



- (51) **International Patent Classification:**
H04L 41/0654 (2022.01) *H04L 67/10* (2022.01)
H04L 43/10 (2022.01)
- (21) **International Application Number:**
PCT/US2023/063224
- (22) **International Filing Date:**
24 February 2023 (24.02.2023)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (71) **Applicant:** VISA INTERNATIONAL SERVICE ASSOCIATION [US/US]; P.O. Box 8999, San Francisco, California 94128 (US).
- (72) **Inventors:** DWIVEDI, Yash; D-206, Aakurity Amity, Anantnagar phase 2, Opp to Axis Bank, Huskur Gate, Electronic City, Bangalore 560100 (IN). SHARMA, Rushil; C-166, Mahaveer Tuscan Apartments, Hoodi, Bangalore 560048 (IN). PRIYADARSHINI, Pragya; C/O-Dilip Kumar Amar, Second Floor, Gomti Niwas, Jairam

Marwari Lane, Near Ajanta Talkies, Bhagalpur 812001 (IN). VISWAKARMA, Deepak; Flat No 6, 3rd Floor, Venkateshwar Nilay, House No 18, Nandini Layout, PWD Road, Akash Nagar, B Narayanpura, Bengaluru, Karnataka 560016 (IN). PERUMAL, Rameshkumar; P.Rameshkumar, (s/o) A.N.R Perumal, 5/155'A, Rajiv Gandhi nagar, Chinnamudalaipatti, Namakkal, Tamil Nadu 637001 (IN). JAIN, Atul; 112, Greenview Apartments, Kempapura Main Rd, Kempapura, Bellandur, Karnataka 560037 (IN). GUPTA, Asheesh; D805, Keerthi Gardenia, Near Vibgyor school, Thubarahalli, Bangalore 560066 (IN).

- (74) **Agent:** CAPRIOTTI, Roberto et al.; K&L Gates LLP, 210 Sixth Avenue, Pittsburgh, Pennsylvania 15222-2613 (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, 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,

(54) **Title:** CROSS CLUSTER FAILOVER FRAMEWORK

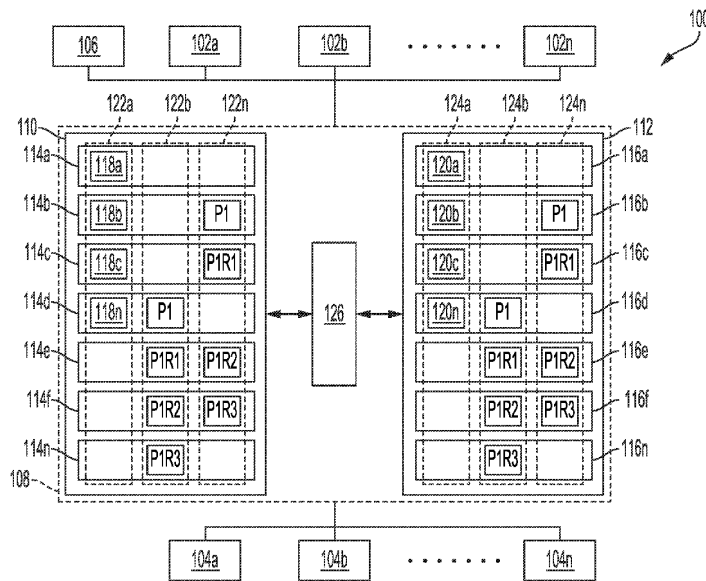


FIG. 1

- (57) **Abstract:** The present disclosure describes a cross cluster failover framework configured to switch a synchronous or asynchronous connection from a first cluster datacenter to a second cluster datacenter based on a health evaluation of the first and second cluster, on an application level, data stream level, or topic level basis. The connections between the first cluster and the consumer application, and second cluster and the consumer application are maintained throughout the failover framework allowing the failover process to be invisible on the consumer application side.

[Continued on next page]

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.

(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, SC, 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))*