

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
26 September 2019 (26.09.2019)



(10) International Publication Number
WO 2019/182569 A1

(51) International Patent Classification:
H04L 9/32 (2006.01) *H04L 9/08* (2006.01)

(21) International Application Number:
PCT/US2018/023365

(22) International Filing Date:
20 March 2018 (20.03.2018)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: **VISA INTERNATIONAL SERVICE ASSOCIATION** [US/US]; 900 Metro Center Boulevard, Foster City, California 94404 (US).

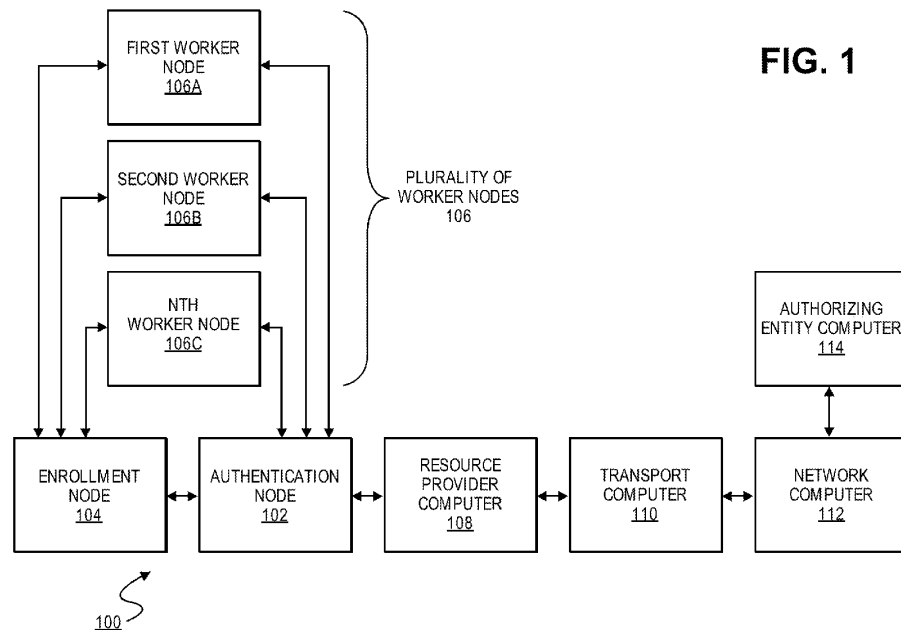
(72) Inventors: **ARORA, Sunpreet Singh**; 1950 Elkhorn Ct. Unit 213, San Mateo, California 94403 (US). **BEST-ROWDEN, Lacey**; 1107 Shoreline Dr., San Mateo, California

94404 (US). **WAGNER, Kim**; 606 Alberta Avenue, Sunnyvale, California 94087 (US).

(74) Agent: **JEWIK, Patrick** et al.; Kilpatrick Townsend & Stockton LLP, Mailstop: IP Docketing - 22, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309 (US).

(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, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(54) Title: DISTRIBUTED BIOMETRIC COMPARISON FRAMEWORK



(57) Abstract: A method is disclosed. An authentication node may receive a plurality of encrypted match values, wherein the plurality of encrypted match values were formed by a plurality of worker nodes that compare a plurality of encrypted second biometric template parts derived from a second biometric template to a plurality of encrypted first biometric template parts derived from a first biometric template. The authentication node may decrypt the plurality of encrypted match values resulting in a plurality of decrypted match values. The authentication node may then determine if a first biometric template matches the second biometric template using the plurality of decrypted match values. An enrollment node may be capable of enrolling a biometric template and storing encrypted biometric template parts at worker nodes.

[Continued on next page]

(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))