



- (51) International Patent Classification:
H04L 29/06 (2006.01) *H04L 12/46* (2006.01)
- (21) International Application Number:
PCT/US2021/071162
- (22) International Filing Date:
11 August 2021 (11.08.2021)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
17/008,027 31 August 2020 (31.08.2020) US
- (71) Applicant: **EQUINIX, INC.** [US/US]; One Lagoon Drive, Redwood City, California 94065 (US).
- (72) Inventors: **IQBAL, Syed Hashim**; One Lagoon Drive, Redwood City, California 94065 (US). **DURRANI, Muhammad**; One Lagoon Drive, Redwood City, California 94065 (US).
- (74) Agent: **BUSCHBACH, Michael A.**; Shumaker & Sieffert, P.A., 1625 Radio Drive, Suite 300, Woodbury, Minnesota 55125 (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, 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.

(54) Title: VIRTUAL DOMAINS WITHIN A SHARED DEVICE

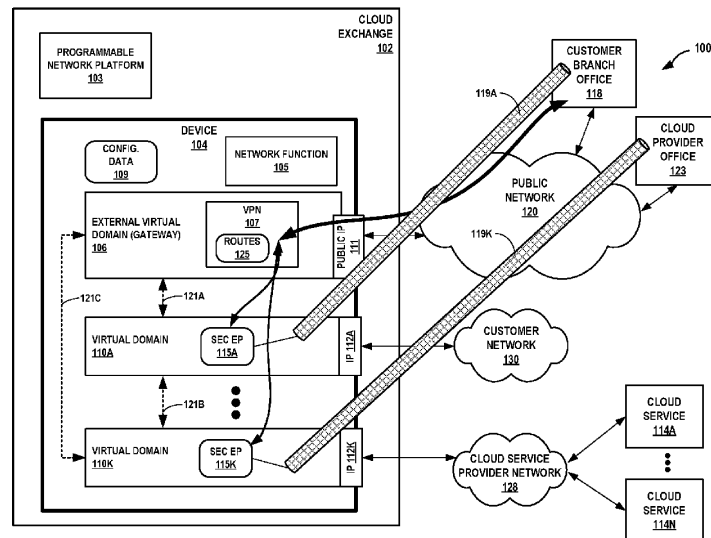


FIG. 1

(57) **Abstract:** In one example, a method comprises receiving, by a computing device, configuration data defining: an external virtual domain for a network function, the external virtual domain connected to a public network and managed by a provider for the computing device; a virtual domain for the network function, the virtual domain separate from the external virtual domain, configured with a secure tunnel interface, connected to a customer network, and managed by a customer of the provider for the computing device; forwarding, by the external virtual domain implementing a route-based virtual private network, encrypted network traffic, received from the public network via a secure tunnel, to the secure tunnel interface configured in the virtual domain; decrypting, by the virtual domain, the encrypted network traffic to generate network traffic; and forwarding, by the virtual domain, the network traffic to the customer network.

[Continued on next page]

(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).

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))*