

**Internal distribution code:**

- (A) [ - ] Publication in OJ
- (B) [ - ] To Chairmen and Members
- (C) [ - ] To Chairmen
- (D) [ X ] No distribution

**Datasheet for the decision  
of 30 March 2023**

**Case Number:** T 2778/18 - 3.5.04

**Application Number:** 13813437.4

**Publication Number:** 2871836

**IPC:** H04N19/70, H04N19/61

**Language of the proceedings:** EN

**Title of invention:**

VIDEO PREDICTIVE ENCODING DEVICE, VIDEO PREDICTIVE ENCODING METHOD, VIDEO PREDICTIVE ENCODING PROGRAM, VIDEO PREDICTIVE DECODING DEVICE, VIDEO PREDICTIVE DECODING METHOD, AND VIDEO PREDICTIVE DECODING PROGRAM

**Applicant:**

NTT DOCOMO, INC.

**Headword:**

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

Inventive step - main request (no) - first to third auxiliary requests (no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 2778/18 - 3.5.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.04**  
**of 30 March 2023**

**Appellant:** NTT DOCOMO, INC.  
(Applicant) 11-1 Nagatacho 2-chome  
Chiyoda-ku  
Tokyo 100-6150 (JP)

**Representative:** Viering, Jentschura & Partner mbB  
Patent- und Rechtsanwälte  
Am Brauhaus 8  
01099 Dresden (DE)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 5 July 2018  
refusing European patent application  
No. 13813437.4 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair** B. Willems  
**Members:** A. Seeger  
G. Decker

## **Summary of Facts and Submissions**

I. The appeal is against the examining division's decision to refuse European patent application No. 13 813 437.4.

II. The prior-art documents cited in the decision under appeal included the following:

D2: ITU-T H 264, "ITU-T Recommendation H.264: Advanced video coding for generic audiovisual services", XP008095420, March 2005

D4: S. Wenger et al., "RTP Payload Format for Scalable Video Coding", Internet Engineering Task Force (IETF), Request for Comments: 6190, XP015075999, May 2011

The supplementary European search report cited the following document:

D3: T. Tan et al., "On nal\_ref\_flag", Joint Collaborative Team on Video Coding (JCT-VC) of ITU-T SG16 WP3 and ISO/IEC JTC1/SC29/WG11, 10th meeting, Stockholm, no. m25557, XP030053891, 6 July 2012

III. The decision under appeal was based on the grounds that the claims of the sole request filed by letter dated 6 April 2018 did not meet the requirements of Article 84 EPC and that their subject-matter did not involve an inventive step within the meaning of Article 56 EPC.

IV. The applicant (appellant) filed notice of appeal. With the statement of grounds of appeal, the appellant

maintained the claims of the sole request on which the decision under appeal was based as its main request and filed claims according to first to third auxiliary requests. The appellant indicated a basis in the application as filed for the claimed subject-matter and provided arguments to support its opinion that the claims met the requirements of Articles 56 and 84 EPC.

V. The board issued a summons to oral proceedings and a communication under Article 15(1) of the Rules of Procedure of the Boards of Appeal in the version of 2020 (RPBA 2020, see OJ EPO 2021, A35). With that communication, the board introduced the following documents *ex officio* into the appeal proceedings:

D5: T. Tan et al., "On nal\_ref\_flag", Joint Collaborative Team on Video Coding (JCT-VC) of ITU-T SG16 WP3 and ISO/IEC JTC 1/SC29/WG11, 10th meeting, Stockholm, no. JCTVC-J0231, 3 July 2012

D5a: T. Tan et al., "Preview document JCTVC-J0231 for Stockholm meeting (MPEG number m25557), Document Information", Joint Collaborative Team on Video Coding (JCT-VC)

D6: B. Bross et al., "High efficiency video coding (HEVC) text specification draft 7", Joint Collaborative Team on Video Coding (JCT-VC) of ITU-T SG16 WP3 and ISO/IEC JTC1/SC29/WG11, 9th meeting, Geneva, no. JCTVC-I1003\_d9, 27 April 2012 to 7 May 2012

and expressed the preliminary opinion that the subject-matter of the independent claims of the main request and the first to third auxiliary requests did not

involve an inventive step within the meaning of Article 56 EPC in view of the combined disclosure of documents D5 and D6 and the common general knowledge of the person skilled in the art.

- VI. The appellant did not file a substantive reply to the board's communication.
- VII. In a telephone conversation on 30 March 2023, the appellant announced that no one would be present on behalf of the appellant during the oral proceedings.
- VIII. The board held oral proceedings in the absence of the appellant on 30 March 2023.

The Chair noted that it appeared from the file that the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims according to the main request filed with the letter dated 6 April 2018 or, alternatively, according to one of the first to third auxiliary requests, all auxiliary requests filed with the statement of grounds of appeal.

At the end of the oral proceedings, the Chair announced the board's decision.

- IX. Claim 3 of the main request reads as follows:

"A video predictive encoding method comprising:  
an input step of inputting a plurality of pictures forming a video sequence; and  
an encoding step of encoding the pictures to generate compressed picture data, and encapsulating the compressed picture data in a NAL unit with NAL unit header information,

wherein the plurality of pictures forming the video sequence are separated into a plurality of temporal layers,  
the NAL unit header information contains a `nal_unit_type` which indicates a type of a content transmitted by the NAL unit, and  
wherein the encoding step determines the `nal_unit_type` so as to uniquely indicate whether encoded picture data is used as a reference picture to decode another picture in the same temporal layer."

- X. Claim 3 of the first auxiliary request reads as follows (amendments compared to claim 3 of the main request are underlined):

"A video predictive encoding method comprising:  
an input step of inputting a plurality of pictures forming a video sequence; and  
an encoding step of encoding the pictures to generate compressed picture data, and encapsulating the compressed picture data in a NAL unit with NAL unit header information,  
wherein the plurality of pictures forming the video sequence are separated into a plurality of temporal layers,  
the NAL unit header information contains a `nal_unit_type` which indicates a type of a content transmitted by the NAL unit, wherein the content is a parameter set, a coded slice or a supplemental enhancement message, and  
wherein the encoding step determines the `nal_unit_type` so as to uniquely indicate whether encoded picture data is used as a reference picture to decode another picture in the same temporal layer."

XI. Claim 3 of the second auxiliary request reads as follows (amendments compared to claim 3 of the main request are underlined):

"A video predictive encoding method comprising:  
an input step of inputting a plurality of pictures forming a video sequence; and  
an encoding step of encoding the pictures to generate compressed picture data, and encapsulating the compressed picture data in a NAL unit with NAL unit header information,  
wherein the plurality of pictures forming the video sequence are separated into a plurality of temporal layers,  
the NAL unit provides a self-contained packet and gives a video layer identity in different network environments,  
the NAL unit header information contains a nal\_unit\_type which indicates a type of a content transmitted by the NAL unit, wherein the content is a parameter set, a coded slice or a supplemental enhancement message, and  
wherein the encoding step determines the nal\_unit\_type so as to uniquely indicate whether encoded picture data is used as a reference picture to decode another picture in the same temporal layer."

XII. Claim 3 of the third auxiliary request reads as follows (amendments compared to claim 3 of the main request are underlined):

"A video predictive encoding method comprising:  
an input step of inputting a plurality of pictures forming a video sequence; and  
an encoding step of encoding the pictures to generate compressed picture data, and encapsulating the



compressed picture data in a NAL unit with NAL unit header information,  
wherein the plurality of pictures forming the video sequence are separated into a plurality of temporal layers,  
the NAL unit organizes the encoded information related to the network abstraction layer which defines the encapsulation of the coded video data for transportation and storage,  
the NAL unit header information contains a nal\_unit\_type which indicates a type of a content transmitted by the NAL unit, wherein the content is a parameter set, a coded slice or a supplemental enhancement message, and  
wherein the encoding step determines the nal\_unit\_type so as to uniquely indicate whether encoded picture data is used as a reference picture to decode another picture in the same temporal layer."

### **Reasons for the Decision**

1. The appeal is admissible.
2. The duly summoned appellant did not attend the oral proceedings. However, under Rule 115(2) EPC, the oral proceedings could continue without that party. In accordance with Article 15(3) RPBA 2020 (applicable in accordance with Article 25(1) RPBA 2020), the board relied for its decision on the appellant's written submissions. The board was in a position to announce a decision at the conclusion of the oral proceedings since the case was ready for decision (Article 15(5) and (6) RPBA 2020, applicable in accordance with Article 25(1) RPBA 2020), and the voluntary absence of

the appellant was not a reason for delaying the decision (Article 15(3) RPBA 2020).

3. Introduction of further prior-art documents into the appeal proceedings

3.1 Document D3 has Joint Collaborative Team on Video Coding (JCT-VC) document number JCTVC-J0231r1. An earlier version of this document, with document number JCTVC-J0231, was uploaded on 3 July 2012 to the JCT-VC document management server. This is illustrated by document D5a indicating the upload times of document JCTVC-J0231 version 1 (document number JCTVC-J0231) and version 2 (document number JCTVC-J0231r1).

3.2 Due to its upload to the JCT-VC document management server, version 1 of document JCTVC-J0231 (document number JCTVC-J0231) was publicly available before the priority date of the current application (6 July 2012).

Hence, this version 1 of document JCTVC-J0231 (document number JCTVC-J0231) is prior art under Article 54(2) EPC.

This version 1 of document JCTVC-J0231 is document D5.

3.3 Description paragraph [0005] refers to the latest version of the high efficiency video coding (HEVC) text specification draft before the priority date of the current application.

This version of the HEVC text specification draft is document D6.

4. Main request - inventive step (Article 56 EPC)

4.1 Document D5 is an input document for the 10th JCT-VC meeting that proposes changes to the then current HEVC text specification draft as reflected in document D6.

Hence, these documents, i.e. document D6 with the changes proposed in document D5, form a single combined disclosure.

4.2 This combined disclosure of D5 and D6 may be considered the closest prior art for the assessment of inventive step of the subject-matter of claim 3.

4.3 Documents D5 and D6 together disclose a video predictive encoding method (see D6, title) comprising:

- an input step of inputting a plurality of pictures forming a video sequence (implicit in any video coding scheme)
- an encoding step of encoding the pictures to generate compressed picture data (implicit in any video coding scheme)
- encapsulating the compressed picture data in a NAL unit with NAL unit header information (see D6, page 28, section "NAL unit syntax" and page 54, section "NAL unit semantics", "Note 1": "*The VCL is specified to efficiently represent the content of the video data. The NAL is specified to format that data and provide header information... All data are contained in NAL units*")
- where the plurality of pictures forming the video sequence are separated into a plurality of temporal layers (see D6, page 63: "*sps\_max\_temporal\_layers\_minus1 plus 1 specifies the*

*maximum number of temporal layers that may be present in the sequence. The value of `sps_max_temporal_layers_minus1` shall be in the range of 0 to 7, inclusive" and D5, section 1.1.1 NAL unit syntax: "temporal\_id u(3)"*

- the NAL unit header information contains a `nal_unit_type` which indicates a type of a content transmitted by the NAL unit (see D5, page 2, section 1.1.1 NAL unit syntax: "`nal_unit_type` u(7)")

4.4 Documents D5 and D6 together do not explicitly disclose the function of the modified "`nal_unit_type`".

4.5 However, it would have been obvious to the person skilled in the art that if the `nal_ref_flag` bit is absorbed into the `nal_unit_type` (see D5, Abstract: "*The `nal_ref_flag` does not seem to have any use in the decoding process apart from the final marking of the picture as reference or non-reference picture*" and Section 1: "*This contribution proposes to remove `nal_ref_flag` (or absorb the bit into the `nal_unit_type`)*"), this `nal_unit_type` needs to also perform the function of the absorbed `nal_ref_flag`, namely to uniquely identify whether encoded picture data is used as a reference picture to decode another picture in the same temporal layer.

Since no temporal layer may use reference pictures of a higher temporal layer, the reference pictures used in the temporal base layer must be reference pictures within that layer.

4.6 Points 4.1 to 4.5 above reflect the board's preliminary opinion set out in points 4.1 to 4.5 of its communication under Article 15(1) RPBA 2020. Since the

appellant did not file a substantive reply to this communication, the board sees no reason to depart from its preliminary opinion. Therefore, the subject-matter of claim 3 does not involve an inventive step within the meaning of Article 56 EPC in view of the combined disclosure of documents D5 and D6 and the common general knowledge of the person skilled in the art.

5. First auxiliary request - inventive step (Article 56 EPC)
  - 5.1 Independent claim 3 of the first auxiliary request differs from independent claim 3 of the main request in that the former further specifies that "*the content is a parameter set, a coded slice or a supplemental enhancement message*".
  - 5.2 However, this further feature is disclosed in the combined disclosure of documents D5 and D6 (see D6, Table 7-1 on pages 54 to 55: "*coded slice*", "*Video parameter set*"/"*Sequence parameter set*"/"*Picture parameter set*" and "*Supplemental enhancement information*").
  - 5.3 Points 5.1 and 5.2 above reflect the board's preliminary opinion set out in points 5.1 and 5.2 of its communication under Article 15(1) RPBA 2020. Since the appellant did not file a substantive reply to this communication, the board sees no reason to depart from its preliminary opinion. Hence, the same inventive step objection as raised in section 4. against independent claim 3 of the main request applies.
6. Second auxiliary request - inventive step (Article 56 EPC)

- 6.1 Independent claim 3 of the second auxiliary request differs from independent claim 3 of the first auxiliary request in that the former further specifies that *"the NAL unit provides a self-contained packet and gives a video layer identity in different network environments"*.
- 6.2 However, this further feature is disclosed in the combined disclosure of documents D5 and D6 (see D6, page 54, section "NAL unit semantics": *"The VCL is specified to efficiently represent the content of the video data. The NAL is specified to format that data and provide header information in a manner appropriate for conveyance on a variety of communication channels or storage media"* and D5, section 1.1.1 "NAL unit syntax").
- 6.3 Points 6.1 and 6.2 above reflect the board's preliminary opinion set out in points 6.1 and 6.2 of its communication under Article 15(1) RPBA 2020. Since the appellant did not file a substantive reply to this communication, the board sees no reason to depart from its preliminary opinion. Hence, the same inventive step objection as raised in section 5. against independent claim 3 of the first auxiliary request applies.
7. Third auxiliary request - inventive step (Article 56 EPC)
- 7.1 Independent claim 3 of the third auxiliary request differs from independent claim 3 of the first auxiliary request in that the former further specifies that *"the NAL unit organizes the encoded information related to the network abstraction layer which defines the encapsulation of the coded video data for transportation and storage"*.

- 7.2 However, this further feature is disclosed in the combined disclosure of documents D5 and D6 (see D6, page 10: "NAL Network Abstraction Layer", page 54, section "NAL unit semantics": "*The VCL is specified to efficiently represent the content of the video data. The NAL is specified to format that data and provide header information in a manner appropriate for conveyance on a variety of communication channels or storage media*" and D5, section 1.1.1 "NAL unit syntax").
- 7.3 Points 7.1 and 7.2 above reflect the board's preliminary opinion set out in points 7.1 and 7.2 of its communication under Article 15(1) RPBA 2020. Since the appellant did not file a substantive reply to this communication, the board sees no reason to depart from its preliminary opinion. Hence, the same inventive step objection as raised in section 5. against independent claim 3 of the first auxiliary request applies.
8. Conclusion

The main request and the first to third auxiliary requests are not allowable because the subject-matter of claim 3 in each of these requests does not involve an inventive step within the meaning of Article 56 EPC. Since none of the appellant's requests is allowable, the appeal must be dismissed.

## **Order**

### **For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chair:



K. Boelicke

B. Willems

Decision electronically authenticated