

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
06 July 2023 (06.07.2023)



(10) International Publication Number
WO 2023/129786 A1

(51) International Patent Classification:
G06F 21/62 (2013.01) *G06F 16/00* (2019.01)
G06F 21/00 (2013.01)

(72) Inventor: **VENABLE, Jeff**; 12832 Frontrunner Blvd., Suite 500, Draper, Utah 84020 (US).

(21) International Application Number:
PCT/US2022/080701

(74) Agent: **CHEN, Tom**; 2323 Victory Avenue, Suite 700, Dallas, Texas 75219 (US).

(22) International Filing Date:
30 November 2022 (30.11.2022)

(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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, 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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
17/564,491 29 December 2021 (29.12.2021) US
17/564,574 29 December 2021 (29.12.2021) US

(71) Applicant: **BREX INC.** [US/US]; 12832 Frontrunner Blvd., Suite 500, Draper, Utah 84020 (US).

(54) Title: AUTHORIZATION AND ACCESS CONTROL SYSTEM FOR ACCESS RIGHTS USING RELATIONSHIP GRAPHS

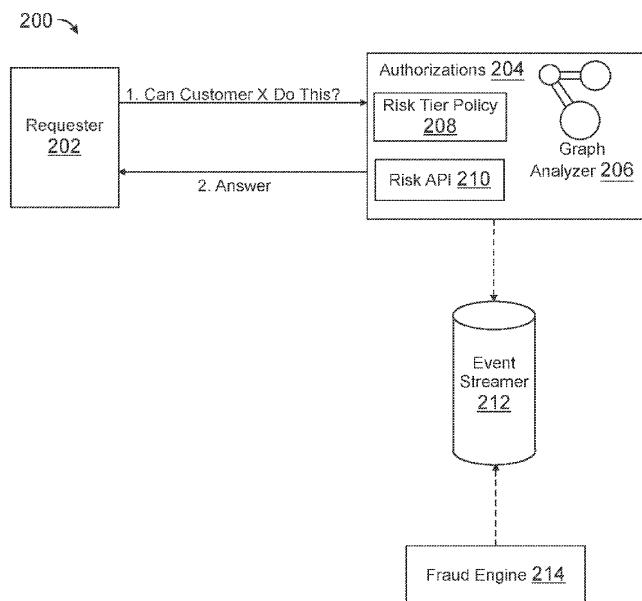


FIG. 2

(57) Abstract: There are provided systems and methods for an authorization and access control system for access rights using relationship graphs. A service provider may provide an authorization and access control system that allows users within the service provider and/or customer entities to assign and change access rights or permissions to computing resources. When providing control of these access rights, the service provider may utilize relationship graphs, queried and generated using a graph database, to visualize and determine access rights that are inherited through different relationships and policies defining these access rights. The relationship graph may show edges for nodes that correspond to related objects, such as actors, groups, and resources. Paths over the relationship graph may be used to determine access rights that may be inherited by users. Once determined, these access rights may be established and/or updated with computing systems.

[Continued on next page]

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, 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, ME, 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))