

Datasheet of the IKTA4/026 project

I. *Dynamic broker service for improving the quality of database access and resource usage*

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

Amount of support: KHUF 25 000, total project cost: KHUF 69 260.

Project leader: **Kondorosi Károly Dr.**

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Project URL: <<http://www.fsz.bme.hu/staff/ko>>

II. Consortium members (number of members = 3, the first member is the project co-ordinator)

<i>no</i>	<i>name</i>	<i>support</i>	<i>total cost</i>
1.	Budapest University of Technology and Economics, Dept. Control Engineering and Information Technology	KHUF 18 500	KHUF 40 220
2.	Triad Computer Services Ltd.	KHUF 6 500	KHUF 13 100
3.	University of Klagenfurt, Inst. of Information Technology	KHUF 0	KHUF 15 940

III. Public presentations

No presentation is available.

IV. Goals of the project

The key problem now in distributed systems is the resources management. As in the present time, there is no tool to our knowledge that could handle the whole problem domain by common principles from a global point of view. There is yet a considerable demand for such a tool in real-time and multimedia systems.

The practical problem is the development of a new resource broker. The aim of the broker is to increase the utility of resources in general, and to take into consideration and improve the technical parameters of database-access in particular. It is useful to base the broker on a standard middleware and its service - the CORBA Trader Service. This service is dealing with objects following the Yellow Pages principle.

The proposed resource-broker is the extension of the previous principle. The management of the resources makes necessary the consideration of timing on the sides of both the exporter and the importer. It is vital to introduce futures. The importers should be able to propose pending or waiting demands, the services of the exporters and the parameters should be allowed to be bound to a certain time or interval. The tasks of the broker includes the tracking of the deals, because during the completion of the deal the needs, possibilities, and abilities of the parties can change (e.g. the capacity of a channel, or the performance of a server may decrease), and thus the quality parameters, in extreme cases the whole deal may be risked. In such cases the broker should try to renegotiate the deal with other participants, sometimes even with weaker quality parameters. In the case of compound service-chains an avalanche-effect could happen, and its recognition and elimination is also the task of the broker.

The resource broker would be used in the practical case for accelerating the access of multimedia databases and for improving its quality parameters. A pilot application will be developed that allows the numerical evaluation of the results.

With the use of the broker developed during the project the utilization of hardware and software resources, especially that of communication channels, will be improved significantly. In the field of the pilot application, i.e. multimedia systems, the increase of speed of content-based search and the improvement of quality parameters is expected.

V. Project results (in case of finished projects)

The project is not finished.

VI. Data on consortium members (number of members = 3)

1. *Budapest University of Technology and Economics, Dept. Control Engineering and Information Technology* (co-ordinator)

URL: <<http://www.fsz.bme.hu>>

Support for the co-ordinator: KHUF 18 500, and its total cost: KHUF 40 220.

Contract number: .

Team leader: **Kondorosi Károly Dr.**

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2. *Triad Computer Services Ltd.*

URL: <<http://www.triad.hu>>

Support for the consortium member: KHUF 6 500, and its total cost: KHUF 13 100.

Contract number: .

Team leader: **Bertalan Gábor**

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3. *University of Klagenfurt, Inst. of Information Technology*

URL: <>

Support for the consortium member: KHUF 0, and its total cost: KHUF 15 940.

Contract number: .

Team leader: **Böszörményi László**

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