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**Datasheet for the decision
of 16 May 2023**

Case Number: T 2310/19 - 3.4.01

Application Number: 11735638.6

Publication Number: 2732403

IPC: G06K19/07, G06K17/00,
H04L29/08, H04W84/18

Language of the proceedings: EN

Title of invention:
HANDLING DEVICE GENERATED DATA

Applicant:
Telefonaktiebolaget LM Ericsson (publ)

Headword:
Caching device generated data / Ericsson

Relevant legal provisions:
EPC Art. 52(1), 56
RPBA Art. 12(4)

Keyword:
Inventive step - main request (no)
Late-filed auxiliary request - admitted (no)



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Case Number: T 2310/19 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 16 May 2023

Appellant: Telefonaktiebolaget LM Ericsson (publ)
(Applicant) 164 83 Stockholm (SE)

Representative: Ericsson
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 19 March 2019 refusing European patent application No. 11735638.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair P. Scriven
Members: T. Petelski
C. AlMBERG

Summary of Facts and Submissions

- I. In a decision reasoned by way of reference to an earlier communication, the Examining Division refused the application for lack of novelty and inventive step, in consideration of
- D1: EP 1 607 723 A1,
D2: US 2005/0088299 A1,
D3: DE 198 44 631 A1.
- II. The applicant appealed, and requested that the decision be set aside and that a patent be granted on the basis of the set of claims underlying the decision (main request), or a set of claims filed, for the first time, with the statement of grounds of appeal (auxiliary request).
- III. Annexed to a summons to oral proceedings, the Board set out its preliminary opinion, according to which the subject-matter of at least claim 7 of the main request would have been obvious starting from any of D1, D2, and D3; and the auxiliary request would probably not be admitted.
- IV. The Board held oral proceedings. The appellant's final requests were those filed with the grounds of appeal.
- V. Independent claim 7 of the main request reads (reference signs removed):

7. A server arranged to cache device generated data, the server comprising:
a receiver arranged to receive device generated data from a device via a wireless communications network;
a processor arranged to retrieve a device identifier used by components within the wireless communications network to identify the device;
a memory arranged to store the device generated data with the device identifier, wherein the device is a sensor [sic], and where the device includes a wireless communications module.

VI. Independent claim 7 of the auxiliary request differs from claim 7 of the main request in that it is directed to (reference signs removed, amendment underlined)

7. A server arranged to cache device generated data in asynchronous M2M communication

...

VII. The appellant's arguments, as far as relevant for the present decision, are summarized below, in the reasons for the decision.

Reasons for the Decision

The content of the application

1. The application is about the wireless retrieval of data from a device, by an application, via a server. It may occur that the connection between the server and the device is interrupted, just when the application requests data from the device. This will be problematic, if the data is time-critical. The application proposes to solve this problem by having the server cache data received from the sensor, together with a device identifier, so that the data from a particular device can be retrieved by the application even if the device is not reachable.

Main request - patentability in view of D3

2. The Examining Division held, inter alia, that the subject-matter of independent claims 1, 7, and 14 was anticipated by the disclosure of D3.
3. In this decision, only independent device claim 7 is addressed.
4. The appellant argued that the subject-matter of claim 7 differed from D3 in that:
 - (a) The received and stored data were device-generated. In D3, what was tracked was an object, such as a transport container. However, the data were not generated by this container, and not even by a sensor directly attached to it, because the data were designated as "other data" that were generated

elsewhere. In the example shown in the figures, the data were generated by a temperature sensor of a mobile data carrier, which was not the container. They were, therefore, not device-generated.

- (b) The identifier was a device identifier, whereas in D3, the identifier neither identified the device in the form of the tracked object, nor the device in form of the sensor that generated the data.
- (c) The data were stored with the identifier. In D3, the received data and the received identifier might be stored in a memory of the server, but no device-generated data were stored *with* a device identifier, which meant that the link between the data and the identifier was missing in D3.
- (d) The data received from the device were cached, whereas the data in D3 were merely stored in a regular memory.
- (e) The server was connected to the device by a wireless communications network. In D3, the data exchange only happened over small to medium distances, which did not fulfil the criteria for being a wireless communications network.

5. According to the appellant, the differences essential for the invention were (a) to (c), and the objective technical problem consisted of providing information identifying which device had generated the stored data. In D3, the origin of the stored data could not be attributed to a particular device. Faced with the problem, the skilled person would, for example, have stored the data together with information about the device which generated it. However, the skilled person

would not have stored the data with a device identifier that did not even exist in D3.

6. These arguments are not persuasive.
7. D3 is about tracking and monitoring objects. Attached to each object is a mobile data carrier ("mobiler Datenträger" 1 in Figure 7) with a sensor (e.g., "Temperatursensor" 4) connected to it. The sensor monitors the ambient conditions, such as temperature, and the respective data, together with the identifier of the data carrier, are transmitted to a server ("Schreib-/Lesegerät" 10) via a wireless communication network (column 1, lines 33 - 51 and column 2, lines 25 - 27).
8. Contrary to the appellant's view, the plurality of data carriers 1, together with the one or more servers 10, constitute a wireless network (column 4, lines 25 - 32, lists a variety of possible interfaces, including infrared and wireless), even if the communication is only within a range of a few meters. A network does not require a larger range or mutual communication between all devices.
9. Hence, alleged difference (e) is disclosed by D3.
10. The mobile data carrier 1 of D3, and not the object to which the data carrier is attached, equates to the "device" defined in claim 7 of the present application. This device 1, which is illustrated by Figure 1, has a "device identifier" in the form of an identification number (column 3, lines 4 - 7 and lines 52 - 56). According to Figure 1 and column 2, lines 57 - 62, the sensor 4 can be an internal component of the device, the measurement data of which are stored in memory 3 of

the device (column 3, lines 35 - 36). Hence, these measurement data are device-generated. The situation in D3 is similar to that in the present application, in which the device identifier can be provided by a SIM card and the device generated data can be provided by a sensor, both of which are components of the same overarching device.

11. It follows that alleged differences (a) and (b) are disclosed by D3.
12. Memory 3 of the device stores the sensor data together with other data, such as date and time. In addition, the memory has a protected part, in which the identifier is stored (column 3, lines 4 - 8 and 33 - 58; in the latter passage, the reference sign of the memory 3 is wrongly given as 8). The complete memory of the device 1 is read out by the server 10 (column 3, lines 3 - 8 and line 59 - 64; column 4, lines 3 - 6 and 60 - 64) and stored in its own memory 12 (column 4, lines 16 - 20 and 47 - 51). In order properly to monitor and record the conditions of an object (column 2, lines 27 - 33; column 3, lines 25 - 32), the corresponding sensor data must be assignable to the respective device. Hence, it follows implicitly from D3 that the device-generated data are stored together with the device identifier, in the sense that each can be linked to the other.
13. Therefore, D3 also discloses alleged difference (c).
14. In the present application, "caching" of the device generated data is realized in that the data are stored in interim storage of the server. This allows the application to access the data faster than by directly retrieving it from the device, in particular, if the

device is temporarily unavailable. The same concept is realized in D3, in which control unit 25 does not retrieve the device-generated data directly from the devices 1, but from interim server 10 (column 5, lines 39 - 55 together with column 4, lines 22 - 25). Hence, memory 12 of the server caches the device-generated data for a quick retrieval by the control unit. The term "caching" means no more than temporarily storing data such that they can be accessed more quickly than if they were not cached.

15. Therefore, D3 also discloses feature (d).
16. If, however, the term "caching" were to be understood in a more restrictive manner, implying certain measures implemented in hardware or software that ensure faster access to the data stored in memory 12 than would be possible using a standard memory (an understanding that is not supported by the present application), then this would distinguish the subject-matter of claim 7 from D3. In this case, the technical problem would be to enable a fast retrieval of the device data.
17. In D3, the server reads and stores the device data in its memory 12. D3 is silent on the nature of this memory. The device data stored in it are forwarded to a central control unit 25 for evaluation (column 5, lines 39 - 42 together with column 4, lines 22 - 25). The results of the evaluation can be used to react quickly to particular events (column 3, lines 12 - 14, 25 - 28, and 40 - 44), for example, by adjusting the ambient conditions (column 2, lines 13 - 29). In view of that, it would have been obvious for the skilled person to provide a memory that allows a fast forwarding of the data from the server to the central control unit, for example, in the form of a volatile memory. It was

common knowledge to use cache memories for enabling fast access to stored data.

18. The appellant based their argumentation in favour of novelty and inventive step on the assumption that D3 did not disclose storage of the device-generated data with the device identifier. As was shown above, this assumption does not apply, which is why the appellant's arguments are not pertinent. The appellant did not provide an argument based on caching as the sole difference.
19. It follows that the subject-matter of at least claim 7 is not novel over D3 (Articles 52(1), 54 EPC). In any case, on a narrow interpretation of caching, which the application does not support, there would be a lack of inventive step (Article 56 EPC).
20. Therefore, the main request is not allowable.

Main request - patentability in view of D1

21. The Examining Division also held that the subject-matters of independent claims 1, 7, and 14 were anticipated by the disclosure of D1.
22. D1 discloses a server (reader 2 is a server in the sense that it manages access to a centralized resource 5) that wirelessly receives data generated by a device (unit 1) having an RFID tag 11 ([0021], [0023] and [0024]). The data include a unique identifier and measurement data ([0023] and [0047]). It is implicit that the server comprises a memory, not least because the received measurement data are forwarded via a mobile network 100 ([0027] and [0033]). It is also

implicit that the server comprises a processor and identifies the device, given the necessity of distinguishing between the multitude of devices (and their data) that may lie in the range of the server ([0053]).

23. The appellant's arguments relating to D1 are similar to those relating to D3: the RFID tags in D1 were not the same devices that generated the data; the data were not stored with the identifier; and there was no caching.
24. These arguments are not persuasive for reasons similar to those relating to D3. The RFID tags and the sensors in D1 are all part of a respective device 1. In D1 it is imperative that the sensor data be associated with the respective device, in order to identify a faulty product ([0054] and [0055]). Similar to D3 (see point 14.), the server 2 caches the data from the device 1, which allows a faster access to the data than if the user 8 or the central server 5 had to access them in the memory of device 1 through the server 2.
25. It follows that the subject-matter of at least claim 7 of the main request is also not novel in view of D1.
26. In any case, for the same reasons as for D3, the subject-matter of claim 7 would lack an inventive step, if the term "caching" were to be understood in a more restrictive manner (see points 16. and 17., above).
27. Hence, the main request is not allowable for this reason, too.

Auxiliary request - admission

28. Claim 7 of the auxiliary request adds, to claim 7 of the main request, the further definition that the server uses asynchronous M2M (machine-to-machine) communication.
29. The auxiliary request was filed, for the first time, with the statement of grounds of appeal in 2019. Its admission is at the discretion of the Board, and, *inter alia*, depends on whether the request could have been presented earlier (Articles 12(4) RPBA 2007 and 25(2) RPBA 2020).
30. The appellant has not provided any reasons as to why the request could not have been presented earlier. Instead, the appellant highlighted the *prima facie* relevance of the auxiliary request. They argued that the asynchronous M2M communication between the application and the memory of the server contributed to an inventive step over D1, D2, and D3, because it allowed retrieval of the sensor data at any point in time, even when the connection to the sensor was interrupted.
31. Regardless of its suitability for overcoming the lack of inventive step, the auxiliary request, in this case, could and should have been filed during examination proceedings. The objections of lack of novelty of all independent claims over each of D1, D2, and D3 were already known to the appellant from the written opinion of the International Searching Authority. These objections were upheld by the Examining Division throughout the entire proceedings, and also applied to the only set of amended claims that was filed during examination. Instead of using the opportunity to file a

further amended set of claims in reply to the Examining Division's summons to oral proceedings, and instead of defending such a request during oral proceedings, the appellant chose to request a decision according to the state of the file; that is, without further amendment or argument. It is not the purpose of appeal proceedings to make up for acts that were deliberately omitted during proceedings before the Examining Division.

32. Further, and contrary to the appellant's submissions, the amendments to the auxiliary request are, prima facie, not suitable for overcoming the lack of inventive step in the main request. D1, at least, discloses asynchronous M2M communication. As described in paragraph [0046] of D1, the decision on when to respond to a query of the reading device (server) 2, 3 depends on whether certain internal conditions of the RFID tag 11 in the device 1 are met. Hence, the device 1 responds to the query of the server 2, 3 in an asynchronous manner. In addition, external users 8 or service providers 9 can access the device data through server 2, 3 (paragraph [0027]; see also Figure 1). Hence, the communication between these external "applications" 8, 9 and the device 1 is also asynchronous. Claim 7 leaves open whether the asynchronous communication happens between a device and the server, between the server and an external application, or between a device and an external application via the server.
33. Hence, for the reasons that the auxiliary request could and should have been filed earlier, and, moreover, does not resolve the issue with the main request, the auxiliary request is not admitted to the appeal proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



D. Meyfarth

P. Scriven

Decision electronically authenticated