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(54) Title: METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT FOR NETWORK BOUND PROXY RE-ENCRYPTION AND PIN TRANSLATION

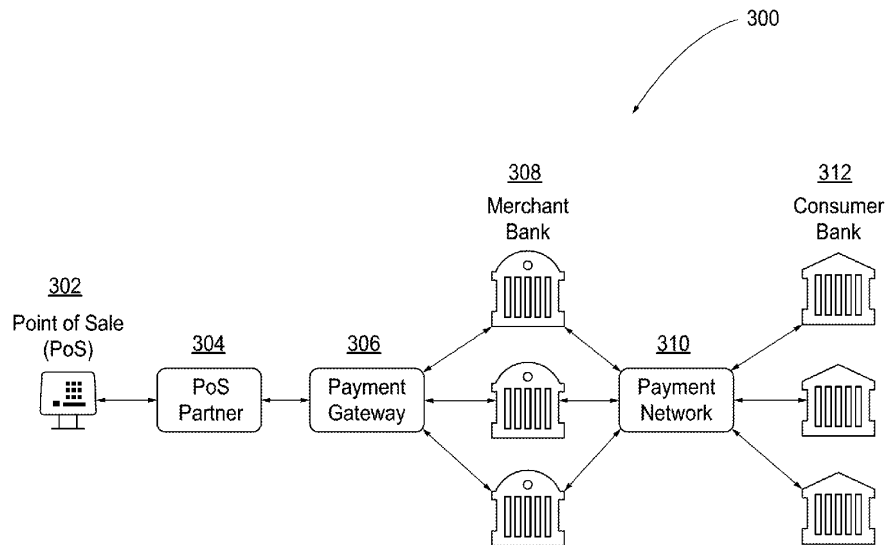


FIG. 3

(57) Abstract: A method, system, and computer program product generate, with a payment network, a first value (a) and a second value (ga), the second value (ga) generated based on the first value (a) and a generator value (g); generate, with the payment network, a plurality of random merchant numbers (mi) for a respective plurality of merchant banks; determine, with the payment network, a merchant product (M) based on a product of the plurality of random merchant numbers (mi); generate, with the payment network, a public key (pki) based on the second value (ga), the merchant product (M), and the random merchant number (mi) and a random key (rki) based on the merchant product (M) and the random merchant number (mi) for each respective merchant bank; and communicate, with the payment network, the public key (pki) and the random key (rki) to at least one respective merchant bank.

[Continued on next page]

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