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Datasheet for the decision
of 13 November 2012

Case Number:	T 1816/07 - 3.5.01
Application Number:	04030451.1
Publication Number:	1675022
IPC:	G06F17/30
Language of the proceedings:	EN

Title of invention:
A method and a system for integrating semantic web services
into a existing web service infrastructure

Applicant:
SAP AG

Headword:
Integrating semantic web/SAP

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Inventive step - integrating semantic web services into
existing web (No)

Decisions cited:

Catchword:

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Case Number: T 1816/07 - 3.5.01

D E C I S I O N
of the Technical Board of Appeal 3.5.01
of 13 November 2012

Appellant: (Applicant)	SAP AG Dietmar-Hopp-Allee 16 69190 Walldorf (DE)
Representative:	Hössle Patentanwälte Partnerschaft Postfach 10 23 38 70019 Stuttgart (DE)
Decision under appeal:	Decision of the Examining Division of the European Patent Office posted 20 June 2007 refusing European patent application No. 04030451.1 pursuant to Article 97(1) EPC 1973.

Composition of the Board:

Chairman:	S. Wibergh
Members:	W. Chandler
	D. Prietzel-Funk

Summary of Facts and Submissions

I.   This appeal is against the decision of the examining
        division to refuse the European patent application
        No. 04030451.1. It concerns integrating semantic web
        searches (based on frameworks that incorporate the
        meaning of the data) into the existing (non-semantic)
        web service infrastructure.

II.   The examining division decided according to the state
        of the file based essentially on the annex to the
        summons to oral proceedings. In the annex they had
        inter alia raised the objection that claim 1 was not
        clear (Article 84 EPC) and did not involve an inventive
        step (Article 56 EPC 1973). They argued that the
        skilled person would have considered applying the
        teaching of the IBM disclosure entitled "Method of
        enabling automated invocation of web services" (D1) to
        semantic web services. The remaining differences of
        listing the selected services, executing the services
        in the form of a script and calling a mediation service
        were considered to be matters of common knowledge or
        routine design procedure.

III.   In the statement of grounds of appeal, the appellant
        requested that the decision under appeal be set aside
        and that a patent be granted on the basis of the
        refused claims, dated 30 August 2006. The appellant
        argued that various aspects of the semantic web were
        clear since they were well known inter alia from the
        article by McIlraith S.A. et al.: "Semantic Web
        Services", IEEE Intelligent Systems. Special Issue on
        the Semantic Web. 16(2):46--53, March/April, 2001. The
        appellant stated that the term "mediation unit" was
        described in the article by Fensel D. et al.: "The Web
        Service Modeling Framework WSMF", Electronic Commerce:

Research and Applications, 1 (2002) and thus generally known for a person skilled in the art.

IV.   In its communication, the Board tended to agree with the examining division's reasoning starting from D1. The Board also stated that it appeared that all the claimed features were in fact known from the McIlraith and Fensel articles that the appellant had filed with the grounds of appeal. In a response, the appellant filed further arguments in connection with D1. In a further letter, the representative notified the Board that the appellant had decided not to attend the oral proceedings.

V.   At the oral proceedings, which took place in the appellant's absence, the Board discussed the above mentioned request. At the end of the oral proceedings, the Chairman announced the Board's decision.

VI.   Claim 1 of the main request reads as follows:

"A method for integrating semantic web services of a semantic web service environment into at least one existing web service infrastructure with an execution environment (10) by placing a proxy component (20) specialized in achieving a specific predefined goal and having access to a pool of semantic web services between the execution environment of the existing web service infrastructure and the semantic web services (30), wherein the execution environment (10) invoking the proxy component (20) instead of a real web service can utilize semantic web services, wherein the proxy component (20)

    selects services among the semantic web services by invoking a discovery unit of the semantic web service environment, listing the selected services in a list

and calculating conformance of the selected services
with predefined selection criteria,

    composes an executable service from the selected
services stored within the list,

    executes the executable service by first invoking a
mediation unit of the semantic web service environment
for matching with different formats and processes of
the selected services before invoking a service as part
of the composed service and

    returns the result of the service execution to the
execution environment (10)"

Reasons for the Decision

1.   The application explains that there are two
possibilities for existing web services to evolve into
semantic web services: either the current services are
replaced, or they are augmented with semantic
technology [10]. The application chooses the latter
route so that companies can keep their existing
infrastructure [11].

2.   Looking at Figure 1, the solution is to provide a proxy
component 20 between the existing web service
environment 10 and the semantic web service environment
30. The execution environment calls the proxy component
with a "goal" (e.g. book trip) instead of the actual
web services themselves and the proxy finds the
appropriate service(s), which is thus transparent to
the? calling environment [end of 45]. The selection
unit 21 in the proxy breaks the goal down into any
necessary "sub-goals", (e.g. "book flight", "book
hotel") and invokes the "Discovery" service 31 of the
semantic web to find relevant services for each sub-

goal. The selection unit then selects the returned
discovered services [46]. A composition unit 22
formulates an executable command to invoke the
services. This may be in the form of a script, i.e.
program. This is run in an execution unit 23, which
essentially calls the web services required to achieve
the goal from the available services 33. The execution
unit 23 also calls the "Mediation" service 32 provided
by the semantic web. This basically matches the data
formats (e.g. date format) and processes between
different services so that the output of one can be fed
into another. Finally, the execution unit returns the
result to the execution environment 10 that called the
proxy [47].

3.   In its communication, the Board pointed out that in
        arguing that the claims were clear, the appellant had
        effectively conceded that most of the features and
        services of the semantic web were in fact known or
        implied at the priority date of the application.

4.   In particular, the McIlraith article from 2001
        describes, at pages 48 to 49, DAML markup for Web
        service discovery, composition and execution and gives
        an example at page 52 of using an agent to make a
        travel arrangement. Apart from the fact that, as stated
        by the appellant, a "proxy component" is generally well
        known, the Board considers that this agent is
        "specialized in achieving a specific predefined goal",
        namely making the travel arrangement, as claimed and
        the Board sees no reason why it could not be set such a
        goal in the context of an "existing web service
        infrastructure" as also claimed. Thus the subject-
        matter of claim 1 differs from this system by the
        provision of a mediation service. This solves the

problem of matching the formats between the different services, as stated in the application [47].

5.   The Fensel article from 2002 states at page 28, lines 13 to 17 that such a DAML system lacks a mediation service, but concludes at lines 32 to 34 that a web service modelling framework could extend it to provide one as described in that document. In the Board's view, the skilled person would inevitably recognise the problem of differing formats in the known system. Searching for a solution he would be led to the mediation unit in the DAML system as suggested by Fensel and thus arrive at the method of claim 1. The appellant did not advance any reason why this would not be the case.

6.   Essentially all of the appellant's arguments are aimed at explaining the difference between semantic web services and "normal" web services in connection with the D1 argument. However, these arguments are moot in the light of the fact that all the claimed features of the semantic web services were known.

7.   Accordingly the Board judges that claim 1 of the sole request does not involve an inventive step (Article 56 EPC 1973), so that the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

T. Buschek   S. Wibergh

Decision electronically authenticated