<center>**Datasheet of the IKTA4/075 project**</center>

I. *Hungarian supercomputing GRID*

Project start: January 1, 2002, duration: 23 months.

Amount of support: KHUF 69 595, total project cost: KHUF 154 980.

Project leader: ***Kacsuk Péter Dr.***
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Project URL: <>

II. Consortium members (number of members = **7**, the first member is the project co-ordinator)

no	*name*	*support*	*total cost*
1.	Office for National Information Infrastructure Development	KHUF 15 640	KHUF 42 040
2.	Hungarian Academy of Sciences, Computer and Automation Research Institute, Parallel and Distributed Systems Laboratory	KHUF 26 469	KHUF 43 080
3.	Budapest University of Technology and Economics, Dept. Control Engineering and Information Technology	KHUF 10 000	KHUF 20 100
4.	Eötvös Loránd University, Network Service Center	KHUF 9 936	KHUF 19 796
5.	Budapest University of Technology and Economics, Center of Information Systems	KHUF 3 780	KHUF 7 560
6.	Budapest University of Technology and Economics, Institute of Nuclear Technology	KHUF 3 770	KHUF 7 140
7.	Compaq Computer Hungary Ltd.	KHUF 0	KHUF 15 264

III. Public presentations

No presentation is available.

IV. Goals of the project

Recently several supercomputers and PC clusters were installed in Hungary as major supercomputing resources. All are placed at different institutes and are used by a growing user community from academy. However, it turned out that there exist applications where the capacity of individual supercomputers and clusters are not sufficient to solve the problems in reasonable time. The solution for this problem is to connect these high-performance computing resources and to use them as a supercomputing Grid.

One of the main goals of the project is to establish this Hungarian Supercomputing Grid (HSG) based on the curent Hungarian and international results of cluster and Grid computing. The project is strongly related with two already running Hungarian Gid projects (NI2000/08, DemoGrid) and several national projects from other countries (Condor, INFN Grid, UK e-science). The SuperGrid project is based on the experiences learned in the NI2000/08, INFN Grid and DataGrid projects and will strongly collaborate with the DemoGrid, Condor, INFN Grid projects and the UK e-science programme.

Unlike the Grids to be developed in the previously mentioned Grid projects, the HSG will be used as a high-performance and high-throughput Grid. In order to achieve these two features Condor will be used as a the main Grid level job manager in the HSG and will be combined with P-GRADE, a Hungarian produced high-performance program development environment.

HSG will have a layered structure. The top layer is the application layer where currently a Monte-Carlo method based nuclear physics application is investigated. The user will access the HSG by the Grid portal to be developed in the project. The application will be developed in the P-GRADE parallel program development environment which will be connected to Condor in the project. It means that the

user can generate directly Condor jobs (containing parallel PVM or MPI program) from the P-GRADE environment. Condor will be used as the Grid level resource manager in the HSG. The basic middleware services will come from Globus. The fabric will contain the Hungarian supercomputers and clusters connected by the Hungarian academic network. On the supercomputers and clusters local job schedulers like LSF, PBS, Condor, Sun Grid Engine can be used.

Beside developing a Grid portal, combining and extending Condor and P-GRADE the other two main tasks of the project are to solve the security problems and to develop an accounting system.

V. Project results (in case of finished projects)

The project is not finished.

VI. Data on consortium members (number of members = **7**)

1. ***Office for National Information Infrastructure Development*** (co-ordinator)
   URL: <***http://www.niif.hu***>

   Support for the co-ordinator: KHUF 15 640, and its total cost: KHUF 42 040.
   Contract number: .

   Team leader: ***Máray Tamás Dr.***
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2. ***Hungarian Academy of Sciences, Computer and Automation Research Institute, Parallel and Distributed Systems Laboratory***
   URL: <***http://www.sztaki.hu***>

   Support for the consortium member: KHUF 26 469, and its total cost: KHUF 43 080.
   Contract number: .

   Team leader: ***Dózsa Gábor***
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3. ***Budapest University of Technology and Economics, Dept. Control Engineering and Information Technology***
   URL: <>

   Support for the consortium member: KHUF 10 000, and its total cost: KHUF 20 100.
   Contract number: .

   Team leader: ***Szeberényi Imre***
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4. ***Eötvös Loránd University, Network Service Center***
   URL: <***http://www.elte.hu***>

   Support for the consortium member: KHUF 9 936, and its total cost: KHUF 19 796.
   Contract number: .

   Team leader: ***Vonderviszt Lajos Dr.***
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5. ***Budapest University of Technology and Economics, Center of Information Systems***

    URL: <>

    Support for the consortium member: KHUF 3 780, and its total cost: KHUF 7 560.
    Contract number: .

    Team leader: ***Remzső Gábor***
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6. ***Budapest University of Technology and Economics, Institute of Nuclear Technology***

    URL: <>

    Support for the consortium member: KHUF 3 770, and its total cost: KHUF 7 140.
    Contract number: .

    Team leader: ***Czifrus Szabolcs Dr.***
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7. ***Compaq Computer Hungary Ltd.***

    URL: <***http://www.compaq.hu***>

    Support for the consortium member: KHUF   0, and its total cost: KHUF 15 264.
    Contract number: .

    Team leader: ***Báti Ferenc***
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