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Datasheet for the decision of 24 February 2015

Case Number: T 1023/10 - 3.4.03

Application Number: 06253622.2

Publication Number: 1748394

IPC: G07C5/08

Language of the proceedings: EN

Title of invention:
Automated integration of fault reporting

Applicant:
The Boeing Company

Headword:

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Inventive step - main request (yes)

Decisions cited:

Catchword:

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Case Number: T 1023/10 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 24 February 2015

Appellant: (Applicant)	The Boeing Company 100 North Riverside Plaza Chicago, IL 6060-2016 (US)
Representative:	Boult Wade Tennant Verulam Gardens 70 Gray's Inn Road London WC1X 8BT (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 21 December 2009 refusing European patent application No. 06253622.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	G. Eliasson
Members:	V. L. P. Frank
	T. Bokor

Summary of Facts and Submissions

I. This is an appeal against the refusal of European patent application No. 06 253 622 for the reason that the method of claim 1 and the system of claim 9 did not involve an inventive step (Article 56 EPC 1973).

II. At the oral proceedings before the board the appellant applicant requested that the decision under appeal be set aside and that a patent be granted on the basis of the following documents:

Description:
pages 1, 2, 4, 8-11 as originally filed
pages 3a, 7, 12 as filed with the letter dated 2 June 2008
pages 3, 5, 6, 13 as filed during the oral proceedings before the board

Claims:
Nos. 1-16 as filed during the oral proceedings before the board

Drawings: Sheets 1/3-3/3 as originally filed

III. The independent claims of the main request read as follows:

"1. A method for establishing a communication link between an aircraft and a remote central computer system, said method comprising:
storing fault data in an aircraft onboard computer system database;
placing a transmittable data file containing the fault data into an outgoing queue of a second portion of a communications management function

(62B) of the aircraft onboard computer system (14); and characterised by:
the second portion of the communications management function (62B) determining and keeping track of what communication channels are available for communication between the onboard computer system (14) and a remote central computer system (20), wherein the second portion of the communications management function (62B) includes a configuration file identifying all the desired communication channels the onboard computer system (14) can utilize to communicate with the central computer system (20) and wherein the number and type of communication channels included in the configuration file is application specific and selected by the particular aircraft provider;
the second portion of the communications management function (62B) automatically selecting at least one desired communication channel type between the onboard computer system (14) and the central computer system (20) from a plurality of available communication channel types included in the configuration file based on expense of the channel and the value of the data file;
sending the transmittable data file from the second portion of the communications management function (62B) to a first portion of a communications management function (62A) of the central computer system (20), via a secure established link over the automatically selected channel; and
storing the fault data in a remote central computer system database so that the fault data in the aircraft onboard computer system database and the fault data in the remote central computer system database are synchronized."

"9. A system (10) for establishing a communication link between an aircraft and a remote computer system, said system comprising:
an onboard computer (14) of the aircraft, the onboard computer system (14) comprising at least one processor (22), a first database for storing fault data and an onboard computer system electronic storage device (26) having stored thereon a first portion of an electronic log book application (28A) and a second portion of a communications management function (62B), and
a remote central computer system (20) comprising at least one processor (38), a second database for a central computer system electronic storage device (50) having stored thereon a second portion of the electronic log book application (28B) and a first portion of the communications management function (62A) wherein
the onboard computer system processor (22) is adapted to execute the electronic log book function (28A) and the second portion of the communications management function (62B) to:
send a message containing fault data stored in the first database to be downloaded from the onboard computer system (14) to the central computer system (20) from electronic log book function (28A) to second portion of the communications management function (62B);
configure the message into a transmittable data file;
place the transmittable data file into an outgoing queue of the second portion of the communications management function (62B);
to determine and keep track of what communication channels are available for communication between

the onboard computer system (14) and the central computer system (20), wherein the second portion of the communications management function (62B) includes a configuration file identifying all the desired communication channels the onboard computer system (14) can utilize to communicate with the central computer system (20) and wherein the number and type of communication channels included in the configuration file is application specific and selected by the particular aircraft provider;
automatically select at least one desired communication channel type from a plurality of available communication channel types utilizing a configuration file based on expense of the channel and the value of the message;
establish a secure link between the onboard computer system (14) and the central computer system (20) utilizing the automatically selected communication channel; and
send the transmittable data file containing the data message from the second portion of the communications management function (62B) to the first portion of the communications management function (62A), via the secure established link over the automatically selected channel; and the central computer system processor (38) is arranged to store the fault data in the second database so that the fault data in the first database and the second database are synchronized."

IV. The following documents are mentioned in this decision:

D1: US 2005/0148327 A

D3: US 2005/0003816 A

D6: DE 102 22 141 A

D6': US 7 039 510 B (this document was introduced into the appeal proceedings by the appellant as translation of D6. It does not belong to the state of the art, as its publication date lies after the priority date of the present application)

V. The examining division considered document D6 to represent the closest prior art from which the method of claim 1 differed in that at least one desired communication channel type was automatically selected between the onboard and the central computer system from a plurality of available communication channel types included in a configuration file of the second portion of the communication management function. The skilled person would consider it a normal procedure to automatically select a suitable communication channel for optimal communication possibilities. D6 disclosed a GSM mobile phone as communication medium between the mobile platform and the remote computer system. It was well known at the priority date that GSM systems provided different channel types for communication, like GMS, GPRS, UMTS and that the GSM system automatically selected a desired communication channel type if available for fastest data transfer. Hence the examining division came to the conclusion that the method of claim 1 did not involve an inventive step. The same conclusion applied to the system of claim 9, since it involved the same features as claim 1 although cast in a form appropriate to a system.

VI. The appellant applicant argued essentially as follows:

- It was contested that, as asserted by the examining division, the GSM system provided different channel types for data communication. GSM, GPRS and UMTS were different communication protocols. Accordingly, a GSM system was a communication type and as such was not capable of automatically selecting a desired communication channel type from a plurality of communication channel types. Hence document D6/D6' failed to teach or suggest the invention as claimed alone or in combination with any other cited prior art document.

- It was further contested that D6 represented the closest prior art, since the independent claims of the main request were now directed to a communication link between an aircraft and a remote central computer. D6/D6' merely related to wirelessly transmitting vehicle data, ie an automobile, to a central computer system. Hence it was more appropriate to consider document D1 as closest prior art, since it related to transmitting data from an aircraft, the same technical field as that of the present invention.

- Document D1 disclosed a system for recording events on an aircraft and transmitting them to a remote computer. However, it did not disclose the automatic selection of a communication channel type.

- Document D3 disclosed a mobile phone that could use different communication channel types, eg GSM, UMTS, HiperLAN or satellite systems. It contained a user preference store providing a list of networks excluded from use. The user had to select

manually the network to be used from a list of available and not excluded networks.

- In contrast to these prior art documents, the method and system of the invention specified an automatic selection of the communication channel type based on channel expense and data file value. Such an arrangement was neither disclosed nor suggested by D1, D6/D6' or D3 and provided a more efficient system. That is, for data files of high importance, expensive channels might be selected, while for data files of low importance, less expensive and inferior channels might be selected. The value of the data file should not be regarded as a monetary value but as a measure of the importance of the data file.

Reasons for the Decision

1. The appeal is admissible.

2. Amendments

2.1 Claims 1 and 9 are based, respectively, on claims 1 and 7 as originally filed and on paragraphs [0027] and [0028] of the description. In the claims the acronyms used originally were replaced by the corresponding clear text as disclosed in the description. This renders the claims more readable and improves their clarity.

2.2 Claims 7 and 10 now specify that the priority rules for sending the messages are determined by the expense of the channel and the value of the messages. This

amendment is based on paragraph [0028] of the description.

2.3 The description has been amended only in order to acknowledge the relevant state of the art and to render it consistent with the subject-matter of the claims.

2.4 The board is thus satisfied that the requirement of Article 123(2) EPC is fulfilled.

3. Novelty has not been contested and is clearly not an issue.

4. Inventive step

4.1 The board shares the view of the appellant that document D1 instead of document D6/D6' should be considered as the closest prior art. The skilled person would not realistically start from a document that relates to automobile communications when looking for a solution to a technical problem in the field of aircraft communications.

4.2 Document D1 discloses a method and system for recording events and, in particular, faults of an aircraft ([0006]). The collected data files are sent to a remote station 36 by a data unit 40, such as a satellite data unit (SDU), over a wireless communication link via a satellite 44 (Figure 1, [0009], [0027], [0036]). The use of alternative communication channel types is not disclosed in D1.

4.3 Hence the method of claim 1 differs from the method disclosed in document D1 in that

(a) the aircraft's communication management function determines and keeps track of what communication channels are available for communication between the onboard computer system and a remote central computer system and in that

(b) the communication channel type is automatically selected from a plurality of available communication channel types included in a configuration file identifying all the desired communication channels based on expense of the channel and the value of the data file, wherein the number and type of communication channels included in the configuration file is application specific and selected by the particular aircraft provider.

4.4 These features, as argued by the appellant, render the communication between the aircraft and the central computer more efficient. Hence the technical problem to be solved can be formulated as how to improve the conventional communication method and system.

4.5 Document D3 discloses a mobile phone able to select one of several available radio networks, eg GSM, UMTS, satellite, to be used as communication channel. A user preference file 10 stored in memory contains the communications channel types excluded from use. The available networks are compared to the user preference file 10 and the excluded networks are removed. A priority list is drawn up containing the remaining communication channels and the first network of the list is presented to the user who either accepts or rejects it. If the user rejects it, then the next network on the priority list is presented and so on (Figure 1, [0037], [0042], [0049], [0050]). Document

D3, however, does not disclose an automatic selection of the network to be used as communication channel nor any considerations on the expense of the channel or the value or importance of the data.

4.6 The automatic selection of the communication channel type based on the expense of the channel and the value or importance of the data, so that important data are transmitted over expensive communication channels while less important data are transmitted over cheaper communication channels, is not suggested by the available prior art. As argued by the appellant, this automatic selection improves the efficiency of the communication between the aircraft and the remote central computer.

4.7 Since the system of claim 9 comprises the same features as the method of claim 1, merely casting them in a way appropriate to a claim to a system, the same considerations as to claim 1 apply.

4.8 The board judges for these reasons that the method of claim 1 and the system of claim 9 involve an inventive step within the meaning of Article 56 EPC 1973.

5. The appellant's main request is thus allowable.

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 with the order to grant a patent in the following version:

Description:
pages 1, 2, 4, 8-11 as originally filed
pages 3a, 7, 12 as filed with the letter dated 2 June 2008
pages 3, 5, 6, 13 as filed during the oral proceedings before the board

Claims:
Nos. 1-16 as filed during the oral proceedings before the board

Drawings: Sheets 1/3-3/3 as originally filed

The Registrar: The Chairman:

S. Sánchez Chiquero G. Eliasson

Decision electronically authenticated