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**D E C I S I O N**  
**of 26 October 1999**

**Case Number:** T 0278/95 - 3.4.1

**Application Number:** 87903155.7

**Publication Number:** 0268615

**IPC:** G07F 7/10

**Language of the proceedings:** EN

**Title of invention:**

System for a portable data carrier

**Patentee:**

AT&T Corp.

**Opponent:**

GAO Gesellschaft für Automation and Organisation mbH

**Headword:**

System for a portable data carrier/AT&T

**Relevant legal provisions:**

EPC Art. 111(1), 123(2), 123(3), 83, 84, 54(1), (2), 56

**Keyword:**

"Admissibility of late-filed request (yes)"  
"Added subject-matter (no)"  
"Extension of protection conferred (no)"  
"Novelty and inventive step (yes)"

**Decisions cited:**

T 0459/91, T 0746/91, T 1059/92, T 0462/94

**Catchword:**

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Boards of Appeal

Chambres de recours

Case Number: T 0278/95 - 3.4.1

**D E C I S I O N**  
**of the Technical Board of Appeal 3.4.1**  
**of 26 October 1999**

**Appellant:** AT&T Corp.  
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**Representative:** Watts, Christopher Malcolm Kelway, Dr.  
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**Respondent:** GAO Gesellschaft für Automation und  
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**Representative:** Klunker . Schmitt-Nilson . Hirsch  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 30 January 1995  
revoking European patent No. 0 268 615 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** G. Davies  
**Members:** H. K. Wolfrum  
M. G. L. Rognoni

## Summary of Facts and Submissions

- I. The appellant (patent proprietor) lodged an appeal against the decision of the opposition division, dispatched on 30 January 1995, revoking European patent No. 0 268 615. The notice of appeal was received on 28 March 1995, the prescribed fee having been paid on 24 March 1995. The statement setting out the grounds of appeal was received on 5 June 1995.
- II. Pursuant to Article 100(a) EPC, the opposition was based on the grounds of lack of novelty and inventive step (Articles 52(1), 54(3) and (4) and 56 EPC).
- III. In response to a communication of the Board accompanying a summons to oral proceedings, the appellant filed on 24 September 1999 a main request and an auxiliary request replacing all previous requests.
- IV. Oral proceedings were held on 26 October 1999.
- V. The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of claims 1 to 13 and the amended description filed in the oral proceedings in response to objections raised by the respondent (opponent) and Figures 1 to 11 of the patent as granted.

The respondent requested that the appeal be dismissed. Reference was made to the following documents already cited in the statement of grounds of opposition :

E2: DE-A-27 38 113 and

E6: Th. Kreifelts und P. Schnupp, UNIX Konzepte und Anwendungen, B.G. Teubner, Stuttgart 1983, pages 28 to 39.

VI. Independent claim 1 reads (without reference numerals) as follows:

"1. A portable data carrier system comprising  
a portable data carrier for storing and processing alterable data, the portable data carrier including both a computer for providing an executive operating system on the portable data carrier and an alterable memory for providing data to the computer for operating the executive operating system, the executive operating system creating multiple files in a data segment region of the alterable memory for storing the alterable data associated with each file, the placement of the data for each file in the data segment region being controlled by the executive operating system, new records for each file being allocated at locations in the data segment region having higher addresses than the previous end of the file and unused records being at the high-address end of the data segment region, such that each file comprises a plurality of predetermined fixed-length records distributed in the data segment region, each record including a file identification specific to one of the multiple files, wherein the executive operating system scans the data segment region from the lowest to the highest address to access a selected one of the multiple files, extracts records which include the file identification specific to the selected file, and constitutes the selected file as a sequence of the extracted records;  
an application station for processing data from

the portable data carrier, the executive operating system providing a data input/output interface on the portable data carrier for communicating with the application station, the data between the portable data carrier and the application station being coupled over a contactless interface means; and

communication means for providing communication between the application station and the portable data carrier, the application station communicating with the portable data carrier through the communications means with command primitives, responsive to the command primitives, the executive operating system accessing the alterable data for reading therefrom and writing thereto, and providing this data to the application station via the communications means."

VII. The appellant essentially relied on the following submissions:

The amendments made to claim 1 defined the executive operating system more precisely and, in particular, the manner in which this system managed multiple files in the portable data carrier so that efficient use was made of memory space and no information was available at the application station as to the allocation or deallocation of records forming the files. Amended claim 1 specified that it was the executive operating system on the portable data carrier which was responsible for the creation of files and the placement of data in a data segment region of the alterable memory. Moreover, details were given as to how the operating system allocated records and retrieved files. The amendments were disclosed in column 8, lines 19 to 40, and column 11, lines 18 to 35, of the patent

specification and narrowed the extension of protection conferred. Thus, the requirements of Article 123 EPC were met.

The specific operating system as claimed could manage multiple files on the portable data carrier without requiring a file directory and pointers between different records of a file. In this way, memory space was saved and data security was enhanced since no information as to the file system was available outside the data carrier. The subject-matter of claim 1 was novel and inventive because neither the specific problem nor the claimed solution was addressed in the cited prior art.

VII. The respondent disputed the appellant's view, relying on the following submissions:

The new request, filed by the appellant in the oral proceedings and thus after the time limit set in the Board's communication under Rule 71(a) EPC, should not be admitted into the proceedings. Moreover, the subject-matter of claim 1 was unclear and extended beyond the content of the application as filed, contrary to the requirements of Articles 84 and 123(2) EPC. The feature that the operating system created multiple files was neither clear nor disclosed. In particular, it was not apparent how the operating system would create the files. The feature that the placement of records was controlled by the operating system gave the impression that such system was ultimately responsible for choosing the allocation of the files. This was, however, in contradiction to the subsequent feature defining a specific principle for

the allocation of new records. In addition, the term "new records" was not clearly defined and it was not clear in which respect the feature introduced by "such that" was a consequence of the preceding feature. The amendments to claim 1 were derived in essence from the description of Figure 3 which, however, disclosed a memory consisting of a data segment region in combination with a header region, the latter containing *inter alia* information for verifying the identity of an individual attempting to access the data in the portable data carrier. The omission of the header region from the definition given by claim 1 did not preserve the proper context of disclosure. Moreover, the claimed subject-matter could not be carried out by a person skilled in the art, contrary to the requirements of Article 83 EPC. It was, for instance, not apparent from the whole disclosure what a skilled person had to do when devising the operating system so that it could cope with a filled-up memory.

As regards the issue of patentability, the claimed subject-matter was obvious, taking account of the combined teachings of documents E2 and E6 and the knowledge of the skilled person in the relevant technical field. From E2 a portable data carrier system was known having all the components comprised in claim 1. From E6 an executive operating system was known which organised and managed multiple files in such a manner that no information as to the allocation and deallocation of files or file components was available to the user. Although the known operating system relied on a file directory, it would have been obvious to the skilled person, wishing to improve a portable data carrier with a limited memory, to arrive



at an executive operating system which did not need a file directory, as specified in amended claim 1.

### **Reasons for the Decision**

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is therefore admissible.
2. *Admissibility of a new request filed by the appellant in the oral proceedings*

The respondent objected for the first time in the oral proceedings to the appellant's request filed on 24 September 1999. In response to these objections, the appellant filed the present request which does not involve any fundamental change from the subject-matter of the requests filed on 24 September 1999 but only clarifies the claimed subject-matter in the light of the content of the original disclosure. Under these circumstances, the Board considers that the appellant's request should be admitted into the proceedings, despite it having been filed late (see in this respect for instance decisions T 459/91 and T 1059/92, both in Case Law of the Boards of Appeal, third edition 1998, page 507).

3. *Amendments*
  - 3.1 The subject-matter of the present claim 1 differs from claim 1 as granted by features concerning the organization of file data in the alterable memory under the control of the executive operating system. These

features specify that it is the executive operating system which is responsible for creating multiple files in a data segment region of the alterable memory and for controlling the placement of the data for each file in the data segment region. New records for each file are allocated at locations in the data segment region having higher addresses than the previous end of the file and unused records are placed at the high-address end of the data segment region, such that each file comprises a plurality of predetermined fixed-length records distributed in the data segment region, each record including a file identification specific to one of the multiple files, wherein the executive operating system scans the data segment region from the lowest to the highest address to access one selected file out of the multiple files, extracts records which include the file identification specific to the selected file, and constitutes the selected file as a sequence of the extracted records.

3.2 According to column 11, lines 18 to 20 of the patent specification (corresponding to page 12, lines 32 to 33 of the application documents as published), "allocation of records, deallocation of records and garbage collection are provided for in the operating system of the card". Furthermore, according to column 11, lines 33 to 35 of the patent specification (corresponding to page 13, lines 8 to 9 of the published application), "information as to the allocation and deallocation of records is not available to the application at the station". In the Board's view, it is evident from these citations that it is the operating system on the portable data carrier (and not for instance some software in the application station) which is responsible for managing the multiple files in the memory, including the creation of files and control over the placement of data in the data segment region.

Moreover, the features defining the order of the allocation of new as well as unused records, the distribution of fixed-length records in the data segment region, and the specific order in which the data segment region is scanned for accessing a specific file, have a basis of disclosure in column 8, lines 19 to 35 of the patent description (corresponding to page 9, lines 10 to 22 of the published application).

As regards the definition of the data segment region in claim 1, it is true that claim 5 as granted, as well as Figure 3 and the corresponding description (cf. in particular column 8 lines 7 to 10 of the patent specification), refer to a file system on the data carrier which is segmented into a header region forming the administration portion and a data segment region

containing the application files. However, it is evident from the whole context of the description of Figure 3 that the claimed organization and management of the multiple files by the executive operating system is functionally independent of the presence of a header region. Thus, the content of the original disclosure does not require the definition of a data segment region and a header region in combination.

- 3.3 In the Board's opinion, the definitions given in claim 1 provide unambiguous information as to the role and function of the executive operating system.

Moreover, the Board is satisfied that the claims and description provide ample information to enable a skilled person to devise a portable data carrier system with an accompanying executive operating system which has the advantage of saving memory space and increasing the security of data of multiple files stored on the data carrier.

- 3.4 Dependent claims 2 to 13 correspond, apart from editorial amendments, to claims 2, 3 and 5 to 14 of the patent as granted, respectively.

- 3.5 The Board is thus satisfied that the request on file is in conformity with Articles 123(2) and (3) EPC and meets the requirements of Articles 83 and 84 EPC.

#### 4. *Patentability*

- 4.1 Novelty (Articles 52(1) and 54 (1) to (4) EPC)

It is not contested by the parties that none of the

available documents of the state of the art discloses a portable data carrier system showing the structural features comprised in claim 1 in combination with an executive operating system managing a multiple file system in the claimed manner. Therefore, the subject-matter of claim 1 is novel.

#### 4.2 Inventive step (Articles 52(1) and 56 EPC)

The closest prior art is provided by document E2 (cf. Figures 1, 2 and 7 and the corresponding description) which discloses a portable data carrier system having all the components comprised in claim 1, i.e. a portable data carrier 1 including a computer 10, an executive operating system (stored in program memory 11), an alterable memory 13 ... 17 (being a series of PROMs of which segment 17 is used for storing alterable data), a data input/output interface 18, 19, contactless interface means 9, an application station for processing data from the carrier ("zentrale EDV"; cf. first paragraph on pages 17 and 19), and communication means ("Aufnahmeein-richtung A3"). E2 is however silent as to details of the executive operating system and the manner in which it organises and manages data files in the alterable memory.

By providing each record of a file with the specific file identification and by maintaining a specific order in accessing the records, i.e. by scanning the records from the lowest to the highest address in the memory, by allocating new records at the end of a file, and by locating unused records at the high-address end of the memory, the claimed data carrier system does not require a file directory or pointers between different

records. Moreover, the data of a file appear at the application station as a contiguous stream of bytes which does not include any information as to the portable data carrier's internal file structure. Based on these differences over the closest prior art, the objective problem is to be seen in the desire to provide the data carrier system according to E2 with a file organization and an executive operating system which save memory space on the portable data carrier and do not allow any information as to the internal file structure to be retrieved from read files.

An executive operating system suitable for organising and managing multiple files in a computer memory is known from document E6 (cf. in particular paragraph 3.2 on pages 33 to 35). In this system, the memory is organised in segments used for administration and in data segments used for storing the application files. To manage the multiple files, the operating system relies on a file directory ("i-list") included in the data segments. To write a file, memory space is allocated in blocks, fifty blocks each being combined to form groups, and groups being chained together by means of addresses stored in the file directory.

Thus, the manner in which the operating system organizes and manages multiple files is significantly distinguished from that specified in claim 1 under consideration. If the skilled person had applied the teaching of E6 to the portable data carrier system of E2, he would have devised an operating system which organised the multiple files with the help of a file directory. In this respect, the Board does not accept the respondent's submission that the skilled person,

being aware of the problem of limited memory space on portable data carriers, would have modified the teaching of E6 and devised an operating system which did not rely on a file directory and pointers between file components. In the absence of any indication in E6 as well as in any other cited prior art document as to how this could be achieved, and in particular in the absence of any indication as to the claimed solution of maintaining a specific order in accessing records which include a specific file identification, the skilled person could have arrived at the claimed subject-matter only with hindsight.

- 4.3 For these reasons, the subject-matter of claim 1 is considered to define patentable subject-matter. Moreover, the Board is satisfied that the request filed in the oral proceedings complies with the requirements of the EPC and 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 first instance with the order to maintain the patent on the basis of the appellant's request filed in the oral proceedings.

The Registrar:

The Chairman:

M. Beer

G. Davies