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Victor Malyskin (Ed.)

Parallel Computing Technologies

14th International Conference, PaCT 2017
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Preface

The 2017 International Conference on Parallel Computing Technologies (PaCT) was a four-day event held in Nizhny Novgorod (Russia). This was the 14th international conference in the PaCT series. The conferences are held in Russia every odd year. The first conference, PaCT 1991, was held in Novosibirsk (Academgorodok), September 7–11, 1991. The next PaCT conferences were held in Obninsk (near Moscow), August 30 to September 4, 1993; in St.-Petersburg, September 12–15, 1995; in Yaroslavl, September, 9–12 1997; in Pushkin (near St. Petersburg), September, 6–10, 1999; in Academgorodok (Novosibirsk), September 3–7, 2001; in Nizhny Novgorod, September, 15–19, 2003; in Krasnoyarsk, September 5–9, 2005; in Pereslavl–Zalessky, September 3–7, 2007; in Novosibirsk, August 31–September 4, 2009; in Kazan, September 19–23, 2011; in St. Petersburg, September 30 to October 4, 2013; in Petrozavodsk, August 31 to September 4, 2015. Since 1995 all the PaCT proceedings have been published by Springer in the LNCS series. PaCT 2017 was jointly organized by the Institute of Computational Mathematics and Mathematical Geophysics (Russian Academy of Sciences), Lobachevsky State University of Nizhny Novgorod, Novosibirsk State University, and Novosibirsk State Technical University.

The aim of PaCT 2017 was to give an overview of new developments, applications, and trends in parallel computing technologies. We sincerely hope that the conference will help our community to deepen the understanding of parallel computing technologies by providing a forum for an exchange of views between scientists and specialists from all over the world. The topics of PaCT conferences are progressively changing, reflecting the modern trends in the area of parallel computing technologies. For example, traditionally, in the area of knowledge accumulation on the methods of parallel implementation of large-scale numerical models, papers describing numerical algorithms and their implementation were accepted for PaCT. Today, most of these papers were rejected because they did not contribute new knowledge to the PaCT community. However, papers describing complex parallel implementation of large-scale numerical models were accepted. Another progressively growing trend is the development of systems of automatic construction of parallel programs on the basis of axiomatic descriptions of an object domain. Papers describing fundamental algorithms of dynamic distributed program construction were accepted, particularly those on algorithms of the dynamic distribution of distributed data for distributed multi-computers (DDD algorithms)

The conference attracted about 100 participants from around the world. Authors from 13 countries submitted 93 papers. Of the papers submitted, 49 were selected for the conference after being reviewed by an international Program Committee. Many thanks to our sponsors: the Russian Academy of Sciences, Federal Agency for

In an older version of the front matter of these proceedings, the word “Nizhny” had been written inconsistently. This has now been corrected.

Scientific Organization, Ministry of Education and Science of the Russian Federation, Russian Foundation for Basic Research, Advanced Micro Devices, Inc., RSC Technologies, and Intel Corporation.

September 2017

Victor Malyshkin

Organization

PaCT 2017 was organized by the Supercomputer Software Department, Institute of Computational Mathematics and Mathematical Geophysics Siberian Branch, Russian Academy of Science (ICM&MG), Lobachevsky State University of Nizhny Novgorod (UNN), Novosibirsk State University, and Novosibirsk State Technical University.

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