

## Deckblatt Übersetzung

### Daten der Übersetzung:

Court/Gericht:	Bundesgerichtshof
Date of Decision / Datum der Entscheidung:	2020-08-11
Docket Number / Aktenzeichen:	X ZR 96/18
Name of Decision / Name der Entscheidung:	Datenpaketumwandlung

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**Arbeitskreis**  
**Patentgerichtswesen**  
in Deutschland e.V.



# FEDERAL COURT OF JUSTICE

IN THE NAME OF THE PEOPLE

## JUDGMENT

X ZR 96/18

Pronounced on:  
11 August 2020  
Zöller  
Judicial Secretary as  
clerk of the court  
registry

in the patent nullity proceedings

Datenpaketumwandlung/  
Data packet conversion

Patent Act Sec. 81, Sec. 116(2)

- a) After the expiry of the term of protection of a patent, an infringement action for the defendant, even if it is only based on the main claim, regularly gives rise to an interest in legal protection in an action for nullity also with regard to all sub-claims of the patent which are related back to the main claim.
- b) In any case, nothing else applies to secondary claims if their contents are so largely identical that the realization of one claim (e.g. a claim for devices) typically leads to the realization of the features of the other claim (e.g. a procedural claim).
- c) The defense of a patent in amended form asserted for the first time in the appeal instance is generally admissible under Sec. 116(2) Patent Act if the new request differs from a request already filed in the first instance only in that individual features added to the granted version have been deleted (confirmation of Federal Court of Justice, judgment of 20 March 2014 - X ZR 128/12 para. 52).

Federal Court of Justice, judgment of 11 August 2020 - X ZR 96/18 - Federal Patent Court

The X. Civil Senate of the Federal Court of Justice, following the oral hearing on 11 August 2020, attended by the presiding judge Dr. Bacher, the judge Dr. Grabinski and the judges Dr. Marx, Dr. Rombach and Dr. Linder

ruled that:

On appeal and cross-appeal, the judgment of the 5th Senate (Nullity Senate) of the Federal Patent Court of 15 November 2017, is amended, the further appeals being dismissed.

European patent 1 280 279 is partially declared null with effect for the territory of the Federal Republic of Germany in that claims 1 to 20 are omitted, claims 21 and 22 are given the version reproduced below and claims 23 to 26 refer back to this version:

- 21 Device (100; 200) for compressing data packets, comprising input means (110; 210) for receiving a first series of data packets (10) each having a header field (h) and a data field (d), identification means (110; 210) for determining the channel (A, B, ...) of the data packets received, processing means (130; 230) for compressing the data field of each data packet to be compressed, and output means (160; 260) for forming a second series (20) of data packets each having a header field and a data field, and for accommodating, in the data field of a data packet of the second series (20), a compressed data field of the first series (10), characterized in that processing means (130; 230) are provided, for compressing per channel (A, B, ...) the data field of each data packet, ...) data to be accommodated in a data field of the second series (20) and for accommodating, in each data field of the second series (20), data of only one channel (e.g. A) and buffer means (161; 261) are provided for buffering, per channel (A, B, ...) compressed data to be accommodated in a data field of the second series (20).
- 22 Device (100; 200) according to claim 21, wherein said buffer means are separate buffer means (161; 261).

The remainder of the action is dismissed.

Of the court costs, the first plaintiff shall bear four ninths, the second plaintiff two ninths and the defendant one third.

The defendant shall bear one third of the extrajudicial costs incurred by the first plaintiff. The first plaintiff shall bear four ninths of the extrajudicial costs incurred by the defendant.

By operation of law

Facts of the case:

1 The defendant is the registered proprietor of European patent 1 280 279 (patent in suit), granted with effect for the Federal Republic of Germany, which arose from a divisional application to international application WO 95/20285 filed on 29 December 1994, claiming the priorities of two Dutch patent applications dated 21 January 1994, and 25 November 1994. The patent in suit relates to methods and devices for converting and transmitting a sequence of data packets by means of data compression. Claims 1 and 21 read in the language of the process:

1. Method for converting a first series (10) of data packets, each having a header field (h) and a data field (d), into a second series (20) of data packets, each having a header field (h) and a data field (d), both series comprising data packets of a plurality of channels (A, B), and data from the data fields of the first series (10) being subjected to a compression process (P) and then being accommodated in the data fields of the second series (20), characterized in that each data field of the second series (20) contains data of only one channel (e.g. A) and data to be accommodated in the data fields of the second series (20) are compressed per channel.

21. Device (100; 200) for compressing data packets, comprising input means (110; 210) for receiving a first series of data packets (10) each having a header field (h) and a data field (d), identification means (110; 210) for determining the channel (A, B, ...) of the data packets received, processing means (130; 230) for compressing the data field of each data packet to be compressed, and output means (160; 260) for forming a second series (20) of data packets each having a header field and a data field, and for accommodating, in the data field of a data packet of the second series (20), a compressed data field of the first series (10), characterized in that processing means (130; 230) are provided, for compressing per channel (A, B, ...) data to be accommodated in a data field of the second series (20) and for accommodating, in each data field of the second series (20), data of only one channel (e.g. A).

2            Claims 2 to 20 are related back to patent claim 1, and claims 22 to 25 are related back to patent claim 21. Claim 26 relates to a system for transmitting data packets in compressed form comprising at least one device according to any one of claims 21 to 25.

3            The first plaintiff (hereinafter referred to as the plaintiff), who is being sued by the defendant for infringement of the patent in suit on the basis of claim 21 thereof, has requested that the patent in suit be declared null. It claimed that the subject matter of the patent in suit went beyond the content of the original application and was not patentable. The defendant requested that the action be dismissed and, in the alternative, defended the patent in suit with three auxiliary requests in amended versions.

4            The second plaintiff, who had also requested a complete declaration of nullity, withdrew her action in the course of the appeal proceedings.

5            The Patent Court declared the patent in suit null to the extent of claim 21 and dismissed the remainder of the action as inadmissible. In its appeal, the defendant continues to seek dismissal of the action in its entirety. In the alternative, it defends the subject matter of patent claim 21 in thirteen amended versions. The plaintiff opposes the appeal and joins the defendant's

appeal with the aim of a full declaration of nullity of the patent in suit. The defendant opposes the cross-appeal.

Grounds of the decision:

6           The appeal and the cross-appeal are admissible. Both appeals are partially successful on the merits.

7           1.       The patent in suit concerns methods and devices for converting and transmitting a sequence of data packets by means of data compression.

8           1.       According to the description, it was known, in the case of a sequence of data packets each comprising a header field and a data field, to compress the data of the data fields and to transmit them as a second sequence of data packets. In a method previously known from European patent application 559 593 (NB3), a data field of the second sequence could contain data from different sources (channels). For this purpose, the data fields of the second sequence have subheader fields for reconstructing the channel affiliation. However, this reduces the transmission capacity for useful data. In addition, the subheader fields and the useful data would have to be separated on the receiving side in an additional processing step that would require a lot of time and effort. If the data packets were transmitted via intermediate stations, these would also have to support the compression function.

9           2.       Against this background, the patent in suit is based on the technical problem of enabling more efficient transmission of compressed data.

10          3.       To solve this problem, claims 1 and 21 propose a method and a device whose features can be classified as follows (the Patent Court's classification, which differs in details, is given in square brackets):

1           a)       Patent claim 1:

M1	Method for converting a first series (10) of data packets into a second series (20) of data packets:	Verfahren, um eine erste Folge von Datenpaketen in eine zweite Folge von Datenpaketen zu wandeln:
M2.1 [M1.1]	The data packets of the first series (10) each having a header field (h) and a data field (d).	Die Datenpakete der ersten Folge weisen jeweils ein Kopffeld und ein Datenfeld auf.

M2.2 [M1.2]	The data packets of the second series (20) each having a header field (h) and a data field (d).	Die Datenpakete der zweiten Folge weisen jeweils ein Kopffeld und ein Datenfeld auf.
M2.3 [M2]	Both series of data packets comprising data packets of a plurality of channels (A, B).	Beide Folgen von Datenpaketen umfassen Datenpakete aus einer Mehrzahl von Kanälen (A, B).
M3.1	Data from the data fields of the first series (10) being subjected to a compression process (P) and	Daten aus den Datenfeldern der ersten Folge (10) werden einem Komprimierungsprozess (P) unterworfen und
M3.2	then being accommodated in the data fields of the second series (20).	werden dann in den Datenfeldern der zweiten Folge (20) untergebracht.
M4.1	Each data field of the second series (20) contains data of only one channel (e.g. A) and	Jedes Datenfeld der zweiten Folge (20) enthält Daten von nur einem Kanal (z.B. A) und
M4.2	data to be accommodated in the data fields of the second series (20) are compressed per channel.	Daten, die in den Datenfeldern der zweiten Folge unterzubringen sind, werden je Kanal komprimiert.

12

(b) Patent claim 21:

D1	Device (100; 200) for compressing data packets, comprising	Vorrichtung (100; 200) zum Komprimieren von Datenpaketen, umfassend:
D2	input means (110; 210) for receiving a first series of data packets (10) each having a header field (h) and a data field (d),	Eingangsmittel (110; 210) zum Empfangen einer ersten Folge von Datenpaketen (10), die jeweils ein Kopffeld (h) und ein Datenfeld (d) aufweisen,
D3	identification means (110; 210) for determining the channel (A, B, ...) of the data packets received,	Identifizierungsmittel (110; 210) zum Erkennen der Kanalzugehörigkeit (A, B, ...) der empfangenen Datenpakete,

D4	processing means (130; 230) for compressing the data field of each data packet to be compressed,	Verarbeitungsmittel (130; 230) zum Komprimieren des Datenfelds jedes zu komprimierenden Datenpakets
D5 [D5.1]	output means (160; 260)	Ausgabemittel (160; 260)
D5.1	for forming a second series (20) of data packets each having a header field and a data field, and	zum Formen einer zweiten Folge von Datenpaketen (20), die jeweils ein Kopffeld und ein Datenfeld aufweisen, und
D5.2	for accommodating, in the data field of a data packet of the second series (20), a compressed data field of the first series (10),	um in das Datenfeld eines Datenpakets der zweiten Folge (20) ein komprimiertes Datenfeld der ersten Folge (10) unterzubringen,
D6 [D6.1]	processing means (130; 230) are provided	Es werden Verarbeitungsmittel (130; 230) bereitgestellt
D6.1	for compressing per channel (A, B,...) data to be accommodated in a data field of the second series (20) and	zur kanalweisen (A, B, ...) Komprimierung von Daten, die in ein Datenfeld der zweiten Folge (20) unterzubringen sind, und
D6.2	for accommodating, in each data field of the second series (20), data of only one channel (e.g. A).	um in jedes Datenfeld der zweiten Folge (20) Daten von nur einem Kanal (z.B. A) unterzubringen.

13           4.       According to the statements of the Patent Court, which are not objected to by the parties, a skilled person is to be regarded as a graduate engineer in electrical engineering with a university education, who is mainly concerned with data transmission and has knowledge and experience in the field of data compression.

14           5.       Some features require further discussion:

15           a)       According to the description, a channel within the meaning of the patent claims is to be understood as a logical connection between a data source (transmitting side) and a data destination (receiving side).

16           aa)     Such a channel is not necessarily identical with a physical connection between a data source and a data destination. Rather, a plurality of channels may be active over a physical connection; moreover, a channel need

not be associated with a specific physical connection (para. 14).

17           bb) Several channels (A, B, ...) are provided, which differ in that they connect different sources, from which the data respectively originate, with different destinations, to which the data are respectively transmitted, whereby the sources can send out data already formed into data packets or also only data streams, which can only be formed into data packets by a downstream device (cf. Figure 6 and Para. 68).

18           cc) According to the embodiments described in the description, the sending and receiving devices must be terminal devices arranged within a network. In principle, the claimed method can be applied at any level of the OSI layer model (par. 17; 43 ff.). However, this does not change the functional relationships and user identity defined by the channel (para. 17), so that even when the OSI layer model is applied, a channel within the meaning of the invention is to be understood as a logical connection between terminal devices on the sender and receiver side.

19           dd) Information for identifying the channel, for example the addresses of source and destination, is usually evident from the header fields of the first sequence of data packets.

20           If the second sequence of data fields contains fields with data from several channels, as in the state of the art described in the patent in suit, this information must be relocated to the data fields because the header field usually only allows the specification of one channel. If the implementation is done in such a way that also in the second sequence of data fields each data packet contains data from only one channel, the information about the channel, on the other hand, can remain in the header field and the data fields are fully available for user data.

21           b) Contrary to the opinion of the appeal, the term "accommodate" translated by the Patent Court as "accommodate" and in the patent specification as "insert", "insert" (patent claim 1) and "fit" (patent claim 21) does not necessarily require that one or more data fields of the second sequence are completely filled.

22           aa) As the appeal does not fail to recognize in its approach, the wording of the patent claims, even in the relevant version of the language of the proceedings, does not provide any clear indication of the meaning of this term in the context of the patent in suit.

23           bb) In order to achieve the aim of the patent in suit, which is to transmit data as efficiently as possible, a complete filling of data fields is not absolutely necessary and not suitable in every situation.

24           The description of the patent in suit describes as an objective of the invention an optimal utilization of the data fields of the second data series. It emphasizes the aforementioned channel-pure compression and accommodation of the data as decisive means to achieve this goal (paras. 7, 11), as provided by features M4.1 and M4.2 as well as feature group D6.

25           It is true that the complete filling of data fields may help to further increase efficiency in certain situations. Unlike the other two measures, however, it is not presented in the description as indispensable or as advantageous in every situation. Rather, it is stated that in order to avoid delays, it may be advantageous to fill at least individual data fields only partially and to send the individual data packets instead at certain times, after a certain period of time has elapsed (para. 28) or after complete processing of a data packet of the first sequence (para. 58). The two first mentioned embodiments are explicitly protected by patent claims 18 and 20.

26           cc) Neither the patent claims nor the description indicate that these particular embodiments concern only individual data packets and that at least one completely filled data field must always be present in addition.

27           The reference in the patent specification in dispute to the European patent application 559 593 (NB3) does not change this, since this is merely used as evidence that methods according to the generic term of patent claim 1 were already known in the state of the art.

28           According to the description, the first data sequence may consist of a single data packet (para. 16). Depending on the size of the data packets of the second sequence and the compression method used - the design of which is

left to the skilled person - this may result in the second sequence also comprising only one data packet and its data field not being completely filled.

29 dd) Nothing else applies to the device according to claim 21.

30 The description describes a device which can operate in three different modes, of which the first and the third basically provide for a complete filling of the data fields of the second sequence and only the second has as its object a dispatch after each processing of a data packet of the first sequence (paras. 56-59). These explanations, which in any case refer only to one example of an embodiment, do not imply that the device must necessarily be suitable for all three modes of operation. Also claim 21 does not contain a specification of one of these modes of operation. Accordingly, the protected subject matter also includes devices having only the second mode of operation or a mode comparable thereto.

31 II. The Patent Court has substantiated its decision, as far as relevant for the appeal proceedings, essentially as follows:

32 The action was admissible only insofar as it concerned claim 21. Due to the expiration of the property right, the admissibility of the nullity action requires a special need for legal protection. Since the infringement action only asserted claim 21, the need for legal protection was only given to that extent.

33 Whether the subject matter of claim 21 was inadmissibly extended compared to the original application documents was irrelevant. In any case, it was not patentable because it was fully disclosed in the international application WO 92/20176 (K5). The citation concerned communication networks in which various local area networks (LANs) were connected via so-called "interconnect nodes". The data exchange from a plurality of sources in one local network to a plurality of sinks in another local network is mixed ("multiplexed") by the interconnect nodes, whereby the data is transmitted in a frame structure. The "bridge" of node 16 prepares the data frames received from sources in the first local area network, each having a header and a data field and forming a first sequence of data packets, for transmission over link A to node 18 of the second local area network. A device in node 16 compresses

the data for this purpose. Thus, features D1, D2 and D4 would be disclosed. Since one of the two options for compression provides for the use of a specific compression dictionary for each link described by a source-sink pair, feature D3 is also disclosed. The output of node 16 is the second sequence ("frame multiplexed data frame"), which has data packets with header and data field. Each of these data packets contains only the data of one data packet of the first sequence and thus of one channel, because each data packet of the first sequence belongs to exactly one connection (source-sink pair) and is individually converted into exactly one packet of the second sequence and thereby compressed. Therefore, features D5.1, D5.2, D6.1 and D6.2 are also disclosed.

34           The subject matter of (after renumbering now) patent claim 20 according to auxiliary request 1 was covered by the content of the application. Separate buffer means are disclosed there, which could be designed as storage areas in a memory. Buffering of compressed data per channel is not only disclosed in connection with the complete filling of the data fields of the second sequence.

35           However, the subject matter of claim 20 according to auxiliary claim 1 is not new compared to K5. There buffer means would have to be present to insert the data fields compressed into the "frame multiplexed data stream", consequently into the second sequence. The data packets of the first sequence would be compressed channel-pure 1-to-1. First, the current data packet ("current frame") is compressed with the channel-specific vocabulary V1, then the next data packet is compressed with the vocabulary V2 specific to its channel, and so on. It is clear to the skilled person that a memory area must be available for the "current frame". The then compressed data would be inserted into the said data stream.

36           III       This assessment withstands review in the appeal proceedings with respect to the granted version of patent claim 21, but not with respect to the version of this claim defended by auxiliary request 3 and the dismissal of the further claim as inadmissible.

37           1.       The cross-appeal filed in due form and time is admissible as a

whole. Contrary to the view of the defendant, there is no lack of substantiation with regard to patent claims 2 to 20 and 22 to 26.

38           It is true that the plaintiff has only expressly explained with regard to claim 1 why, in its opinion, there is an interest in legal protection. However, it is clear from the content of its statements that this argumentation also relates to all other patent claims. This satisfies the requirements of Sec. 115(3) and Sec. 112(3) No. 2 Patent Act.

39           2.       Contrary to the opinion of the Patent Court, the action is still admissible in its entirety despite the lapse of the patent in suit. In view of the infringement dispute pending between the parties, there is a sufficiently concrete concern that the defendant will also claim the plaintiff on the basis of other patent claims than claim 21.

40           a)       The question whether there is an own interest in legal protection must not be judged according to too strict standards.

41           aa)      If an action for nullity is to serve as a preventive defense against claims, it is not decisive whether these have already been asserted or even announced. Rather, there is sufficient cause to seek judicial protection if the plaintiff has reason to fear that he may still be exposed to claims based on past acts even after expiration of the term of protection. In such cases, an interest in legal protection may only be denied if such a claim can no longer be seriously considered (Federal Court of Justice, judgment of 14 February 1995 - X ZB 19/94, GRUR 1995, 342 et seq. - Tafelförmige Elemente; judgment of 13 July 2020 - X ZR 90/18, juris marginal no. 28 - Signalübertragungssystem).

42           bb)      For the assessment of the question whether these requirements are met, the conduct of the patent proprietor until the expiration of the property right is also relevant.

43           If the patent proprietor has already expressed through an infringement action that he is willing to enforce the claims to which he is entitled in his opinion due to infringement of the patent, an interest in legal protection in an action for nullity already filed does not cease to exist without further ado because the patent proprietor withdraws the infringement action. Thus, the

Federal Court of Justice has also affirmed an interest in legal protection in the event that the patent proprietor withdraws an infringement action already filed but refuses to waive any claims from the patent in suit (Federal Court of Justice, judgment of 9 September 2010 - Xa ZR 14/10, GRUR 2010, 1084 marginal no. 10 - Windenergiekonverter).

44           cc) In accordance with these principles, an infringement action already filed generally establishes an interest in legal protection with respect to all claims of the patent, even if it is only based on individual patent claims.

45           As far as sub-claims are concerned, it usually depends solely on considerations of expediency whether an infringement action is based exclusively on the main claim or alternatively also on sub-claims. A party who is sued for infringement of the patent on the basis of the main claim therefore generally has reason to be concerned that the claim will be based on subclaims if the main claim proves not to be legally valid. In this situation, it is usually in accordance with the dictates of procedural economy to decide on an already pending nullity action with respect to all patent claims in order to enable a final clarification of the legal situation. In this situation, an interest in legal protection with respect to individual subclaims can at most be denied if it is obvious that the challenged embodiment does not realize a feature provided therein either literally or by equivalent means.

46           As far as subsidiary claims are concerned, nothing else applies in any case if their content is so largely identical that the realization of the features of one claim typically leads to the realization of the features of the other claim.

47           b) In the case in dispute, there is an interest in legal protection with regard to all patent claims.

48           aa) The content of patent claim 1 largely corresponds to that of the adjacent patent claim 21.

49           A device with the features provided for in patent claim 21 is typically suitable for carrying out the process protected under patent claim 1. This justifies the concern that the defendant bases claims for infringement of the patent in suit also on this patent claim.

50           bb) With regard to the further patent claims referring back to one of  
the two claims mentioned, a sufficient interest in legal protection already  
results from the fact that it cannot be excluded that the challenged  
embodiment has the additional features provided therein.

51           cc) The defendant has not submitted a waiver which could have  
eliminated the interest in legal protection in the given situation.

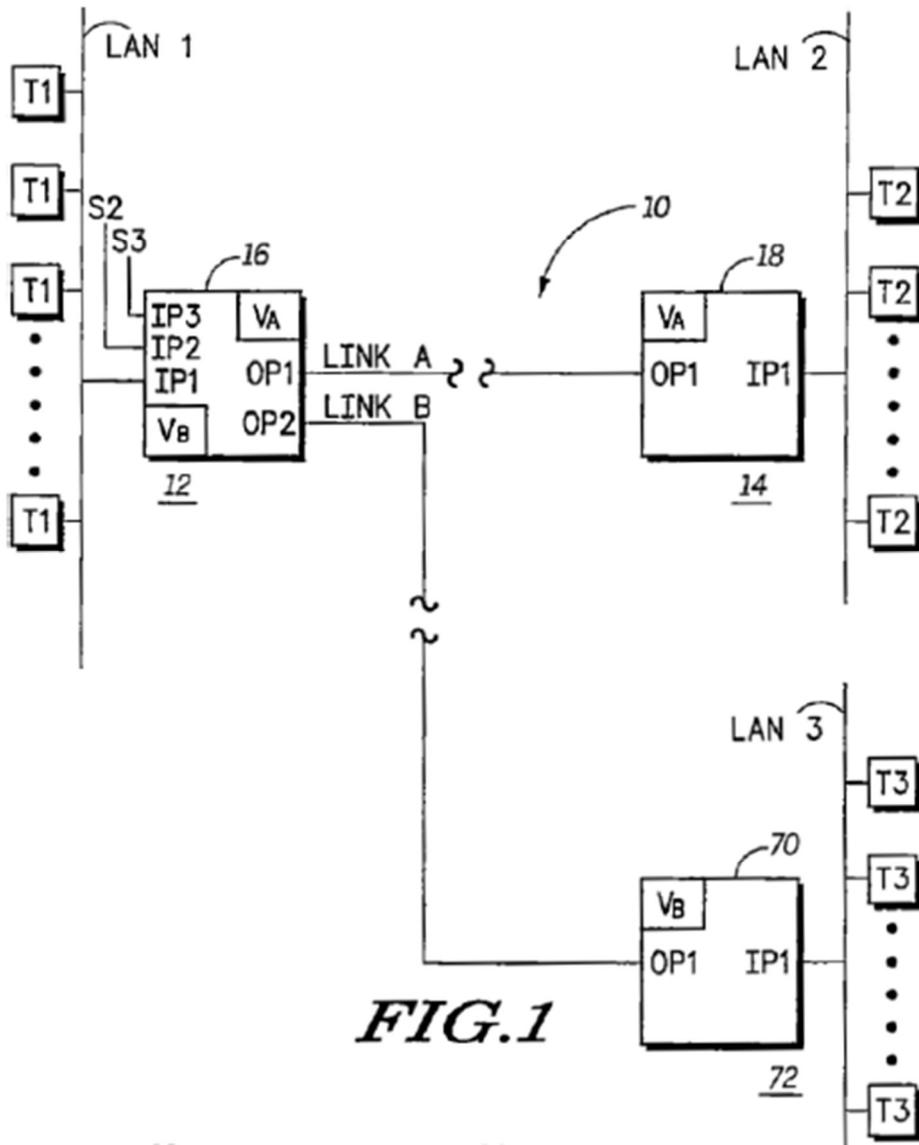
52           In this context, it is not relevant for the decision that the defendant did  
not request the plaintiff to submit such a waiver until the end of the oral  
proceedings before the Patent Court. In the initial situation described above, it  
was incumbent upon the defendant to submit a waiver without being requested  
to do so in order to eliminate the existing interest in legal protection. 3.

53           3. The patent in suit is not legally valid in the granted version.

54           a) As the Patent Court correctly decided, the international  
application WO 92/20176 (K5) discloses all features of claim 21 as granted.

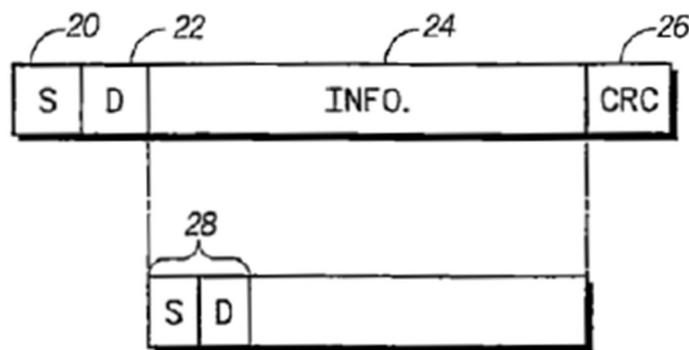
55           aa) The citation concerns a communication network.

56           The network is accessed via inter-connect nodes, each of which  
connects a plurality of data sources and data destinations to the network.  
Some of the data sources and data destinations may be located in local area  
networks (LANs), which in turn are connected to the communications network  
via an inter-connect node (K5 p. 1 para. 2 f.). Figure 1 of K5 reproduced below  
shows an example of such a communication network, to which three local  
networks LAN1, LAN2 and LAN3 are connected via the connection nodes 16,  
18 and 70, each of which has several subscribers (T1, S2, S3, T2, T3) as  
potential data sources or data destinations.



**FIG.1**

57            Data exchange between one of the sources in LAN1 and one of the destinations T2 in LAN2 via link A can take the form of data frames. These contain, as illustrated in Figure 2 below, a header containing the source address S 20 and the destination address D 22, and a data information portion 24 for (usable) data (see K5 p. 7/8).

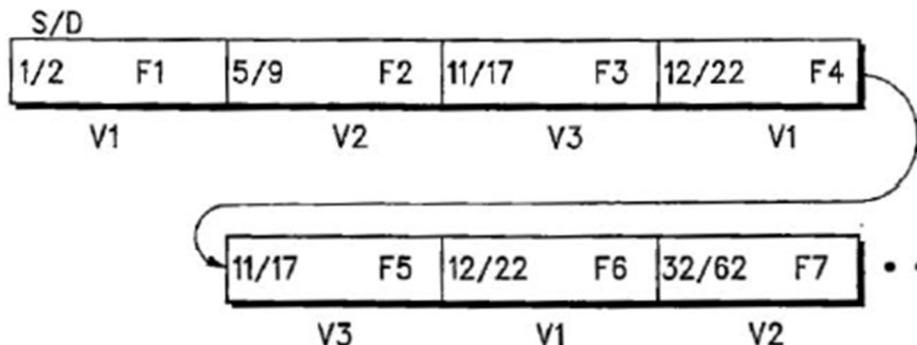


**FIG.2**

58 According to the information in K5, in order to exploit the characteristics of the data traffic of the respective source-destination pair, a compression method is advantageous in which the data is compressed data frame by data frame and thus separately for each source with a specific compression dictionary (K5 p. 3 par. 2 f.). For this K5 proposes a memory management for the compression dictionaries (K5 p. 4 para. 2 to p. 5, p.14 para. 2 to 16 para. 1). The connection node 16 contains a data compression device which has a memory VA for current compression dictionaries and compresses the current data frame one by one. For this purpose, the source and destination addresses of the respective current data frame are monitored for the data traffic between the connection nodes 16 and 18 in order to select the compression dictionary suitable for this pairing via a rating table index (RTI) code determined for this source-destination pairing (K5 p. 10 Para. 2 to p. 11 Para. 2). If no dictionary is stored for the current pairing, a dictionary is formed based on the current data frame (K5 p. 15 par. 1). With the appropriate compression dictionary the current data frame is compressed one by one.

59 The compressed data frames start with the specification of source and destination address (K5 p. 14 par. 2). They are transmitted from connection node 16 to connection node 18 by way of a so-called frame multiplex data stream (K5 p. 8 par. 2 p. 14 par. 2). Such a data stream is illustrated in excerpts in Figure 5 reproduced below, indicating the compression dictionaries V1 to V3 and the source address-destination address pairings S/D used for the individual frames F1 to F7. In this example, new compression dictionaries

were created for the frames F4 and F7 in the absence of suitable existing compression dictionaries and the memory space of the original dictionary V1 and V2 was overwritten for this purpose (see K5 p. 15 para. 1 and para. 2).



**FIG.5**

60            bb) As the Patent Court correctly decided and the defendant does not question, the features D1, D2, D4, D5 and D5.1 are disclosed.

61            cc) As far as the defendant denies a disclosure of the features D5.2, D6.1 and D6.2, this is based on the premise that a device according to the claim must be suitable to enable a complete or optimal filling of the data fields of the second sequence. This premise is not correct, as has already been explained in connection with the interpretation of the patent in suit.

62            dd) Contrary to the view of the defendant, K5 also discloses feature D3.

63            As explained above, in K5 the pairing of source and destination address of the current frame is used to apply a suitable compression dictionary (K5 p. 10 para. 2 to p. 11 para. 2 p. 14 et seq.). Thus, an identification means for recognizing the channel affiliation of the received data packets is directly and unambiguously disclosed.

64            b) For the above reasons, the subject matter of patent claim 1 also lacks novelty.

65            c) Individual subclaims are not defended by the main request.

66 4. The defense of the patent in suit in the versions of auxiliary  
claims 1 and 2 is unsuccessful.

67 a) According to both versions, claim 21 shall be supplemented by  
the following feature:

68

D6.3	The number of data packets of the first series is different to the number of data packets of the second series.	Die Anzahl der Datenpakete der ersten Folge ist von der Anzahl der Datenpakete der zweiten Folge verschieden.
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69 In addition, claim 21 under auxiliary claim 2 is to include the following  
feature:

70

D6.4	Buffer means (161; 261) are provided for buffering, per channel (A, B ...) compressed data to be accommodated in a data field of the second series (20)	Es sind Puffermittel (161; 261) vorgesehen zum Puffern je Kanal von komprimierten Daten, die in einem Datenfeld der zweiten Folge (20) unterzubringen sind
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71 b) The alternative defense of the patent in suit in both  
aforementioned versions is not relevant (Sec. 116(2) Patent Act), since the  
defendant already had cause to defend the patent in suit in this manner at first  
instance.

72 aa) A cause for the limited defense, at least in the alternative, may  
arise from the fact that the Patent Court indicated in its notice issued under  
Sec. 83(1) Patent Act that, in its preliminary view, the subject matter of the  
patent in suit is not likely to be based on an inventive step (Federal Court of  
Justice, judgment of 15 December 2015 X ZR 111/13, GRUR 2016, 365  
Telekommunikationsverbindung; judgment of 15 February 2018 X ZR 35/16,  
marginal no. 52).

73 bb) In the reference under Sec. 83 (1) Patent Act, the Patent Court  
took the view that the feature "accomodate data in a data field" contained in  
patent claims 1 and 21 was to be understood as meaning that a data field of  
the second sequence could be only partially filled (i.e. "unadapted") even after  
accomodating data from the first sequence. Accordingly, it regarded the

subject matter of claims 1 and 21 as not new compared to K5 and K6 and, when examining features M4.2 and D6.2, did not consider whether it was disclosed in the citations that the data fields of the second sequence were to be completely filled after data from the first sequence had been included. The defendant thus already had cause at first instance to defend the patent in suit in the two versions now asserted if it was of the opinion that these were subject to a divergent assessment.

74           5.     The defense of claim 21 according to auxiliary request 3 is admissible and is also successful on the merits.

75           a)     According to auxiliary request 3, the granted version of patent claim 21 is supplemented by the said feature D6.4.

76           b)     The defense of the patent in suit according to auxiliary request 3 is admissible according to Sec. 116(2) Patent Act.

77           aa)    According to the case law of the Senate, the defense of a patent in amended form asserted for the first time in the appeal instance is generally admissible under Sec. 116(2) Patent Act if the new request differs from a request already filed in the first instance only in that individual features added to the granted version have been deleted (Federal Court of Justice, judgment of 20 March 2014 - X ZR 128/12 marginal no. 52).

78           Such an amendment meets the requirements of Sec. 116(2) No. 2 Patent Act because, despite the deletion of individual features, the request can be assessed on the basis of the facts which were already pending for decision at first instance and which must therefore also form the basis of the appeal decision in accordance with Sec. 117 Patent Act and Sec. 529(1) No. 1 Code of Civil Procedure. As a rule, it is also relevant within the meaning of Sec. 116(2) No. 1 Patent Act, because it enables the patent proprietor to make a fine correction, if necessary, without significantly increasing the effort required for the assessment by the court.

79           bb)    In the case in dispute, the defense of the patent in suit according to auxiliary request 3 is relevant.

80           The version of patent claim 21 defended by auxiliary request 3 differs from the version defended by the first instance auxiliary request 1, which corresponds to the granted patent claim 22, only in that the term "separate buffer means" has been replaced by "buffer means". Even if the defended subject matter would thus be more far-reaching compared to the first instance auxiliary request, it can be assessed on the basis of the facts to be taken into account anyway according to Sec. 117 Patent Act. Against this background, the request is also to be assessed as relevant.

81           c)       Whether the deletion of the word "separate" leads to a substantive change at all can be left open. Even according to the version now defended, buffer means within the meaning of feature D6.4 of the granted patent claim 22 and the identically worded additional feature according to the first instance auxiliary request 1 must in any case enable data from several channels to be temporarily stored separately from one another at the same time before the transmission process is initiated.

82           aa)      This is already supported by the wording of the feature, which provides for buffer means for buffering per channel.

83           bb)      This understanding is consistent with the description.

84           According to the description, the buffers make it possible that a data packet belonging to a certain channel does not have to be sent just because the packet to be processed next belongs to another channel. With the help of the buffers, the compressed data can be collected separately by channel until the packets of the second sequence can be used in an optimal way (par. 13) or as efficiently as possible (par. 41). One way to achieve this is to store the compressed data for each channel until the data field of the packet of the second sequence is completely filled (par. 13).

85           As already explained, the complete filling of a data field of the second sequence is not mandatory, neither in the description nor in the patent claims 1 and 21. However, the simultaneous and separate holding of compressed data from multiple channels is required even in embodiments in which the data fields of the second sequence are not completely filled. If the dispatch

depends, for example, on the occurrence of a certain point in time or the expiration of a certain period of time, it is possible, in the same way as in the case of complete filling, that data from a plurality of channels are to be processed until this condition occurs. Accordingly, the description also mentions the use of buffer means in such embodiments (par. 18; par. 28 lines 29-47, par. 36, 37, 39, 57, 59).

86           At most, this function is dispensable in the already mentioned mode of operation in which a data packet of the second sequence is always sent when a packet of the first sequence has been completely processed. For this constellation, however, the description does not mention the use of buffers (cf. par. 28 lines 47-58, par. 58). At one point it is even stated that even without buffers the amount of data per data packet can be reduced, only the number of packets then remains basically unchanged (par. 37 sp. 8 line 55 to sp. 9 line 7). It also follows from this that as buffer means in the sense of the patent in suit not every storage device can be regarded which enables one of the modes of operation shown in the description, but only such means which enable simultaneous storage of the data of several channels.

87           d)     The subject matter of patent claim 21 defended by auxiliary request 3 does not go beyond the content of the original application.

88           Buffer means according to feature D6.4 are disclosed in the application in claim 26. Their use is not limited to a complete filling of the data fields of the second sequence. This is - not unlike according to the patent in suit (para. 13) - a possible but not mandatory purpose of buffering (cf. K1a p. 4 lines 5-12).

89           e)     The mentioned subject matter is new.

90           aa)    No channel-by-channel buffering of compressed data is disclosed in K5.

91           As explained, K5 provides for memory management of compression dictionaries based on which data is compressed frame-by-frame. For this purpose, as shown in Figure 5 and explained in the description, the current frame is compressed using an existing or newly formed compression dictionary in memory and assigned to a memory section according to its

source and destination address (K5, p. 14 para. 2 to p. 15 para. 1).

92           Thus, as the Patent Court stated, there may be a memory area for the respective current frame. However, such a buffering is not sufficient for the realization of the feature D6.4 according to the above explanations for the interpretation of patent claim 21. Rather, buffer means would have to be present for this purpose, which at the same time allow data from several channels to be buffered separately from each other before being released for transmission. Such buffer means are not disclosed in K5, since the data frames there are compressed and stored one after the other and thus not simultaneously.

93           bb)   Contrary to the preliminary view taken by the Patent Court in its reference under Sec. 83(1) Patent Act, the subject matter of patent claim 21 defended by auxiliary request 3 is also not anticipated by international application WO 92/21188 (K6).

94           (1)   K6 discloses a method and an apparatus for improved channel utilization in a communication system for data and voice, in particular in Integrated Service Digital Networks (ISDN, K6 p. 1 line 1-6, p. 7 line 69).

95           To achieve this goal, K6 proposes, among other things, a gateway that groups data packets to be sent to a specific destination into trains, compresses the trains if necessary, and sends them to the destination. Each train has its own header, which contains all the packaging and compression information needed to recover the original data packets at the receiving end (K6 p. 9 line 312). The data packets also have a header and a data area (K6 Fig. 21a with p. 22 Z. 17-20). Packet sequences are formed, i.e. sequences of data packets which have the same source-destination pair and for which maintenance of their order on the receiving side is ensured (K6 p. 20 Z. 13-25). Such packet sequences are assigned to freight destinations, where multiple packet sequences are determined for the same freight destination. A freight destination is divided into several trains, whose size is generally not limited and which contain an integer number of packets (K6 p. 21 lines 2-13 with Fig. 22).

96           Each destination *d* is assigned a destination queue *Q(d)* at the transmit side gateway (K6 p. 9 lines 3-6), which consists of a pool of buffers. If there is room in the buffer pool for destination *d* in a buffer, an incoming packet for that destination is placed there. If the buffer is full, it is closed and sealed to a train. If there is no open buffer, a new buffer is created in the buffer pool and thus a new train is started. If the destination *d* is unknown, a new buffer pool is started for a new train (K6 p. 25 line 18 to p. 26 line 16).

97           A train to be sent is compressed and then sent in a data frame via the ISDN network to its destination (K6 p. 21 lines 14-17; p. 9 lines 3-6). The data frame has a header field and a data field containing the compressed train (K6 p. 21 lines 17-20, p. 22 lines 10-13, p. 22 lines 20-24 with Fig. 21b).

98           (2)    Thus, there is a lack of disclosure of features D6.1 and D6.2.

99           (aa)   For the trains that are compressed, it is not ensured that they only contain data packets from one channel between two terminals. The destinations according to which data packets are combined into trains are gateway-level destinations (K6, p. 25 lines 10-12), not the destination addresses behind the gateway.

100          (bb)   For the data packets combined into a train, there is also no other way to ensure that they have the same source-destination pair. It is true that all data packets in a packet sequence have the same source-destination pair. They therefore belong to the same communication partners and thus to the same channel within the meaning of the patent in suit. However, the K6 lacks the disclosure to accommodate in a train only data packets from a packet sequence or data packets which are otherwise guaranteed to have the same source-destination pair. Rather, the assignment of a pending data packet to a buffer and thus to a train is determined only by whether a buffer pool already exists for the destination at the gateway level and whether a buffer that is not yet completely filled exists there (K6, p. 25 line 33 to p. 26 line 16).

101          (3)    Furthermore, there is no means for channel-by-channel buffering of compressed data within the meaning of feature D6.4.

102          It can be left open whether this feature is not disclosed in K6 because in

the process described there, compression only takes place when a buffer has become full and its contents are sent. Buffering of compressed data on a channel-by-channel basis does not take place in any case because the packet sequences assembled for the purpose of compression can, as mentioned, originate from different channels.

103           f)     The subject matter of claim 21 is also not fully disclosed in US patent 5 179 555 (Nkl11).

104           aa)    Nkl11 relates to a device for bridging and routing data between one or more local area networks (LAN) and a wide area network (WAN).

105           The subscribers (nodes 14) of a LAN can communicate with subscribers of another LAN via the WAN. For this purpose, a bridge/router device is interposed between each LAN and the WAN (Nkl11 Sp. 1 Z. 33-45). In order to reduce the latency until data is transmitted, the data packets waiting to be compressed for transmission, whose format corresponds to a pre-known format for LAN, are divided into smaller data frames (frames) as required, each of which is provided with a header field (header). These data frames are compressed in the bridge/router device and transmitted via the WAN to the subscriber in the other LAN (Nkl11 Sp. 2 Z. 43-45; Sp. 4 Z. 56-68; Sp. 5 Z. 63 to Sp. 7 Z. 29).

106           bb)    Thus, feature D3 is not directly and unambiguously disclosed.

107           It is true that the bridge/router device may necessarily identify the destination address in order to transmit the data frames. Moreover, a data packet to be transmitted will continue to be left in memory until the receiving end acknowledges receipt (Nkl11 Sp. 3 Z. 49-53). Neither from the one nor from the other, however, does the need to identify the source address arise clearly and directly.

108           cc)    Furthermore, there is no disclosure of feature D6.1.

109           It is true that each data packet is necessarily processed in a channel-pure manner because it belongs to a specific channel and is processed individually. It is therefore accommodated in particular on a channel-clean

basis in one or more data frames for transmission and divided up in the process if necessary. However, if data from the data packet is buffered for this purpose, this is not sufficient for buffering within the meaning of feature D6.1. Likewise, buffering of the data frames before they are sent is not sufficient in this respect.

110           Insofar as it is stated in Nkl11 that compressed data is stored in a pipeline (Nkl11 Sp. 4 Z. 62-68), it cannot be inferred unambiguously and directly that storage takes place separately for each channel.

111           g)     That the skilled person had reason to consider channel-by-channel buffering of compressed data based on K5, K6 or Nkl11 is neither asserted nor otherwise evident.

112           This also applies with regard to CCITT Recommendation Q.922 "Digital Subscriber Signalling System No. 1 (DSS 1) Data Link Layer" (K12), with which the plaintiff alone wishes to demonstrate an obviousness of feature D5.2 in the event that the term "accommodating" is to be interpreted narrowly in the sense of filling as completely as possible, in accordance with the understanding of the defendant. However, since the Senate understands the term in a broader sense, as explained, further explanations are unnecessary with regard to K12. 6.

113           6.     With claim 21 in the version of auxiliary request 3, claims 22 to 26 referring back to this claim are also valid.

114           7.     On the other hand, the subject matter of patent claim 1, which is unchanged from the granted version according to all auxiliary requests, as well as of patent claims 2 to 20, which are related back to this claim and are not defended separately, is not legally valid for the reasons stated.

115 IV. The decision on costs is based on Sec. 121(2) sentence 2 Patent Act in conjunction with Sec. 92(1), Sec. 101(2), Sec. 100(2) and Sec. 269(3) sentence 2 Code of Civil Procedure.

Bacher

Grabinski

Marx

Rombach

Linder

Previous instance:

Federal Patent Court, judgment of 15 November 2017 – 5 Ni 59/16 (EP) –