

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
31 March 2022 (31.03.2022)



(10) International Publication Number
WO 2022/067169 A1

(51) International Patent Classification:

H04L 67/63 (2022.01) H04L 67/101 (2022.01)
H04L 67/51 (2022.01) H04L 67/1012 (2022.01)
H04L 67/1008 (2022.01)

(21) International Application Number:

PCT/US2021/052169

(22) International Filing Date:

27 September 2021 (27.09.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/084,061 28 September 2020 (28.09.2020) US

(71) Applicant: CENTURYLINK INTELLECTUAL PROPERTY LLC [US/US]; 1025 Eldorado Boulevard, Broomfield, Colorado 80021 (US).

(72) Inventors: CASEY, Steven M.; c/o CenturyLink Intellectual Property LLC, 1025 Eldorado Boulevard, Broomfield, Colorado 80021 (US). OPFERMAN, Stephen; c/o CenturyLink Intellectual Property LLC, 1025 Eldorado Boulevard, Broomfield, Colorado 80021 (US).

(74) Agent: LEIBOLD, Gregory D.; LEWIS ROCA ROTHGERBER CHRISTIE LLP, P.O. Box 29001, Glendale, California 91209-9001 (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,

(54) Title: DISTRIBUTED CONTENT DISTRIBUTION NETWORK

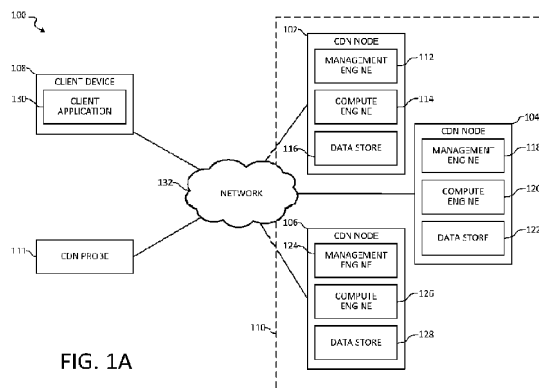


FIG. 1A

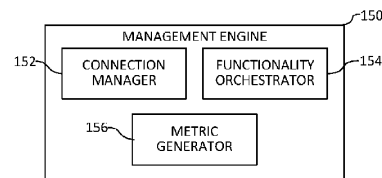


FIG. 1B

(57) Abstract: Examples of the present disclosure relate to a distributed CDN comprised of CDN nodes that each have a compute engine and a data store. Compute engines may be used to execute software associated with computing functionality of the distributed CDN and may be reconfigured according to changing conditions to adapt computing functionality to current or expected demand. Nodes may communicate with one another via an overlay network. A node may determine whether it should process a request or generate a route via the overlay network to the remote node, thereby enabling the remote node to process the request. In another example, a node may receive a request for a compute resource that is not currently provided by the node. The compute engine of the node may be reconfigured to provide the compute resource, thereby enabling the node to service the request rather than redirect the request to a different node.

[Continued on next page]

WO 2022/067169 A1

HR, HU, ID, IL, IN, IR, IS, IT, 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, 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, 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))*