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**Datasheet for the decision
of 29 February 2012**

Case Number: T 2360/08 - 3.5.01

Application Number: 05106974.8

Publication Number: 1748366

IPC: G06F 17/30

Language of the proceedings: EN

Title of invention:

A data processing system and method

Applicant:

SAP AG

Headword:

Checking data consistency/SAP

Relevant legal provisions (EPC 1973):

EPC Art. 56



Case Number: T 2360/08 - 3.5.01

D E C I S I O N
of the Technical Board of Appeal 3.5.01
of 29 February 2012

Appellant: SAP AG
(Applicant) Dietmar-Hopp-Allee 16
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Representative: Richardt Patentanwälte
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 4 August 2008
refusing European patent application
No. 05106974.8 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: S. Wibergh
Members: P. Scriven
P. Schmitz

Summary of Facts and Submissions

- I. The appeal is against the Examining Division's decision, posted on 4 August 2008, to refuse European patent application 05106974.8 for lack of inventive step. The invention relates to the use of a web service to check whether two data sets are consistent, in the context of an industrial automation system. The Examining Division found that it would have been obvious to the skilled person, starting from the disclosure of patent application US2004/0006571 A1 (D1).
- II. The Board invited the appellant to attend oral proceedings, and the appellant responded by letter dated 7 February 2012, with further arguments, and new main and auxiliary requests. Both requests comprised amendments to the description, which removed the definition of *web service* in paragraph [0002], as well as references to applications of consistency checks other than to industrial automation systems.

Claim 1 according the main request read as follows.

A method of checking data consistency over industrial automation components in an industrial automation system, comprising:

- receiving a request (122; 322; 422) for performing a data consistency check from a requestor (108; 308, 308', 308",...; 408, 432) by a web service (106; 306; 406), the request containing a first set of data (112; 312, 312', 312",...; 412), the first set of data containing control parameters,*
- accessing a second set of data (104; 304, 304',*

304",...; 404) by the web service, the second set of data containing control parameters,

- performing a data consistency check of the first and second sets of data, said consistency check comprising determining whether the two datasets are identical or if one dataset can be obtained by performing a predefined transformation on the other dataset,
- generating a response (124; 324; 424) being indicative of a result of the data consistency check,
- sending the response to the requestor by the web service, wherein the web service is responsive to SOAP messages and described by WSDL notation.

Claim 1 according to the auxiliary request read identically, except for the insertion, before performing a data consistency check ..., of the following text:

... wherein the request contains an identifier of the requestor,

- performing a retrieval operation for retrieval of the second set of data using the identifier of the requestor as a key, ...

III. Oral proceedings were held, as scheduled, on 29 February 2012. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or the auxiliary request filed with the letter of 7 February 2012.

IV. The appellant's arguments, presented in writing and during oral proceedings before the Board, can be summarized as follows.

The amendments limit web services to those that respond to SOAP messages and that are described by WSDL notation. The Board's preliminary analysis, using the definition of web service in paragraph [0002], no longer applied.

D1 was not a proper starting point for the assessment of inventive step. The claims were limited to the checking of data consistency in an industrial automation system, so that the skilled person must be someone who works with such systems. The amendments emphasized that. Such a skilled person would never have considered D1, because he had no reason to look at the entirely different field of product catalogues and product configuration.

Even if the skilled person had started from D1, the invention would still not have been obvious, because D1 did not disclose a check on whether two data sets are identical, or on whether one can be derived from the other by means of a predefined transformation.

At the filing date, web services had only ever been used on the Internet and only for business methods. They had never been used for industrial automation. The skilled person would not have considered the use of web services because of the difficulty in modifying existing systems, because industrial automation systems need real-time communications, and use special interconnections, and because there was no motivation

to do so in the prior art. That amounted to a technical prejudice against the use of web services in such a context.

With regard to claim 1 according to the auxiliary request, using the identity of the requestor as a key reduced the difficulties the web service would inevitably have retrieving data when there is a large number of automation components. That was not obvious, because it would be normal to store and access the data according to the parameter in question, rather than according to the automation component.

Reasons for the Decision

1. *Background*

1.1 The invention set out in the application as filed related to the use of a web service to carry out consistency checks; that is, checking to see whether a first set of data was consistent with a second set of data.

1.2 A number of applications of that basic idea was set out: industrial automation (e.g. at [0014] of the application as published), accounting (e.g. at [0015]), flight booking (e.g. at [0019]). During the procedure before the Examining Division, the claims have been limited to industrial automation, which was set out in the published application at [0014], [0021] - [0023], and [0047].

1.3 Originally, the application, at [0002], described a web service as *any mechanism by which an application or data processing service can be provided to other applications on the Internet*. Some examples were mentioned ([0003] - [0006]), which involved the simple object access protocol (SOAP) and the web service description language (WSDL). The appellant has amended the application, so that claim 1 according to both the main and the auxiliary requests is limited to web services which are responsive to SOAP messages and which are described by WSDL notation.

2. *Main request*

2.1 The Examining Division saw D1 as the correct starting point for the examination of inventive step. The appellant considers that inappropriate, and the Board agrees. If the skilled person starts from a system for product configuration, and tries to solve a technical problem, it is unlikely that an industrial automation system will result. That, however, does not mean that D1 is irrelevant, because it provides evidence of the skilled person's general knowledge of web services.

2.2 The Board follows the appellant's argument and takes as starting point an industrial automation system as set out in the application, at [0021] - [0023]. Consistency checks were part of that; in some cases, they were a legal requirement. The Board understands that automation components were set up so as to check whether the parameters they were using were the correct ones.

- 2.3 If it was obvious for the skilled person to use a web service to perform the consistency checks, it would have been obvious to arrange for the automation components to request the check (because, in the prior art, they are responsible for it) and to send their parameters with the request (because they have the parameters and the web service needs them). It would also have been obvious to arrange for the web service to access the correct parameters, so that a comparison could be made, and to send the result back to the automation component (again, because it is the component that is responsible for the check).
- 2.4 The use of a web service, according to the appellant's arguments, necessarily involved SOAP messages and WSDL notation. The Board is not convinced of the necessity, but is satisfied that SOAP and WSDL were normal practise when implementing a web service.
- 2.5 The Board concludes that, once the decision has been taken to use a web service, the details of the implementation defined in claim 1 follow. The key question, therefore, is whether it would have been obvious to use a web service at all.
- 2.6 The Board is satisfied that the skilled person would have been aware of web services. The appellant has argued that a person skilled in automation systems would not have known about such developments in computer networks, but the Board does not agree. The prior art automation system involved automation components which could store and process parameters, at least to the extent needed to check consistency; and the check involved computers communicating with one

another, as the appellant explained during oral proceedings before the Board. That is, the person skilled in industrial automation either knew about computer networks, or knew he had to consult someone about them. Since web services were emerging as a promising approach in the years before the filing date, as the examples cited at [0007] in the application show, the Board considers that the skilled person, or team, would have been aware of them.

2.7 Thus, the skilled person could have chosen to use a web service, and it remains to establish whether or not he would have. The Board is satisfied that he would, because doing so amounted to using a web service to achieve just the sorts of advantage web services were designed to achieve, namely the ease of providing a service in a network of diverse devices (cf D1 at [0007]).

2.8 The Board does not follow the appellant's argument that web services had only been used for business purposes and on the Internet.

2.8.1 Firstly, the Board does not accept the argument that industrial automation requires real-time processing and that the Internet would be unsuitable for that reason. Industrial automation is a broad concept, and the Board sees no reason to believe that real-time processing is necessarily a part of it. Even if it were, claim 1 does not define anything that addresses the problem other than using a web service; and if that is sufficient, there is no reason why the skilled person would see a disincentive. The same applies to the alleged modification difficulties. The Board concludes that the

broad environment of industrial automation does not militate against the use of a web service.

2.8.2 Secondly, the Board does not accept that web services were only known for business applications. Paragraph [0007] of the description identifies a number of documents which describe uses of web services, known before the filing date, outside the business field. An example, discussed during oral proceedings, is US-A 2003/0055624, which, at [0009], mentions *programs which look up the current temperature for a particular zip code*. D1, at [0003], also mentions the use of web services for *basic network access, information retrieval, streaming media, teleconferencing ...*. The Board concludes that the skilled person would have been aware of web services as a generally applicable technology, rather than as something restricted to business applications.

2.8.3 Thirdly, web services were designed to work in heterogeneous environments. That is what makes them suitable for the Internet, and that is precisely why the skilled person would consider them for the completely general kind of industrial automation environment set out in claim 1.

2.9 The Board concludes that the main request cannot be allowed, due to a lack of inventive step (Article 56 EPC 1973).

3. *Auxiliary request*

3.1 Claim 1 differs from that according to the main request by two additional steps. Firstly, when the consistency

check is requested, the requestor identifies itself to the web service. Secondly, the web service uses that as a key to access the corresponding data. The effect of those additional steps is that each automation component has its own data set against which its own parameters are checked.

3.2 The Board considers that in any system with more than one automation component accessing a web service, each component will need to identify itself in some way, if only in order to allow the web service to send the results back to the right place. Thus, the question of inventive step amounts to whether it would have been obvious to use the component's identity as a key, that is, to identify the data with which to check consistency.

3.3 The appellant argued that it would be normal to store and access the data according to the parameter in question. In the Board's view, that might apply to some situations, for example if a number of bookshops want to check whether they are selling a particular book at the correct price. In the present case, the parameters are specific to the automation components, and that makes the identity of the component the obvious key.

3.4 The Board concludes that the auxiliary request cannot be allowed due to a lack of inventive step (Article 56 EPC 1973).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

T. Buschek

S. Wibergh