

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
13 October 2022 (13.10.2022)



(10) International Publication Number
WO 2022/214804 A1

(51) International Patent Classification:

H04L 9/00 (2022.01) H04W 12/30 (2021.01)
H04W 12/043 (2021.01) G06F 21/74 (2013.01)
H04W 12/40 (2021.01)

(21) International Application Number:

PCT/GB2022/050858

(22) International Filing Date:

06 April 2022 (06.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2105090.1 09 April 2021 (09.04.2021) GB

(71) Applicant: **VODAFONE GROUP SERVICES LIMITED** [GB/GB]; Vodafone House, The Connection, Newbury Berkshire RG14 2FN (GB).

(72) Inventors: **POSCHKE, Nils**; Vodafone Group Services Limited, c/o Group Legal (Patents), One Kingdom Street, Paddington Central, London Greater London W2 6BY (GB). **PALMER, David**; Vodafone Group Services Limited, c/o Group Legal (Patents), One Kingdom Street, Paddington Central, London Greater London W2 6BY (GB). **BENTO, Jorge**; Vodafone Group Services Limited, c/o Group Legal (Patents), One Kingdom Street, Paddington Central, London Greater London W2 6BY (GB).

(74) Agent: **BOULT WADE TENNANT LLP**; Salisbury Square House, 8 Salisbury Square, London Greater London EC4Y 8AP (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available):

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available):

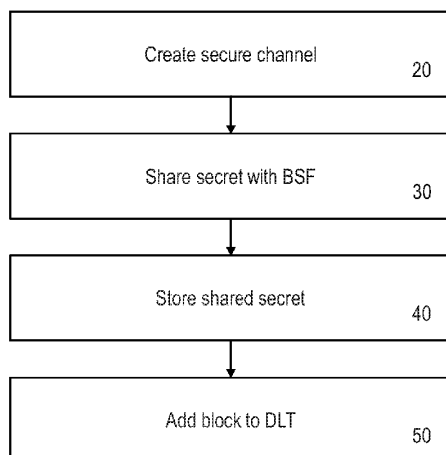
ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: SIM CRYPTOGRAPHIC KEY STORAGE

Fig. 1



(57) Abstract: A method and system for recording transactions on a distributed ledger, the method comprising the steps of creating a secure channel between a device and a bootstrapping server function, BSF, using a pre-provisioned key stored within a UICC of the device and at the BSF. Sharing a secret between the device and the BSF over the secure channel. Storing the shared secret on the UICC of the device. Adding one or more transaction to a block of a distributed ledger, wherein the one or more transaction is identified using the shared secret.

WO 2022/214804 A1