

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
25 June 2020 (25.06.2020)



(10) International Publication Number
WO 2020/131642 A1

(51) International Patent Classification:
H04Q 9/00 (2006.01)

James, Lee; c/o Itron, Inc., 2111 North Molter Road, Liberty Lake, WA 99019 (US).

(21) International Application Number:
PCT/US2019/066383

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

(22) International Filing Date:
13 December 2019 (13.12.2019)

(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, 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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
16/231,145 21 December 2018 (21.12.2018) US

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

(72) Inventors: **CORNWALL, Mark, K.**; c/o Itron, Inc., 2111 North Molter Road, Liberty Lake, WA 99019 (US). **KANN,**

(54) Title: BATTERY LIFE EXTENSION VIA CHANGES IN TRANSMISSION RATES

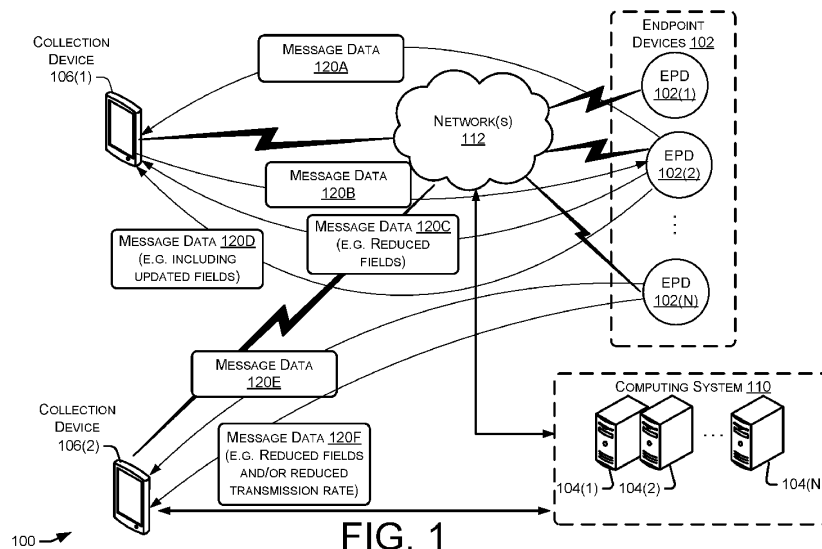


FIG. 1

(57) Abstract: Disclosed are techniques to conserve battery of an endpoint device. Example techniques include adjusting the size of messages transmitted by an endpoint device and/or adjusting the transmission rate of an endpoint device. In some configurations, the one or more criteria are used by an endpoint device to determine what data fields to include within a message and/or adjust a transmission rate associated with the transmission of messages by the endpoint device. For instance, the one or more criteria may include the battery level of the device, the time of year, whether the data has already been transmitted by the endpoint device, whether the data has been acknowledged as received by another device, whether the endpoint device has been instructed by another device to reduce the message size and/or adjust the transmission rate, and the like.

[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).

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))*