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**Datasheet for the decision
of 11 December 2018**

Case Number: T 2707/16 - 3.5.07

Application Number: 01128655.6

Publication Number: 1211613

IPC: G06F17/30

Language of the proceedings: EN

Title of invention:

Dynamically generating multiple hierarchies of inter-object relationships based on object attribute values

Applicant:

Microsoft Technology Licensing, LLC

Headword:

Dynamically generating multiple hierarchies/MICROSOFT
TECHNOLOGY LICENSING

Relevant legal provisions:

EPC Art. 56, 84, 111(1), 123(2)

EPC R. 103(1)(a)

European Convention on Human Rights (ECHR) Art. 6(1)

Keyword:

Amended claims in appeal - added matter (no) - clarity (yes) -
inventive step (not obvious over notorious knowledge) -
remittal to examining division (yes)
Excessive length of proceedings before department of first
instance - substantial procedural violation (yes) -
reimbursement of appeal fee (not equitable)

Decisions cited:

G 0001/89, G 0005/93, G 0007/93, G 0002/97, G 0002/04,
G 0001/05, G 0002/08, J 0006/10, J 0013/12, R 0019/12,
T 0084/82, T 0390/86, T 0243/87, T 0300/89, T 0225/96,
T 0720/02, T 0797/02, T 0900/02, T 0315/03, T 0358/10,
T 0823/11, T 1131/12, T 1824/15, T 1033/16,
Kristiansen and Tyvik AS v. Norway, European Court of Human
Rights, Application no. 25498/08,
German Federal Patent Court, Case No. 10 W (pat) 41/01

Catchword:

see reasons 16 to 36



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Case Number: T 2707/16 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 11 December 2018

Appellant: Microsoft Technology Licensing, LLC
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Redmond, WA 98052 (US)

Representative: Goddar, Heinz J.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 13 July 2016
refusing European patent application No.
01128655.6 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman R. Moufang
Members: M. Jaedicke
R. de Man

Summary of Facts and Submissions

I. The applicant (appellant) appealed against the decision of the Examining Division refusing European patent application No. 01128655.6, filed on 30 November 2001 and published as EP 1 211 613 A2. The application claims a priority date of 30 November 2000.

II. The European search report, which was transmitted to the then applicant by a communication dated 23 May 2006, cited the following two documents as technological background ("A" documents):

D1: Baeza-Yates, R. A. et al., "New Approaches to Information Management: Attribute-Centric Data Systems", Proceedings of the Seventh International Symposium on String Processing and Information Retrieval (SPIRE 2000), 27-29 September 2000, IEEE, pp. 17-27;

D2: Furnas, G. W. et al., "Multitrees: Enriching and Reusing Hierarchical Structure", Proceedings of the Conference on Human Factors in Computing Systems CHI'94, 1994, ACM, pp. 330-336.

III. A request for examination was submitted on 23 November 2006. The first communication of the Examining Division under Article 94(3) EPC of 7 April 2008 objected to the clarity of the originally filed claims. It stated that two independent apparatus claims had effectively the same scope, that it was not clear which features were regarded as essential and that the independent claims did not clearly define the matter for which protection was sought.

Moreover, the communication noted the following: "D1 (see in particular page 21, right-hand column, paragraph 3) anticipates the principle of objects being

collections of named attributes and their corresponding values." However, it contained no detailed analysis of the prior art on file nor any objection to novelty or inventive step, but rather stated that document D1 should be identified in the description as background art according to Rule 42(1)(b) EPC.

- IV. The then applicant replied by letter of 14 August 2008 and filed an amended set of claims.
- V. In view of a transfer of the present application, the EPO registered the appellant as new applicant with effect from 27 January 2015.
- VI. On 7 January 2016, the Examining Division, in a changed composition, sent a summons to attend oral proceedings pursuant to Rule 115(1) EPC. In the annex to the summons, the Examining Division indicated inventive step as the only issue to be discussed during the oral proceedings. In its detailed objection under Article 56 EPC, it identified in the subject-matter of the then pending claim 1 only the following features as technical features: "a distributed computing environment" and "receiving data from a data store". It considered a notoriously known general-purpose computer within a computer network to be the closest prior art.
- VII. With its letter of 13 May 2016, the appellant filed a new main request and auxiliary requests 1 to 5. Moreover, it submitted detailed arguments in favour of an inventive step for all requests.
- VIII. In a telephone consultation of 3 June 2016, the first examiner informed the appellant's representative of the Examining Division's provisional opinion concerning the then pending requests. According to the record of the

telephone conversation on file, neither the main request nor any of auxiliary requests 1 to 5 fulfilled the requirements of Article 56 EPC "basically for the same reasons as set out in the summons to oral proceedings namely that the claimed subject-matter is essentially directed to purely non-technical subject-matter which cannot contribute to inventive step". Moreover, the representative addressed the arguments raised by the first examiner.

- IX. Oral proceedings took place as scheduled on 13 June 2016 in the absence of the appellant. In the oral proceedings, the Examining Division decided to refuse the application for lack of inventive step in the subject-matter of the independent claims of the main request, and of auxiliary requests 1 to 5, over notorious knowledge. The Examining Division considered most of the claimed features to be non-technical.
- X. In its statement of grounds of appeal, the appellant maintained the main request and auxiliary requests 1 to 5 considered in the contested decision and resubmitted those requests as main request and auxiliary requests I to V. Moreover, it requested reimbursement of the appeal fee due to a substantial procedural violation.
- XI. In a communication under Article 15(1) RPBA accompanying a summons to oral proceedings, the Board *inter alia* expressed its provisional opinion that the claims of all requests lacked clarity (Article 84 EPC).
- XII. With a letter dated 26 March 2018, the appellant submitted auxiliary requests VI to XI and arguments.

- XIII. With a letter dated 24 April 2018, the appellant submitted auxiliary request XII and arguments.
- XIV. In the course of oral proceedings, held as scheduled on 25 April 2018, the appellant filed auxiliary requests XIII and XIV. Later in the oral proceedings, the appellant withdrew its main request and auxiliary requests I to XIII and renamed its auxiliary request XIV as its new sole request. At the end of the oral proceedings, the chairman announced that the Board intended to remit the case to the department of first instance for further prosecution on the basis of the new sole request and that no opinion was now given on the request for reimbursement of the appeal fee, which would be dealt with in the written decision.
- XV. The appellant's final requests were that the contested decision be set aside, that a patent be granted on the basis of the new sole request filed in the oral proceedings and that the appeal fee be reimbursed.
- XVI. Claim 1 of the new sole request reads as follows:
- "A method implemented on a data polyarchy server (102) of a distributed computing environment, the method comprising:
- receiving data from a data store (108), the data corresponding to a plurality of objects;
- responsive to receiving the data, dynamically generating multiple hierarchies of inter-object relationships based on values of attributes (216, 218, 220) of the objects, the multiple hierarchies of inter-object relationships being a data polyarchy (122) characterized in that each object further comprises one or more respective attributes, and wherein generating the data polyarchy further comprises:

as objects are loaded into the data polyarchy (122), examining, by the data polyarchy server (102), values of the one or more respective attributes of each object based on one or more thresholds, the one or more thresholds being defined to determine a relative distribution of attribute values in the data polyarchy (122) with respect to other attribute values of other objects in the data polyarchy (122), to:

identify a plurality of distinguishing attributes, each distinguishing attribute having a value which is substantially unique with respect to a distribution of attribute values across the objects,

identify one or more locating attributes for narrowing a search for an object of the objects, each locating attribute having a relatively large distribution of attribute values across the objects, and

identify one or more classifying attributes for filtering out objects from a search for an object, each classifying attribute having a relatively small distribution of attribute values across the objects; responsive to generating and managing the data polyarchy (122), generating and updating, by a management module (120), an elements-of-interest schema (124), the elements-of-interest schema (124) indicating how a client computer (110) can manipulate and display objects in the data polyarchy (122) with respect to their respective hierarchies of inter-object relationships;

communicating, by the data polyarchy server (102), the elements-of-interest schema (124) to one or more client computers (110) for displaying the inter-object relationships in the data polyarchy (122) as described by the elements-of-interest schema (124) on one or more graphical user interfaces, each supported by a respective client computer (110);

replicating the data polyarchy (122) and the elements-of-interest schema (124) one or more times in a memory cache (114) by the data polyarchy server (102);
maintaining, by the data polyarchy server (102), an authoritative store in the memory cache (114) to represent a most recent representation of the inter-object relationships;
receiving, from a client computer of the one or more client computers (110), a request for information from the data polyarchy (122), indicating a level of data reliability/timeliness required by the client computer (110); and
if a high timeliness is required by the client computer (110), accessing, by the data polyarchy server (102), the data polyarchy (122) from the authoritative store."

Claims 2 to 7 are dependent on claim 1.

Claim 8 reads as follows:

"A computer for representing directory-based object inter-object relationships, the computer (102) comprising:
a processor (112); and
a memory (114) coupled to the processor, the memory comprising computer-executable instructions and data, the processor for fetching and executing the computer-executable instructions, the computer-executable instructions comprising instructions for:
receiving data from a data store (108), the data corresponding to a plurality of objects;
responsive to receiving the data, dynamically generating multiple hierarchies of inter-object relationships based on values of attributes (216, 218, 220) of the objects, the multiple hierarchies of inter-object relationships being a data polyarchy (122),

characterized in that each object further comprises one or more respective attributes, and wherein the computer-executable instructions for generating the data polyarchy further comprise instructions for: as objects are loaded into the data polyarchy (122), examining values of the one or more respective attributes of each object based on one or more thresholds, the one or more thresholds being defined to determine a relative distribution of attribute values in the data polyarchy (122) with respect to other attribute values of other objects in the data polyarchy (122), to:

identify a plurality of distinguishing attributes, each distinguishing attribute having a value which is substantially unique with respect to a distribution of attribute values across the objects,

identify one or more locating attributes for narrowing a search for an object of the objects, each locating attribute having a relatively large distribution of attribute values across the objects, and

identify one or more classifying attributes for filtering out objects from a search for an object, each classifying attribute having a relatively small distribution of attribute values across the objects; responsive to generating and managing the data polyarchy (122), generating and updating an elements-of-interest schema (124), the elements-of-interest schema (124) indicating how a client computer (110) can manipulate and display objects in the data polyarchy (122) with respect to their respective hierarchies of inter-object relationships; communicating the elements-of-interest schema (124) to one or more client computers (110) for displaying the inter-object relationships in the data polyarchy (122) as described by the elements-of-interest schema (124)

on one or more graphical user interfaces, each supported by a respective client computer (110); replicating the data polyarchy (122) and the elements-of-interest schema (124) one or more times in a memory cache (114); maintaining an authoritative store in the memory cache (114) to represent a most recent representation of the inter-object relationships; receiving, from a client computer of the one or more client computers (110), a request for information from the data polyarchy (122), indicating a level of data reliability/timeliness required by the client computer (110); and if a high timeliness is required by the client computer (110), accessing the data polyarchy (122) from the authoritative store."

Claims 9 to 13 are dependent on claim 8.

Claim 14 reads as follows:

"A computer-readable medium comprising computer-executable instructions corresponding to the method steps according to one of claims 1 to 7."

XVII. The appellant's submissions, where relevant to this decision, may be summarised as follows:

(a) As to the technical effects achieved by the subject-matter of the independent claims of the new sole request, it had to be taken into account that the data polyarchy was dynamically generated based on the data received from the data store. The dynamic generation reacted to further data added to the data accessed in the data store. Due to this dynamic generation, there was a need to distinguish

between the authoritative store of the data polyarchy and the further replicas of the data polyarchy in the memory cache when responding to requests to retrieve information, as the data in the authoritative store was fresh. This was explicitly stated in the claims, which specified that the authoritative store contained a most recent representation of the inter-object relationships and that, when high timeliness (fresh data) was required by a client, the authoritative data store was accessed by the data polyarchy server.

The data polyarchy was a dynamically generated graph structure on top of the data to facilitate access to complex data. It identified three important attributes: distinguishing, locating and classifying attributes. It was used to generate the elements-of-interest schema that was communicated to the clients and used to guide clients on how to retrieve data as the queries used this schema. In the state of the art at the priority date, the clients were programmed to access a database with a fixed schema. Dynamically generated queries for a data set described by a dynamically generated schema were not supported. Hence the data polyarchy served a technical purpose and the elements-of-interest schema represented functional data that was useful for checking the syntax of queries, for example. The claims explicitly specified the storage of the dynamically generated polyarchy data structure in replicas (copies) in a memory cache to serve client requests for information.

- (b) In the oral proceedings, the appellant contested the statements in the Board's provisional opinion

as to the relevant common general knowledge, as no documents had been cited as evidence. However, the appellant did not contest the notorious knowledge cited in the Examining Division's decision.

- (c) As to reimbursement of the appeal fee, the appellant argued that Article 6 of the European Convention on Human Rights (ECHR) also concerned rights in first instance proceedings. In the present case, the extremely long delay in the proceedings before the Examining Division had generated substantive additional costs for the applicant and constituted a substantial procedural violation, as confirmed by decisions T 315/03 and T 823/11. However, this was not the only issue. The proceedings had not been conducted in good faith. The first official communication had raised only clarity objections, which had been readily dealt with in the appellant's letter dated 14 August 2008. More than seven years later and nearly 15 years after the filing date of the present application, on 7 January 2016 the appellant had been summoned to oral proceedings. This summons had been the first official communication dealing with novelty or inventive step and thus with completely different objections. As the Examining Division had dealt with inventive step in an inappropriate way, the first possibility of discussing the invention was before the Board of Appeal. The first official communication had created the expectation of a grant, as this communication had, apart from formal issues, been positive. Hence, the appellant had not considered it necessary to enquire when the next official communication would be sent. After changing and shifting opinions, the direct appointment of oral proceedings had not been a

legitimate way of handling the case. The possibility of responding to the Examining Division's objections had in the circumstances of the present case been insufficient. The appellant had not attended the oral proceedings in the first instance as the Examining Division had taken such a negative stance that the appellant had decided to directly request a review by a different body, i.e. the Board.

Further arguments submitted by the appellant are referred to, where relevant, in the reasons for the decision below.

Reasons for the Decision

1. The appeal complies with the provisions referred to in Rule 101 EPC and is therefore admissible.

The invention

2. The application relates to the storage and management of hierarchical data relationships. As an example, a resource could be the root node of a hierarchy, and all individuals having access to this resource could be the leaves of a hierarchical relationship tree (paragraph [0004] of the application as published).
3. The application explains in its background section that considerable efforts are required on the part of an administrator to configure a conventional data store storing objects which have inter-object relationships. Such a conventional data store could be a directory based on the X.500 standard and the Lightweight Directory Access Protocol (paragraphs [0005] to [0007] and [0016]). Moreover, an inter-object relationship

could be "elastic". Over time such relationships could be dynamic (paragraph [0009]).

4. The application proposes the dynamic generation of multiple hierarchies (referred to as "polyarchy" in the application) of inter-object relationships of objects retrieved from a data store based on the values of attributes of those objects (paragraphs [0018] and [0025]).
5. This value-based approach to defining relationships allows for a flexible definition of relationships independent of object naming and predetermined static hierarchical data structures. According to the claimed invention, three different kinds of attributes are identified (distinguishing, locating and classifying attributes; paragraphs [0040] to [0044]). The identified attributes allow for the definition of an elements-of-interest schema (see pages 13 to 19: Table 7) which can enable a client in a distributed computing environment to query the objects in the polyarchy by means of a structured descriptive query language (paragraphs [0073] to [0088]; Figures 6 to 12).

Sole request

6. Claim 1 of the sole request relates to a "method implemented on a data polyarchy server of a distributed computing environment". The method comprises the following features itemised by the Board (without reference signs):
 - a) receiving data from a data store, the data corresponding to a plurality of objects;
 - b) responsive to receiving the data, dynamically generating multiple hierarchies of inter-object relationships based on values of attributes of

- the objects, the multiple hierarchies of inter-object relationships being a data polyarchy,
- c) each object further comprises one or more respective attributes,
 - d) generating the data polyarchy further comprises:
 - d1) as objects are loaded into the data polyarchy, examining, by the data polyarchy server, values of the one or more respective attributes of each object based on one or more thresholds, the one or more thresholds being defined to determine a relative distribution of attribute values in the data polyarchy with respect to other attribute values of other objects in the data polyarchy, to:
 - d2) identify a plurality of distinguishing attributes, each distinguishing attribute having a value which is substantially unique with respect to a distribution of attribute values across the objects,
 - d3) identify one or more locating attributes for narrowing a search for an object of the objects, each locating attribute having a relatively large distribution of attribute values across the objects, and
 - d4) identify one or more classifying attributes for filtering out objects from a search for an object, each classifying attribute having a relatively small distribution of attribute values across the objects;
 - e) responsive to generating and managing the data polyarchy, generating and updating, by a management module, an elements-of-interest schema, the elements-of-interest schema indicating how a client computer can manipulate and display objects in the data polyarchy with

- respect to their respective hierarchies of inter-object relationships;
- f) communicating, by the data polyarchy server, the elements-of-interest schema to one or more client computers for displaying the inter-object relationships in the data polyarchy as described by the elements-of-interest schema on one or more graphical user interfaces, each supported by a respective client computer;
 - g) replicating the data polyarchy and the elements-of-interest schema one or more times in a memory cache by the data polyarchy server;
 - h) maintaining, by the data polyarchy server, an authoritative store in the memory cache to represent a most recent representation of the inter-object relationships;
 - i) receiving, from a client computer of the one or more client computers, a request for information from the data polyarchy, indicating a level of data reliability/timeliness required by the client computer; and
 - j) if a high timeliness is required by the client computer, accessing, by the data polyarchy server, the data polyarchy from the authoritative store.

Added subject-matter (Article 123(2) EPC)

7. The subject-matter of claim 1 finds a basis in the application as originally filed: paragraphs [0025] and [0026] of the original description as published disclose that the method is implemented on a data polyarchy server. Features a) and b) are disclosed in original claim 1. Features c), d), d2), d3) and d4) are disclosed in originally filed dependent claim 20 in combination with paragraph [0041] of the original

description. Paragraphs [0040] and [0041] of the original description support feature d1) of claim 1. Feature e) is based on original paragraph [0027], feature f) on paragraph [0030] and features g) to j) on paragraphs [0031] to [0032].

8. Dependent claims 2 to 7 are based on originally filed claims 2, 3, 6, 8, 9 and 12. Independent computer claim 8 is based on originally filed claim 21 and corresponds to the method of claim 1 in computer terms. Dependent claims 9 to 13 are based on originally filed claims 22, 23, 26, 28 and 29. Computer-readable medium claim 14 is based on originally filed claim 49 and refers explicitly to claims 1 to 7.
9. In view of the above, the Board concludes that claims 1 to 14 of the sole request meet the requirements of Article 123(2) EPC.

Clarity (Article 84 EPC)

10. While the contested decision did not object to the clarity of the then pending claims, the Board did so in its provisional opinion. In view of the amendments made by the appellant in its new sole request, the Board is satisfied that the objections raised have been overcome. For example, the wording of the claim concerning the identification of the distinguishing, locating and classifying attributes has been clarified on the basis of the description (see features d2) to d4) of claim 1). The dynamic generation of the data polyarchy has been clarified by introducing features d1), e) and g). In view of the specific circumstances of the present case, in particular the need to examine inventive step for the first time based on prior art that still has to be determined in an additional search

(see points 13 and 14 below), the Board considers that it is not appropriate to assess clarity further at this stage of the proceedings.

Inventive step (Article 56 EPC)

11. Claim 1 defines in features g) to j) a specific processing of requests for information from the generated data polyarchy. This implementation uses replicas of the data polyarchy in a memory cache, wherein one replica, the so-called authoritative store, stores a most recent representation of the generated inter-object relationships. The server receives from a client a request for information from the data polyarchy which indicates a level of data reliability/timeliness required, i.e. timeliness in the sense of being up to date. On the basis of this indication, the server decides to access the data polyarchy from the authoritative store rather than from a non-authoritative replica, which may be more out of date (see description, paragraph [0032]).

12. Claim 1 of then auxiliary request 5 decided upon by the Examining Division already contained features essentially corresponding to features g) and h) of claim 1. In the contested decision (point 22.2), the Examining Division argued as follows:

"While caches have technical character, the replicated data polyarchies, more or less recent, do not. Moreover, the replicated data polyarchies are not used later on for any technical purpose. The state of being "authoritative" or "more reliable" of data [...] defines a non-technical characteristic of the data which is subjective and depends on the requirements of a user in which information he is interested in. From a

technical point of view it is irrelevant whether the user is provided with more timely data or with more out-of-date data. Thus, apart from the memory cache itself nothing else [...] contributes to the technical character of the invention."

As caching was notoriously known, the Examining Division concluded that there was a lack of inventive step.

13. The Board observes that the appellant has added features i) and j) to specify the technical use of the cached data polyarchy replicas for query processing. Replicas of the data polyarchy are used to meet client demands in terms of performance. A skilled person understands from the description, paragraphs [0031] and [0032], that the server uses copies with outdated and fresh data to answer requests from clients with different demands for data freshness. In the context of the present invention, the use of different replicas allows query performance to be improved for many clients on the basis that not all clients/applications need the most recent data.

The Board considers that the use of caching for dynamically generated data (i.e. the data polyarchy) with an authoritative store is a technical concept that serves as a compromise between higher scalability and fast response times for query processing on the one hand and freshness of the data on the other hand and that this goes beyond the notoriously known use of caching in general. Consequently, the Board considers that the claimed implementation achieves the technical effect of higher scalability of query processing on a server by means of a particular application of caching which reflects further technical considerations. Hence,

the Examining Division's assessment of technical character is no longer convincing with respect to the present request, as the use of the replicated data for a technical purpose (scalable query processing) has now been explicitly added to claim 1.

As the Examining Division has already correctly observed, the use of a memory cache allows faster access to data and thus contributes to the technical character. The further features mentioned in features g) to j) contribute to this effect, as they implement a specific manner of using caching for scalable query processing. Hence, these features need to be considered when assessing inventive step.

Features i) and j) were not present in the originally filed independent claims and therefore may not have been searched. As the fact that caching per se was notoriously known is not a suitable starting point for such an assessment, as there are no relevant documents on file (documents D1 and D2 not being concerned with the processing of structured queries on multiple cached copies) and as the appellant has contested the existence of further, undocumented common general knowledge, an additional search is required.

Remittal

14. Considering the need for an additional search, the Board makes use of its powers under Article 111(1) EPC and remits the case to the department of first instance for further prosecution. In view of the substantial delays already experienced (see points 30 to 33 below), the Board has dealt with this appeal case out of order and expects the further proceedings to be accelerated by the Examining Division.

Reimbursement of the appeal fee

15. Where the board of appeal deems an appeal to be allowable, the appeal fee has to be reimbursed if such reimbursement is equitable by reason of a substantial procedural violation (Rule 103(1)(a) EPC). In order to justify its request to that effect, the appellant has put forward two lines of argument. The first focuses on the long delays which occurred in the first-instance proceedings, the second on the allegation that the Examining Division infringed the right to be heard by directly appointing oral proceedings after having fundamentally changed its opinion.

The delays in the first-instance proceedings

16. In a number of cases the boards of appeal have dealt with the question whether delays in first-instance proceedings might amount to a procedural violation. Some of these decisions concerned the particular situation where a long period of time elapsed between the oral proceedings before the examining or opposition division and the notification of the written decision (see T 243/87 of 30 August 1989, reasons 2; T 900/02 of 28 April 2004, reasons 3; T 358/10 of 12 July 2012, reasons 5.1). Such delays (which ranged from thirteen months and sixteen days in T 243/87 to three years and seven months in T 900/02) were found to constitute substantial procedural violations. The main reason for this conclusion appears to have been that the long delays increased the risk of errors in the decision (see T 900/02, reasons 3; T 358/10, reasons 5.1) or might lead to situations where the requirement that a decision has to be reasoned (Rule 111(2) EPC) cannot

properly be complied with (see in this regard T 390/86, OJ EPO 1989, 30, reasons 8).

17. With respect to long delays in first-instance proceedings outside the above-described particular situation, the case law is not wholly consistent. In its decision T 823/11 of 21 December 2015 (reasons 2), the present Board, in a different composition, found that the duration of the first-instance proceedings which had lasted more than 12 years after entry into the regional phase was excessive and amounted to a substantial procedural violation. In T 1824/15 of 26 July 2016 the competent board took a different stance. While indicating that it was not indifferent to the consequences of unjustified procedural delays, it considered "that, in particular because neither delay was contrary to a provision of the EPC, no fundamental deficiency, Article 11 RPBA, or procedural violation, let alone a substantial procedural violation, Rule 103(1) EPC, occurred" (see the board's summary in reasons 2.1). In view of the divergence, the Board will make an attempt to explain its position on this matter in more detail.

18. The basic idea and core purpose of the patent system is to stimulate technological innovation by offering the opportunity to obtain exclusionary rights limited in time in return for public disclosure of inventions. In order to enhance legal and economic certainty for patent applicants, their competitors and the general public, the EPC provides for substantive examination. Thus, before a patent can be granted, the competent organ of the EPO has to determine in administrative proceedings whether the claimed subject-matter fulfils the patentability requirements, in particular whether it is new and inventive over the relevant prior art.

Since this is an intellectually demanding task of high responsibility which has to be diligently carried out in interaction with the applicant under procedural safeguards guaranteed by the EPC, examination - at least if it is expected to meet acceptable quality standards - requires time.

19. However, if further time is added by unnecessary delays, a situation may arise which is at odds with the basic goals of the European patent system: apart from curtailing the period during which the patent proprietor may benefit from exclusionary protection, i.e. the *quid pro quo* of the disclosure of the invention, lengthy examination proceedings create long-term uncertainty about the merits and the scope of the claimed invention, which is generally detrimental for the applicant, his competitors and the public at large.
20. Thus, a broad consensus exists that delays in patent examination should be avoided as far as possible. The intergovernmental conference of the member states of the European Patent Organisation on the reform of the patent system in Europe, which took place in Paris on 24 and 25 June 1999, considered that the conditions of international competition required patents to be granted within a period that is in keeping with the interests of users and invited the Organisation to undertake every possible effort to shorten procedures, so as to bring the average time it took to grant a European patent down to three years, whilst maintaining the level of quality (see OJ EPO 1999, 545, 547 f.).
21. It is thus no surprise that on numerous occasions the boards of appeal too have emphasised the importance of expeditious proceedings in view of the interests of the users of the patent system and of the European Patent

Office itself. With respect to the interests of applicants, one might illustratively refer to cases relating to Rule 14(3) EPC in which it was repeatedly held that when deciding on the resumption of stayed proceedings the length of the stay was an important factor (see e.g. decision J 6/10 of 13 November 2012, reasons 4.2.2: "According to the case law of the Boards of Appeal on Rule 14(3) EPC, a period of more than four years is considerable, both for grant proceedings to be stayed and for entitlement proceedings to be pending in first instance."). Decision J 13/12 of 17 June 2013 (reasons 3.1.18) further elaborates on this point as follows:

"Schließlich durfte - und musste - die Rechtsabteilung berücksichtigen, dass die Aussetzung des Erteilungsverfahrens nun schon mehr als dreieinhalb Jahre andauert (vgl. J 10/02 vom 22. Februar 2005, Nr. 4.1 der Gründe, dort wurde die Bedeutung der Aussetzungsdauer hervorgehoben). Allein dieser Umstand tangiert bereits erheblich die **Interessen der Beschwerdegegnerin an einer zügigen Bearbeitung ihrer Anmeldung, so dass eine weitere Aussetzung des Erteilungsverfahrens eine unverhältnismäßige und durch die Interessen der Beschwerdeführerin nicht mehr gerechtfertigte Belastung der Beschwerdegegnerin** darstellte."
(emphasis added by this Board)

22. Moreover, it has frequently been pointed out that expeditious proceedings before the EPO also serve the interests of competitors and other members of the public. In its decision G 2/04 (OJ EPO 2005, 549) the Enlarged Board observed the following (see reasons 2.1.4 and 2.2.2(d)):

"Opposition proceedings are conceived as a simple, speedily conducted procedure. On the one hand, relevant objections should be given appropriate consideration, on the other hand a decision should be reached as quickly as possible. This serves not only the interests of both parties (G 3/97, loc. cit., Reasons, point 3.2.3), but also the interest of the public at large in having clarified as soon as possible the question of whether an exclusive right has to be respected. [...]"

"It is not only in the public interest that invalid patents be revoked but also that opposition proceedings be conducted speedily [...]."

In G 1/05 (OJ EPO 2008, 271, reasons 13.2 and 13.3) the Enlarged Board considered decisions T 720/02 and T 797/02, which had referred to a "generally acknowledged principle that the examining procedure at the EPO must be conducted in such a way as to ensure that, within a reasonable period of time after the filing of a patent application, the public should have a fair knowledge of the extent of the exclusive rights sought by the applicant". While the Enlarged Board found that this principle did not justify restricting the rights of applicants in a manner not warranted by any specific provision of the EPC, such as Rule 25(1) EPC 1973, it endorsed it as such as being "no doubt desirable and applicable both to ordinary applications and to divisional applications".

23. Other decisions have highlighted the administrative interest in terminating proceedings within a reasonable time. The early decision T 84/82 (OJ EPO 1983, 451, reasons 7), which has been cited with approval in later case law (see e.g. T 300/89, OJ EPO 1991, 480, reasons 9.1), stated that it was "the declared aim of the

European Patent Office to carry out the substantive examination thoroughly, efficiently and expeditiously [...]" . In a similar vein, when discussing the factors for the exercise of an examining division's discretion to allow a request for amendment at a very late stage of the pre-grant procedure, the Enlarged Board of Appeal considered in its decision G 7/93 (OJ EPO 1994, 775, point 2.5) that the applicant's interest in obtaining a patent legally valid in all of the designated states had to be balanced against the "EPO's interest in bringing the examination procedure to a close by the issue of a decision to grant the patent".

24. It is true that the EPC - in contrast with the Patent Cooperation Treaty (see Article 18(1) in conjunction with Rule 42.1 PCT for the establishment of the international search report and Article 35(1) in conjunction with Rule 69.2 PCT for the establishment of the international preliminary examination report) - generally does not provide for precise time limits within which the competent body has to perform specific actions in the pre-grant procedure. One may therefore take the view that the Office enjoys ample discretion in this respect. However, when duly taking the above interests of the users of the patent system into account, the discretion must have limits. This conclusion finds support in well-recognised general principles governing procedure under the EPC.
25. Two of those principles are that the applicant has to be given fair treatment (see G 1/89, OJ EPO 1991, 155, reasons 8.2) and that the legitimate expectations of applicants and other users of the system have to be protected (see e.g. G 2/97, OJ EPO 1999, 123, reasons 4.1; G 5/93, OJ EPO 1994, 447, reasons 2.2; G 2/08, OJ EPO 2010, 456, reasons 7.1.4). An applicant

who does everything he needs to do in order to initiate and continue the search and examination procedure before the EPO, *inter alia* by filing application documents, including a description of the invention which will be published about 18 months after the priority date, and by paying the necessary fees (including search fee, examination fee and renewal fees), may rightfully expect the EPO not to unduly delay the steps which it has to carry out according to the EPC. Also the public, in particular competitors of an applicant, should be able to trust that the question of whether a patent application may lead to an exclusive right is clarified as soon as possible. The principles of fair treatment and protection of legitimate expectations may therefore be infringed by long periods of inactivity from the side of the EPO's competent organs. The Board does not see any convincing reason for not applying those well-recognised general principles in such circumstances. Hence, unreasonable delays in search and examination may amount to procedural deficiencies and, depending on the seriousness of the delays, even to a procedural violation.

26. The above conclusion may be underpinned by further considerations. Article 6(1), first sentence, of the European Convention on Human Rights (ECHR) states that "in the determination of his civil rights and obligations or of any criminal charge against him, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law". Although the European Patent Organisation is not a party to the ECHR, the above provision has been recognised as a binding standard for proceedings before the boards of appeal because it relies on principles of law common to

all member states of the European Patent Organisation and applies to all its departments (G 1/05, interlocutory decision, OJ EPO 2007, 362, reasons 22; G 2/08, interlocutory decision of 15 June 2009, reasons 3.3; R 19/12, interlocutory decision of 25 April 2014, reasons 9).

27. According to the relevant case law of the European Court for Human Rights (ECtHR), when assessing the requirement "within a reasonable time" in Article 6(1) ECHR, the length of preliminary administrative proceedings is, at least sometimes, taken into account (for details see Meyer-Ladewig et al., *Europäische Menschenrechtskonvention, Handkommentar*, 4th edition, 2017, Artikel 6, marginal number 194, footnote 704). Furthermore, excessively long administrative proceedings may lead to a violation of Article 6(1) ECHR due to a denial of access to a court. In its decision *Kristiansen and Tyvik As v. Norway* (Application no. 25498/08) of 2 May 2013, the ECtHR accepted the applicants' complaint that the length of the administrative proceedings before the patent authorities - the proceedings before the Norwegian Industrial Property Office including its (non-judicial) Board of Appeals took nearly 18 years - in effect rendered meaningless any exercise of the applicants' right of access to a court. The Court emphasised that, according to its jurisprudence, in civil length cases examined under Article 6(1) ECHR, the period to be taken into consideration did not necessarily start when the competent tribunal was seized but might also encompass the prior administrative phase. It concluded that the length of the administrative proceedings was to be viewed as excessive. Due to the twenty years' limitation on patent protection, the applicants' exercise of their right to a court had become illusory.

Accordingly, there had been a breach of Article 6(1) ECHR.

28. Some national decisions have expressed a similar view. The German Federal Patent Court has deduced from the constitutional principle of the rule of law that, if the question of whether a patent is to be granted is not answered within a reasonable time, a patent applicant may in exceptional cases avail himself of the extraordinary remedy of an action for failure to act. In a decision dated 12 December 2002 (10 W (pat) 41/01) the Court stated:

"Es ist in der verfassungsrechtlichen Rechtsprechung allerdings anerkannt, dass sich aus dem Rechtsstaatsprinzip (Art 2 Abs 1 iVm Art 20 Abs 3 GG) die Gewährleistung eines wirkungsvollen Rechtsschutzes ableiten lässt [...]. Ausgehend von diesen verfassungsrechtlichen Grundsätzen kann deshalb eine Untätigkeitsbeschwerde in besonderen Ausnahmefällen zulässig sein, wenn ein Beschwerdeführer in seinem Recht auf wirkungsvollen Rechtsschutz verletzt ist, weil die Frage der Patenterteilung nicht in angemessener Zeit geklärt ist."

29. In order to determine whether proceedings have been excessively delayed, several considerations should be taken into account. The relevant ECtHR's case law has been summarised in decision T 1824/15 (reasons 2.3.6) on the basis of a document on the Court's website as follows:

"The reasonableness of the length of proceedings must be assessed in each case according to the particular circumstances, which may call for a

global assessment [...]. Delays which are, taken alone, acceptable may nevertheless result in an unreasonable total delay [...]. A delay during a particular phase of the proceedings may be permissible if the total duration of proceedings is not excessive. Long periods during which the proceedings stagnate without any explanations being forthcoming are not acceptable. According to the court's case law, the reasonableness of the length of the proceedings must be assessed in the light of the following criteria: the factual, procedural and legal complexity of the case, the conduct of the applicant and of the relevant authorities and what was at stake for the applicant in the dispute. [...]"

30. The Board agrees with these principles and will apply them to the present case. As it follows from the facts set out above (see sections II to VI), several delays occurred during the search and examination of the application in suit. The European search report was transmitted to the applicant almost four and a half years after the filing date, i.e. almost five and a half years after the priority date. After the applicant had requested examination in November 2006, the primary examiner sent out a first communication pursuant to Article 94(3) EPC in April 2008. Although the applicant replied to this communication fairly soon (in August 2008), more than seven more years elapsed before the second substantive communication, an annex to a summons for oral proceedings, was sent out on 7 January 2016. This course of the proceedings had the consequence that the contested refusal decision was taken more than fourteen years after the filing date.

31. The Board is not able to identify any special circumstance which could explain or justify the occurrence of these severe delays in the present case. The department of first instance did not tackle technical or legal issues of high complexity. The search report cited only two documents which were classified as technical background. The first substantive communication comprised three pages and raised mainly clarity objections. The second substantive communication considered that all the features of claim 1 contributing to the technical character of the invention were already known from a notoriously known general-purpose computer and that inventive step could therefore be denied without any documentary evidence. The refusal decision was likewise based on lack of inventive step over notorious knowledge.
32. The applicant did not actively contribute to any of the delays, since it had complied with the time limits for filing the request for examination and for replying to the Examining Division's first communication. It is true that for a very long period, i.e. until August 2015, the applicant did not make any attempt to incite the department of first instance to move on. No enquiry was made, and no formal request for acceleration was submitted. While this might suggest a certain amount of acquiescence by the applicant with the slow motion of the examination proceedings, it cannot justify the excessive delays. As set out above in detail, the requirement for examination proceedings not to be unduly delayed serves not only the interests of the patent applicant, but also those of his competitors, the general public and the EPO itself. The passivity of a party to proceedings may however be a factor in

determining whether reimbursement of the appeal fee is equitable (see points 35 and 36 below).

33. The Board therefore comes to the conclusion that the excessive delays which occurred in this procedure - in particular the lapse of more than seven years before the second substantive communication was sent out - do indeed constitute a procedural violation. It is emphasised that this conclusion does not imply any criticism of individual examiners involved in this case. Apart from the fact that the allocation of examiners to the present application has been changed several times in the course of the proceedings, the occurrence of delays in the examination proceedings may be caused by numerous factors outside the control of the responsible examiners in charge. Nevertheless, as the ECtHR has repeatedly observed in the context of Article 6(1) ECHR, the fact that backlog situations have become commonplace does not justify the excessive length of proceedings.
34. The next question to be addressed is whether the above procedural violation qualifies as a "substantial" one within the meaning of Rule 103(1)(a) EPC. It might be argued that this question should be answered in the negative since the substantive outcome of the first-instance proceedings, i.e. the *ratio decidendi* of the refusal decision, was not affected by the delays and would not have been different if the delays had not occurred (see decision T 1131/12 of 8 February 2013, reasons 1.2, which, when assessing whether a fundamental deficiency in the context of Rule 11 RPBA had occurred, considered that, although a delay of five years between a last communication and the written decision was wholly unacceptable, no causal link existed between this excessive delay and the outcome of

the Examining Division's decision). The Board does not follow this line of argument. The severe delays in the present case had the consequence that the first-instance decision was taken much later than it would have been without the procedural deficiencies. Thus, they had an impact on an essential element of the decision, namely its date ("justice delayed is justice denied"). This is sufficient to render the procedural violation a substantial one.

35. A further condition for Rule 103(1)(a) EPC to be applied is that reimbursement of the appeal fee is equitable. This criterion requires an evaluation of the particular circumstances of the concrete case. The Board is aware that several appeal decisions have found reimbursement to be equitable only if a causal link between the acknowledged procedural deficiency and the necessity of filing the appeal can be established (see Case Law of the Boards of Appeal, 8th edition, 2016, IV.E.8.6.1). However, these cases related to specific procedural violations, not to procedural deficiencies of a more general nature such as an excessive length of the proceedings which affects the whole procedure leading to the contested decision. That the causal link criterion cannot be applied without exception is also apparent in some of those cases where the procedural deficiency was the immediate reason for remittal (see decisions T 225/96 of 3 April 1998, reasons 2, and T 1033/16 of 26 September 2016, reasons 9), and the Board considers it to be inapplicable in a case where, as here, the appeal cannot even remedy the deficiency.

36. The Board is nevertheless of the opinion that a reimbursement of the appeal fee in view of unreasonable delays in first-instance proceedings should be regarded as equitable only where the applicant has made clear by

some action that he did not tacitly agree with the stagnation of the proceedings. In the present case the appellant failed to provide any such signal for a very long period of time. Until August 2015, it neither enquired about the fate of the application nor submitted a request for acceleration. In the oral proceedings before the Board the appellant explained this lack of action by the fact that at the time it still hoped for a positive conclusion of the examination since the search report had only identified technological background documents and the first substantive communication had only raised clarity concerns. While the Board has no reason to question this explanation, it still considers that a more active attitude would have been necessary in the present case in order to make reimbursement of the appeal fee equitable.

Alleged further procedural violation

37. The appellant has alleged that a further substantial procedural violation occurred in that the Examining Division directly appointed oral proceedings after having fundamentally changed its opinion.

However, as the Examining Division in a changed composition had come to the preliminary opinion that the subject-matter of the claims filed in reply to the first official communication lacked inventive step as no non-trivial technical effect of the claimed subject-matter could be established, it was not procedurally inappropriate to invite the appellant to oral proceedings. Rather this served the purpose of accelerating the prosecution in view of a perceived fundamental issue. Moreover, it is not apparent from the file that the appellant submitted a formal request

that the oral proceedings before the Examining Division be cancelled and the examination be continued in writing.

38. It follows from the above that the appellant's request for reimbursement of the appeal fee is to be refused.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.
3. The request for reimbursement of the appeal fee is refused.

The Registrar:

The Chairman:



I. Aperribay

R. Moufang

Decision electronically authenticated