

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 April 2022 (28.04.2022)



(10) International Publication Number
WO 2022/086680 A1

(51) International Patent Classification:

H04L 29/06 (2006.01) G06F 21/60 (2013.01)
H04L 9/06 (2006.01) G06F 21/62 (2013.01)
H04L 9/08 (2006.01)

(21) International Application Number:

PCT/US2021/052380

(22) International Filing Date:

28 September 2021 (28.09.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/104,723 23 October 2020 (23.10.2020) US
63/109,566 04 November 2020 (04.11.2020) US

(71) Applicant: **VISA INTERNATIONAL SERVICE ASSOCIATION** [US/US]; P.O. Box 8999, San Francisco, California 94128 (US).

(72) Inventors: **ARORA, Sunpreet Singh**; P.O. Box 8999, San Francisco, California 94128 (US). **BADRINARAYANAN, Saikrishna**; P.O. Box 8999, San Francisco, California 94128 (US). **RAGHURAMAN, Srinivasan**; P.O. Box 8999, San Francisco, California 94128 (US). **WAGNER, Kim**; P.O. Box 8999, San Francisco, California 94128 (US). **WATSON, Gaven James**; P.O. Box 8999, San Francisco, California 94128 (US). **HENSTOCK, David**; P.O. Box 8999, San Francisco, California 94128 (US). **LIGHTMAN, Jason**; P.O. Box 8999, San Francisco, California 94128 (US).

(74) Agent: **JEWIK, Patrick et al.**; 1100 Peachtree Street, NE Suite 2800, Atlanta, Georgia 30309 (US).

(54) Title: PRIVACY-PRESERVING IDENTITY DATA EXCHANGE

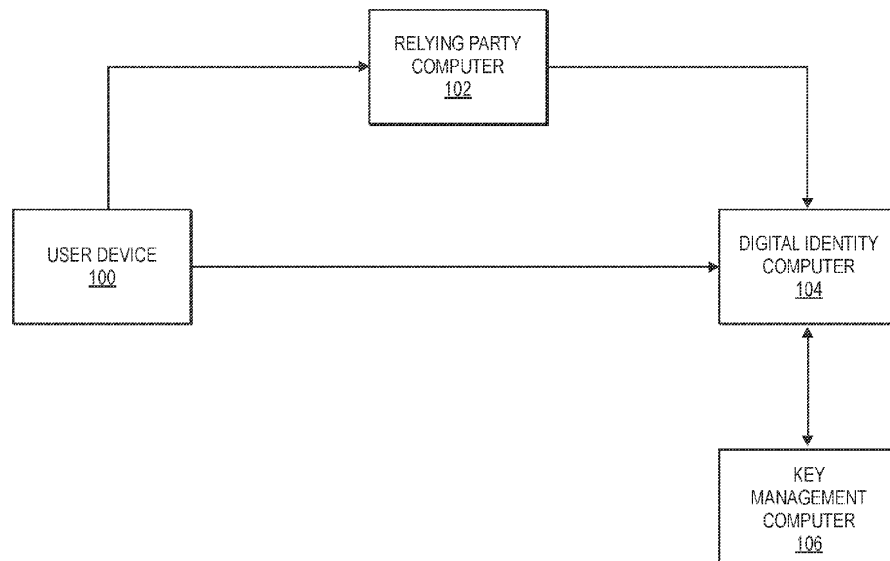


FIG. 1

(57) **Abstract:** A method is disclosed. The method comprises receiving, by a digital identity computer, a request for personal data associated with a user. The digital identity computer may retrieve encrypted personal data, wherein the personal data is encrypted with a public key associated with the user. The digital identity computer may encrypt the encrypted personal data with a first public key associated with a relying party or derivative thereof to form subsequently encrypted personal data. The method may then proceed to transmit the subsequently encrypted personal data or derivative thereof to a relying party computer, or a user device. If the user device receives the subsequently encrypted personal data, the user device may thereafter transmit the subsequently encrypted personal data or derivative thereof to the relying party computer. Then, the relying party computer obtains the personal data from the subsequently encrypted personal data or derivative thereof.

[Continued on next page]

(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, 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).

Declarations under Rule 4.17:

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

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