Poster Presentation: Main Results of the OADymPPaC Project

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Abstract. The 3 years OADymPPaC project ended may 2004.
The expected impacts of the project were of three kinds: new results in constraint program development and debugging, and visualization of dynamic phenomena; improvement of the industrial and academic platforms: constraint solvers and their tools for constraint program development and modules of visualization, enhancement of several platforms (GNU-Prolog, PaLM, Choco, CHIP); contribution to the teaching of the programming with constraints.
All results (reports and systems) may be found at the project URL:
http://contraintes.inria.fr/OADymPPaC

The French RNTL[1] 3 years OADymPPaC (Tools for Dynamic Analysis and Debugging of Constraint Programs) project ended May 2004.

The project consortium included four academic partners: INRIA (G. Arnaud, P. Deransart (coordenator), L. Langevine, F. Fages, J.-D. Fekete), Ecole des Mines de Nantes (N. Jussien, M. Gonhiem), INSA/IRISA Rennes (M. Ducassé, E. Jahier), the University of Orléans (G. Ferrand, W. Lesaint, A. Tessier), and two industrial partners: COSYTEC (A. Aggoun, R. Martin) and ILOG (T. Baudel).

Most results are in reports, and research or industrial prototypes: **new resolution tracers** for control of the search space and constraint propagation: [1, 2] for GNU-Prolog, tracers developed for PaLM [3], and CHIP V5 of COSYTEC [4]; enhanced constraint programming platforms [5]; **new constraints debugging tools** [6, 7], and **new visualization paradigms** [8–10].

But the main result issued by the project is the definition of a new *generic trace format* based on an abstract semantics of finite domain solvers [11–13]. This generic trace enables debugging tools to be defined almost independently from finite domain solvers, and conversely, tracers to be built independently from these tools.

The trace syntax is represented using an XML DTD, called “gentra4cp.dtd” and described in [14]. A compliant trace is encoded in an XML format according to this DTD and follows the described semantics.

[1] “Réseau National de recherche et d’innovation en Technologies Logicielles ”, a French Government Research Program launched in 1999.

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