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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 December 2019 (12.12.2019)

WIPO | PCT

(10) International Publication Number
WO 2019/236519 A1

(51) International Patent Classification:
G06F 8/41 (2018.01) *G06F 8/34* (2018.01)

(21) International Application Number:
PCT/US2019/035296

(22) International Filing Date:
04 June 2019 (04.06.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/681,395 06 June 2018 (06.06.2018) US
16/153,320 05 October 2018 (05.10.2018) US

(71) Applicant: **AB INITIO TECHNOLOGY LLC** [US/US]; 201 Spring Street, Lexington, Massachusetts 02421 (US).

(72) Inventors: **BACH, Edward Alan**; 201 Spring Street, Lexington, Massachusetts 02421 (US). **SHAPIRO, Richard A.**; 201 Spring Street, Lexington, Massachusetts 02421 (US).

(74) Agent: **DEVRIES, Gretchen A.** et al.; Fish & Richardson P.C., P.O. Box 1022, Minneapolis, Minnesota 55440-1022 (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,

(54) Title: UPDATING EXECUTABLE GRAPHS

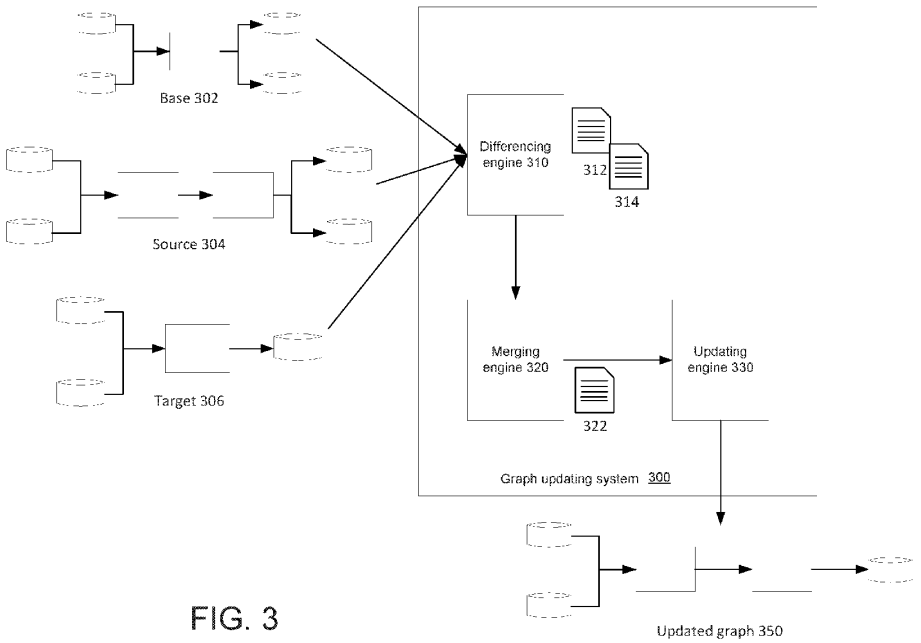

FIG. 3

(57) Abstract: A method for generating an updated graph based on a base graph includes identifying differences between a base graph and each of a source and a target graph. The specification of each graph defines nodes representing data processing components defining operations for processing data, and links representing flow of data. The identifying includes: comparing specifications of base and source graphs to identify a first set of differences between the base and source graph, and comparing specifications of base and target graphs to identify a second set of differences between the base and the target graph. The method includes characterizing a correspondence between the differences in the first set and the differences in the second set, determining a set of combined differences based on the correspondence and the first and second sets of differences, and generating the updated graph based on the base graph and the set of combined differences.

WO 2019/236519 A1

[Continued on next page]

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.

(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))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*