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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
18 March 2010 (18.03.2010)

PCT

(10) International Publication Number
WO 2010/030469 A3

(51) International Patent Classification:
G06F 17/30 (2006.01) *G06F 17/00* (2006.01)

(21) International Application Number:
PCT/US2009/054002

(22) International Filing Date:
17 August 2009 (17.08.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/209,821 12 September 2008 (12.09.2008) US

(71) Applicant *(for all designated States except US)*: **MICROSOFT CORPORATION** [US/US]; One Microsoft Way, Redmond, WA 98052-6399 (US).

(72) Inventors: **IRUN-BRIZ, Luis**; Microsoft Corporation, International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US). **BERNABEU-AUBAN, Jose**; Microsoft Corporation, International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US). **AGARWAL, Deepak**; Microsoft Corporation, International Patents, One Microsoft Way, Redmond, WA 98052-6399 (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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *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))*

— *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))*

(88) Date of publication of the international search report:
6 May 2010

(54) Title: DATA SCHEMA TRANSFORMATION USING DECLARATIVE TRANSFORMATIONS

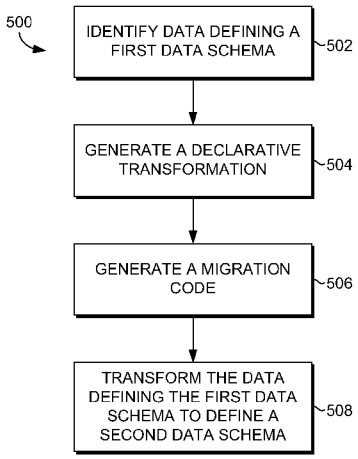


FIG. 5.

(57) Abstract: Embodiments of the present invention relate to systems, methods and computer storage media for transforming data defining a first data schema to data defining a second data schema by way of a declarative transformation. The transformation includes identifying data defining the first data schema. A declarative transformation is generated to transform the data defining the first data schema to data defining the second data schema. The declarative transformation additionally transforms data instantiated in the first data schema into a data structure of the second data schema. The declarative transformation is generated prior to the second data schema being defined. The declarative transformation, in an embodiment, is utilized to generate the second data schema. The data is transformed utilizing a migration code that is derived from the declarative transformation. In an exemplary embodiment, the declarative transformation is expressed in textual form by a person, and/or utilizing a graphical computer application.

WO 2010/030469 A3