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**Datasheet for the decision
of 10 August 2023**

Case Number: T 0982/21 - 3.5.05

Application Number: 12718316.8

Publication Number: 2695148

IPC: H04L9/08, G07F7/12, G06Q20/32,
H04L9/32, G06Q20/38

Language of the proceedings: EN

Title of invention:
PAYMENT SYSTEM

Patent Proprietor:
Visa Europe Limited

Opponent:
EURO Kartensysteme GmbH

Headword:
PAYMENT SYSTEM / Visa

Relevant legal provisions:
EPC Art. 56
RPBA 2020 Art. 12(2), 12(3), 13(2)

Keyword:

Inventive step - (yes) - non-obvious solution

Amendment after summons - exceptional circumstances (no) -
taken into account (no)

Decisions cited:

J 0014/19



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0982/21 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 10 August 2023

Appellant: Visa Europe Limited
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 21 April 2021
revoking European patent No. 2695148 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: N. H. Uhlmann
K. Kerber-Zubrzycka

Summary of Facts and Submissions

- I. The appellant (patent proprietor) appealed against the opposition division's decision to revoke European patent No. 2 695 148.
- II. The decision under appeal made reference to, *inter alia*, the following documents:
- D1 "Contactless Mobile Payment Architecture Overview, Version 1.0", EMVCo Contactless Mobile Payment, June 2010
- D2 Victor Schub and Avi Rubin, "Session Key Distribution Using Smartcards"
- D3 US 2008/0305769
- D4 US 2009/0124234
- D5 Kasper et al., "Subscriber Authentication in mobile cellular Networks with virtual software SIM Credentials using Trusted Computing"
- D6 "Project Report: The use of Near Field Communication (NFC) technology in mobile phones for public transport ticketing"
- D7 "RFC6063: Dynamic Symmetric Provisioning Protocol (DSKPP)", IETF
- D8 "What Makes a Smart Card Secure?", Smart Card Alliance
- D9 "EMV - Integrated Circuit Card Specifications for Payment Systems", Common Payment Application Specification, Version 1.0, December 2005
- E1 "EMV - Integrated Circuit Card Specifications for Payment Systems", Book 2: Security and Key Management
- Elbis "EMV - Integrated Circuit Card Specifications for Payment Systems", Book 2: Security and Key Management, Version 4.1, May 2004
- E2 Joeri de Ruiter et al., "Formal analysis of the

EMV Protocol Suite"

E3 US 2005/156026

E4 US 2011/038481

III. In its statement of grounds of appeal, the appellant requested that the decision under appeal be set aside, that the appeal fee be reimbursed and that the opposition be rejected, or, as an auxiliary measure, that the patent be maintained according to one of auxiliary requests 1 to 4 underlying the contested decision, which were resubmitted with the statement of grounds of appeal. The appellant also submitted a document entitled "D3 - BACKGROUND".

The respondent (opponent) filed a reply to the appeal and requested that the appeal be dismissed.

IV. The appellant and respondent both submitted further arguments in letters dated 18 March 2022 and 6 May 2022, respectively.

V. The parties were summoned to oral proceedings. In a communication under Article 15(1) RPBA, the board set out its provisional opinion on the case.

VI. In a letter dated 10 July 2023, the respondent submitted a further document, EMV1:

EMV1 "EMV - Contactless Specifications for Payment Systems", Book A: Architecture and General Requirements, Version 2.1, March 2011

VII. At the oral proceedings, which took place as scheduled, the allowability of the requests on file was discussed

with the parties. The appellant withdrew its request for the reimbursement of the appeal fee.

VIII. Final requests of the parties

The appellant requested that the decision under appeal be set aside and the patent be maintained as granted (main request) or in amended form on the basis of one of the auxiliary requests 1 to 4 all on which the decision under appeal was based and refiled with the statement setting out the grounds of appeal.

The respondent requested that the appeal be dismissed.

IX. Claim 1 of the patent as granted is worded as follows:

"A method for authorising an EMV payment transaction between a user device (502; 600) and a point-of-sale terminal (504), said EMV payment transaction being one that is authorised as part of the payment transaction by an issuing bank (500), wherein said issuing bank (500) holds data indicative of an ICC Master Key corresponding to a payment application provisioned to the user device (502; 600), the payment application having a first operative state wherein said payment application is enabled to conduct said EMV payment transaction, and a second operative state, different to said first operative state, the method comprising:

responsive to receiving a session key generated by said issuing bank (500) on the basis of said ICC Master Key, provisioning said payment application with the session key, whereby to configure said payment application into said first operative state; and thereafter

responsive to receiving a request for an application cryptogram at the payment application from the point-of-sale terminal (504), using the payment application to perform an authorisation process, the authorisation process comprising the steps of:

generating said application cryptogram on the basis of the received session key; and

transmitting the generated application cryptogram to the point-of-sale terminal for verification thereof by the issuing bank (500) and authorisation of the EMV payment transaction."

Reasons for the Decision

1. The patent in suit pertains to a method for authorising payment transactions between a user device and point-of-sale terminal. A transaction is authorised using a cryptogram generated by the user device on the basis of a session key. The session key is generated by a bank, using a master key, and is sent to and received by the user device. Thereafter, responsive to a request for a cryptogram from the point-of-sale terminal, the user device generates the cryptogram and sends it to the point-of-sale terminal.
2. Document D1 describes a standard for authorising payment transactions using a mobile device, a master key and, implicitly, a session key.
3. Main request of the appellant - claim 1: inventive step

Document D1 is a suitable starting point for the inventive-step assessment.

In the following, the board uses the feature analysis of claim 1 as set out on pages 4 and 5 of the statement of grounds of appeal.

3.1 Distinguishing features

3.1.1 According to the decision under appeal (section 2.15 on page 11), "the gist of the difference between D1 and claim 1 can be summarised as:

The ICC Master Key is held by the bank and used to generate session keys which are sent to (i.e. received by) the payment application instead of the ICC Master Key."

3.1.2 The appellant stated on page 13 of its statement of grounds of appeal that D1 did not disclose the following features of claim 1:

"1. That a user device receives a session key generated by an issuing bank which holds data indicative of the ICC Master Key corresponding to a payment application provisioned by the user device (cf. integer e) of claim 1);

2. That after receipt of the session key, responsive to a request for an application cryptogram at the payment application, the payment application performs an authorization process comprising generating the application cryptogram using the previously received session key (cf. integer f) of claim 1);

3. That provisioning the received session key configures the payment application into an operative state in which the payment application is enabled to conduct an EMV payment transaction (cf. integer e) of claim 1)."

3.1.3 The respondent argued in the second paragraph on page 3 of its reply that the only thing D1 did not disclose is

that a session key is generated by the bank and is based on the ICC Master Key, which key is available to the bank only.

- 3.1.4 It is common ground that D1 does not disclose the first alleged distinguishing feature set out above in point 3.1.2.

D1 does disclose the third alleged distinguishing feature.

The opposition division found (see the last sentence of section 2.10 of the decision under appeal) that "While it is not explicitly stated in D1, it appears to have been common ground that the mobile device of D1 must be understood to use the ICC MK at the time of payment to generate session keys which are in turn used to effect payment (in the same manner as a wireless payment card)." This finding was not contested by the parties. Furthermore, it is self-evident that the payment application in D1 is only able to conduct a transaction when it has received a session key. The state of the payment application when it has received the session key corresponds to the claimed first operational state.

With regard to the second alleged distinguishing feature, D1 does not disclose that **after** a session key is received and the payment application is configured into the first operational state, **responsive to receiving a request for an application cryptogram at the payment application from the point-of-sale terminal**, the payment application is used to perform an authorisation process (see features e) and f) of claim 1).

D1 discloses the generation of a session key only implicitly. Hence, it does not disclose any details regarding this generation; in particular, it does not

disclose whether the request for an application cryptogram is received after the session key was received (as claimed), or before.

The respondent argued that in D1, the **ICC Master Key** was transmitted to the device before a transaction could be performed.

The board notes that claim 1 states that the request for an application cryptogram is received after the different, **session**, key is received.

3.1.5 For these reasons, the board holds that document D1 does not disclose the following features of claim 1:

- (i) The user device receives a session key generated by an issuing bank which holds data indicative of the ICC Master Key corresponding to a payment application provisioned by the user device.
- (ii) **After a session key is received** and the payment application is configured into the first operational state, **responsive to receiving a request for an application cryptogram at the payment application from the point-of-sale terminal**, the payment application is used to perform an authorisation process.

3.2 Technical effects of the distinguishing features

The appellant argued (see the second paragraph on page 19 of the statement of grounds of appeal) that the distinguishing features led to two effects:

- improved data security, because the user device receives a session key generated by the bank
- transactions can still be performed without a communication link to the issuing bank for the

provisioning of a session key, because the session key is received before a transaction request.

The board is of the opinion that these effects are indeed achieved.

3.3 Contribution to inventive step

3.3.1 The board holds that

- none of the documents analysed in the decision under appeal and in the admitted submissions by the respondent discloses distinguishing feature (ii),
- feature (ii) does not belong to the common general knowledge of the skilled person, and
- feature (ii) contributes towards achieving the effect of being able to perform transactions without a communication link to the issuing bank for the provisioning of a session key.

3.3.2 In view of these observations, the board concludes that

- distinguishing feature (ii) contributes towards an inventive step and
- there is no need to carry out a detailed inventiveness analysis regarding distinguishing feature (i). For the sake of completeness, it is noted that feature (i) does not contribute towards inventive step in view of the teaching of document D3, as was convincingly argued by the respondent.

3.3.3 The board agrees with the respondent's argument that the skilled person was familiar with the scenario in which no connection or only a slow connection was available at the time of a transaction. Clearly, the person skilled in the art would be motivated to come up with a solution which would allow transactions to be carried out even in the event of no or slow

connectivity. The board similarly agrees that it is technically possible to generate a session key in advance of a transaction.

However, as discussed during the oral proceedings, document D3 discloses an embodiment in which no communication is available (cf. [0026] "should the mobile device fail to establish communication with the key storage device"). D3 discloses a solution for facilitating a secure transaction, too: "prompt the user for an alternative secondary authentication, such as but not limited to voice signature, fingerprint" (ibidem), which is clearly different from distinguishing feature (ii). Consequently, document D3 teaches away from the claimed subject-matter, in particular from feature (ii).

Given these facts, the board holds that the skilled person could implement a generation of session keys in advance, but they would not do so in view of the disclosure of document D3.

During the oral proceedings the respondent referred to paragraph [0017] of document D4. This passage discloses that a session key stored on a mobile device may be invalidated; the session key must therefore have been received in advance.

The board notes that in D4, the session keys are used for securing the communication between the mobile device and a server (paragraphs [0004] and [0016]) and not for communication with a point-of-sale terminal. Furthermore, D4 does not address any communication problems. Thus, the skilled person would not turn to document D4 when looking for a solution with which transactions can still be carried out when no connectivity is available.

3.3.4 For these reasons, the subject-matter of claim 1 involves an inventive step. Hence, the ground of opposition under Articles 100(a) and 56 EPC does not prejudice the maintenance of the patent as granted.

4. Admission of the late-filed document EMV1 and the respondent's lines of argument submitted with its letter dated 10 July 2023

4.1 Document EMV1

This document was filed by the respondent after the summons to oral proceedings was notified. It amounts to an amendment of the respondent's appeal case and therefore it shall not, in principle, be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the respondent (Article 13(2) RPBA).

In its letter dated 10 July 2023, the respondent did not set out any such reasons.

At the oral proceedings, the respondent argued that EMV1 was not submitted as a prior-art document but as proof of the timing of the actions taking place during EMV payment transactions; hence, the submission thereof was not an amendment of its case.

This argument is not convincing. The timing information disclosed in document EMV1 and referred to by the respondent in its letter dated 10 July 2023 (see the last paragraph on page 3) amounts to new facts which should have been presented in the respondent's reply to the statement of grounds of appeal (Article 12(3) RPBA). Consequently, the late introduction of document EMV1

does indeed constitute an amendment to the respondent's case.

Furthermore, the board holds that no exceptional circumstances can be seen since the board, in its communication under Article 15(1) RPBA, disagreed with the reasons in the decision under appeal and essentially agreed with the arguments of the appellant as set out in its grounds of appeal.

For these reasons, document EMV1 and the arguments based thereon are not taken into account pursuant to Article 13(2) RPBA.

4.2 New lines of argument based on documents D2, D6 and D7

The respondent argued at the oral proceedings that documents D2, D6 and D7 were filed earlier, that arguments could be submitted at any point of the proceedings and that arguments based on these documents had not been deemed necessary in view of the outcome of the opposition proceedings.

The appellant noted that according to the decision under appeal, these documents were less relevant than D1 and D3 and that the appellant had argued during both the opposition proceedings and in the statement of grounds of appeal that feature (ii) was a distinguishing feature contributing towards inventive step. Thus, the respondent should have addressed these documents in its reply thereto at the latest.

The board is not persuaded by the respondent's arguments for the following reasons:

Neither the reply of the respondent to the statement of grounds of appeal nor its letter dated 6 May 2022 makes any reference to documents D2, D6 and D7. The board holds that the simple fact that particular documents formed part of the appeal case, by virtue of Article 12(2) RPBA, does not mean that the entire content of these documents forms part of the appeal case (cf. J 14/19). The respondent did not just present arguments, it also introduced new factual aspects in its **appeal** case, by referring **for the first time** to documents D2, D6 and D7, to specific passages and to an inventive-step attack based on document D1 and these documents in its letter dated 10 July 2023. Such new factual aspects are to be treated as an amendment of the appeal case. Finally, the fact that the respondent did not deem arguments based on these documents to be necessary does not amount to exceptional circumstances.

Consequently, the new lines of argument based on documents D2, D6 and D7 are not taken into account pursuant to Article 13(2) RPBA.

5. Conclusion

None of the grounds of opposition raised by the respondent prejudices the maintenance of the patent as granted.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is maintained as granted.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated