

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 July 2022 (07.07.2022)



(10) International Publication Number
WO 2022/146520 A1

(51) **International Patent Classification:**
H04L 9/32 (2006.01) *H04W 12/00* (2021.01)

(21) **International Application Number:**
PCT/US2021/053015

(22) **International Filing Date:**
30 September 2021 (30.09.2021)

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**
17/138,725 30 December 2020 (30.12.2020) US

(71) **Applicant: ITRON, INC.** [US/US]; 2111 N Molter Rd,
Liberty Lake, WA 99019 (US).

(72) **Inventor: WHITE, Eric, Donald;** c/o Itron Inc., 2111 N
Molter Rd, Liberty Lake, WA 99019 (US).

(74) **Agent: THOMPSON, David, S. et al.;** Lee & Hayes, P.C.,
601 W. Riverside Ave, Suite 1400, Spokane, WA 99201
(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.

(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).

(54) **Title:** SECURE BLOCKCHAIN DATA RECOVERY

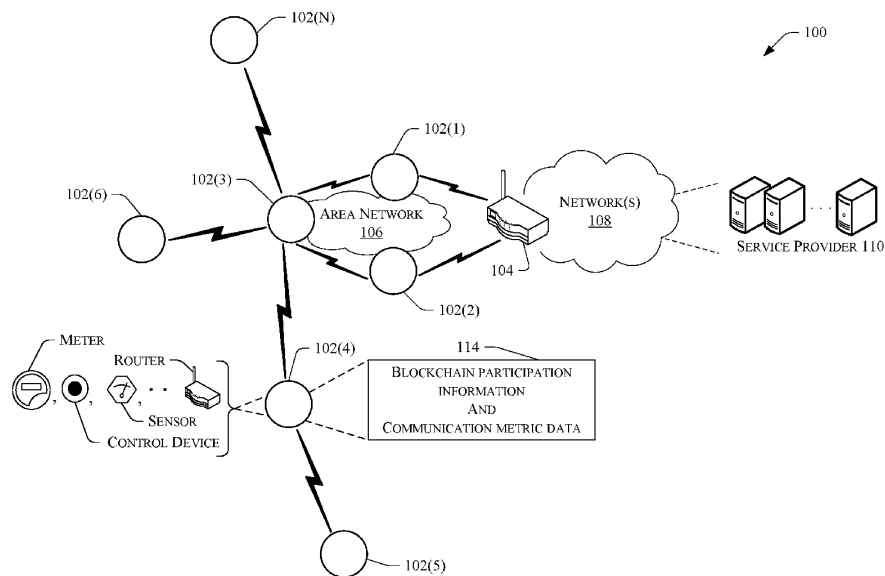


FIG. 1

(57) **Abstract:** A first device participating in a blockchain receives an indication of an error in the blockchain being maintained by the first device. The first device determines a defective block of the blockchain and receives a replacement for the defective block from a second device. The first device determines a recalculated blockchain that includes the replacement for the defective block.

[Continued on next page]

WO 2022/146520 A1

Published:

— with international search report (Art. 21(3))