufrgs.br/ifip10-5/real-index.html>