

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number
WO 2004/057461 A3

- (51) International Patent Classification⁷: **H04L 9/18**, 9/00
- (21) International Application Number:
PCT/JP2003/016389
- (22) International Filing Date:
19 December 2003 (19.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
2002-367608 19 December 2002 (19.12.2002) JP
- (71) Applicant (*for all designated States except US*): **NTT COMMUNICATIONS CORPORATION** [JP/JP]; 1-6, Uchisaiwai-cho 1-chome, Chiyoda-ku, Tokyo 100-8019 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **OGIHARA, Toshihiko** [JP/JP]; c/o NTT COMMUNICATIONS CORPORATION, 1-6, Uchisaiwai-cho 1-chome, Chiyoda-ku, Tokyo 100-8019 (JP). **NOMURA, Susumu** [JP/JP]; c/o NTT COMMUNICATIONS CORPORATION, 1-6, Uchisaiwai-cho 1-chome, Chiyoda-ku, Tokyo 100-8019 (JP).
- (74) Agents: **MIYOSHI, Hidekazu** et al.; 9th Floor, Toranomon Daiichi Building, 2-3, Toranomon 1-chome, Minato-ku, Tokyo 105-0001 (JP).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- (88) Date of publication of the international search report:
24 February 2005
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: DATA DIVISION METHOD AND DEVICE USING EXCLUSIVE OR CALCULATION

(57) Abstract: A plurality of original partial data are generated by dividing the original data by the prescribed processing unit bit length, a plurality of random number partial data each having a length less than or equal to the prescribed processing unit bit length are generated in correspondence to the plurality of original partial data, and a plurality of divided partial data that constitute each divided data are generated by using exclusive OR calculation of the original partial data and the random number partial data, each divided partial data having a length equal to the prescribed processing unit bit length. Then, the divided data in the desired number of division are generated from the plurality of divided partial data, such that the original data cannot be ascertained from any one divided data alone but the original data can be recovered from a prescribed number of the divided data among generated divided data.



WO 2004/057461 A3