

(12) International Application Status Report

Received at International Bureau: 13 December 2019 (13.12.2019)

Information valid as of: 18 May 2020 (18.05.2020)

Report generated on: 22 September 2020 (22.09.2020)

(10) Publication number:

WO2020/112994

(43) Publication date:

04 June 2020 (04.06.2020)

(26) Publication language:

English (EN)

(21) Application Number:

PCT/US2019/063598

(22) Filing Date:

27 November 2019 (27.11.2019)

(25) Filing language:

English (EN)

(31) Priority number(s):

62/771,792 (US)

(31) Priority date(s):

27 November 2018 (27.11.2018)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

H04L 9/06 (2006.01); **H04L 9/14** (2006.01); **H04L 9/32** (2006.01); **G06Q 20/06** (2012.01); **G06Q 20/36** (2012.01); **G06Q 20/38** (2012.01)

(71) Applicant(s):

AKAMAI TECHNOLOGIES, INC. [US/US]; 145 Broadway Cambridge, MA 02142 (US) *(for all designated states)*

(72) Inventor(s):

CARVER, David C.; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)
AL SHENIBR, Leen K.; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)
DELAUGHTER, Samuel; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)
ERB, Samuel; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)
SHTOKMAN, Vladimir; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)
DEEGAN, Patrick, A.; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)
HOUMAN, Thomas; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)

(74) Agent(s):

JUDSON, David H.; c/o Akamai Technologies, Inc. 145 Broadway Cambridge, MA 02142 (US)

(54) Title (EN): HIGH PERFORMANCE DISTRIBUTED SYSTEM OF RECORD WITH CONFERENCE-BASED CONSENSUS

(54) Title (FR): SYSTÈME D'ENREGISTREMENT DISTRIBUÉ À HAUTE PERFORMANCE À CONSENSUS BASÉ SUR LA CONFIANCE

(57) Abstract:

(EN): A high-performance distributed ledger and transaction computing network fabric over which large numbers of transactions are processed concurrently in a scalable, reliable, secure and efficient manner. In one embodiment, the computing network core is configured to support a distributed blockchain network that organizes data in a manner that allows communication, processing and storage of blocks of the chain to be performed concurrently at very high performance and low latency, even when the transactions themselves originate from distant sources. This data organization relies on segmenting a transaction space within autonomous but cooperating computing nodes that are configured as a processing mesh. The system also provides for confidence-based consensus and automated fork resolution. The approach enables the blockchain to continue operating in the presence of an underlying network outage, and to enable clients to make decisions about the disposition of transactions during any period of uncertainty before full consensus has been achieved.

(FR): La présente invention concerne une matrice de réseau informatique de comptabilité et de transactions à haute performance, sur laquelle de grands nombres de transactions (comprenant la transformation, la conversion ou le transfert d'informations ou de valeurs) sont traitées simultanément de manière évolutive, fiable, sécurisée et efficace. Selon un mode de réalisation, la matrice de réseau informatique est conçue pour prendre en charge un réseau distribué de chaîne de blocs qui organise des données d'une manière qui permet la communication, le traitement et le stockage simultanés de blocs de la chaîne à très haute performance et faible latence, même lorsque les transactions elles-mêmes proviennent de sources distantes. Cette organisation de données repose

sur la segmentation d'un espace de transactions dans des nœuds informatiques autonomes mais coopérants qui sont conçus sous la forme d'un maillage de traitement. Le système fournit également un consensus basé sur la confiance et une résolution de fourche automatisée. L'approche permet à la chaîne de blocs de continuer à fonctionner en présence d'une interruption de réseau sous-jacente, et de permettre à des clients de prendre des décisions concernant la disposition de transactions pendant une quelconque période d'incertitude avant d'obtenir un consensus complet.

International search report:

Received at International Bureau: 08 April 2020 (08.04.2020) [KR]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

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, 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

European Patent Office (EPO) : 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

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM

Declarations:

Declaration made as applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate

Declaration made as applicant's entitlement, as at the international filing date, to claim the priority of the earlier application, where the applicant is not the applicant who filed the earlier application or where the applicant's name has changed since the filing of the earlier application (Rules 4.17(iii) and 51bis.1(a)(iii))