■ A CAR — ANYWHERE, ANYTIME!

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Reducing congestion in town centres and the associated pollution is a major issue for an increasing number of towns and cities. Boosted by the fact that 50% of urban journeys are for distances of less than 5 km - and with durable development firmly in mind - VU Log offers solutions stemming from distributed computing for the comprehensive organisation of individual public transport services. Created in May 2006 having received the international Galileo Masters prize for most original project in 2005, VU Log is based on work successfully completed by INRIA teams (CyberCars and MobiVIP projects) and teams from I3S (CNRS-Unsa) in Sophia Antipolis on intelligent vehicles. An initial application of automated vehicles was tested in 2004 in Antibes Juan-les-Pins over a period of ten days. The service involves the management of a fleet of urban-specific vehicles: non-polluting, light, easy to handle and with low energy consumption (4kW/h), freely available to users with no reservation needed. The vehicles are equipped with a GPS system that is used by a centralised server to perform real-time journey analysis and to optimise availability. Users can locate the nearest available vehicle at anytime, at the press of a button using a mobile phone or via the Internet. Access is granted to the car using by radio frequency identification (RFID card) and users are free to leave it where they wish. ■

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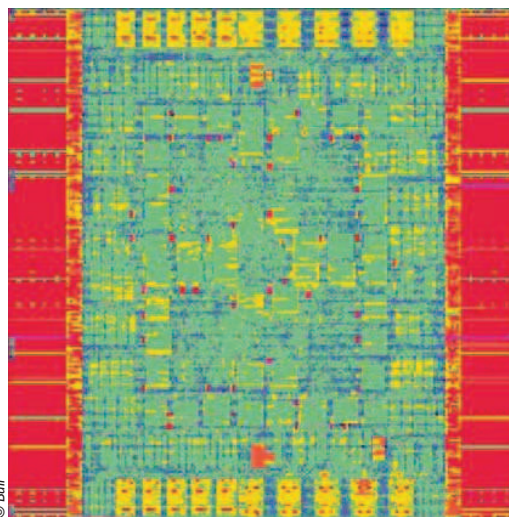## ■ CADP 2006: MODELLING AND CHECKING ASYNCHRONOUS SYSTEMS

CADP (Construction and analysis of distributed processes) is a software research platform dedicated to modelling, checking, testing and conducting performance assessments of complex computer systems that contain concurrency. It is mainly developed by researchers in the Vasy team and operates on Linux, Solaris, Windows and Mac Os systems. Research conducted around CADP has also resulted in theoretical concepts and innovative algorithms that have been adopted by other teams, such as parameterized Boolean equations, massively parallel checking tools, graphic interfaces and scripting languages for verification. The new 2006 version offers 42 tools and 20 libraries, including13 new tools since the last stable version in 2001. Numerous other tools have undergone major changes and improvements. One of the strengths of the latest version is that is combines different verification approaches in a modular environment.

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Core of Fame architecture that equips the Bull Novascale server and the CEA's supercomputer Tera10.

CADP enjoys unfailing success with some 366 contracts signed, 820 copies installed in 2006, 29 search tools connected to CADP (including the Vercors platform developed by the Oasis team at INRIA Sophia Antipolis) and 94 case studies in a wide variety of fields, from the management of European trains to web services as well as security protocols.

Today, researchers from the Vasy team are focussing on three application fields. Firstly, they connected CADP to several platforms for component-based and embedded real-time systems (ACI Fiacre, RNTL's Open-embedded project (INédit 53) and the Aerospace valley competitivity cluster). The second target application field is validation of multiprocessor circuits and architectures before producing masks for foundry production purposes. This is a subject upon which the Vasy team and Bull have been collaborating for the last ten years. Their discoveries have enabled critical parts of Novascale servers to be checked (see illustration). This collaboration is followed up by two other partners (ST Microelectronics and CEA/Léti) in the Minalogic cluster to validate three innovative multiple-processor architectures (Fame2, Faust2 and xStream). Lastly, the Vasy team would like to promote the application of CADP in bio-informatics. As part of the European project Ec-moan, CADP will be used in connection with the GNA (Genetic network analyser) tool developed by INRIA's Hélix team used to study responses to E.Coli bacterial stress. ■

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