

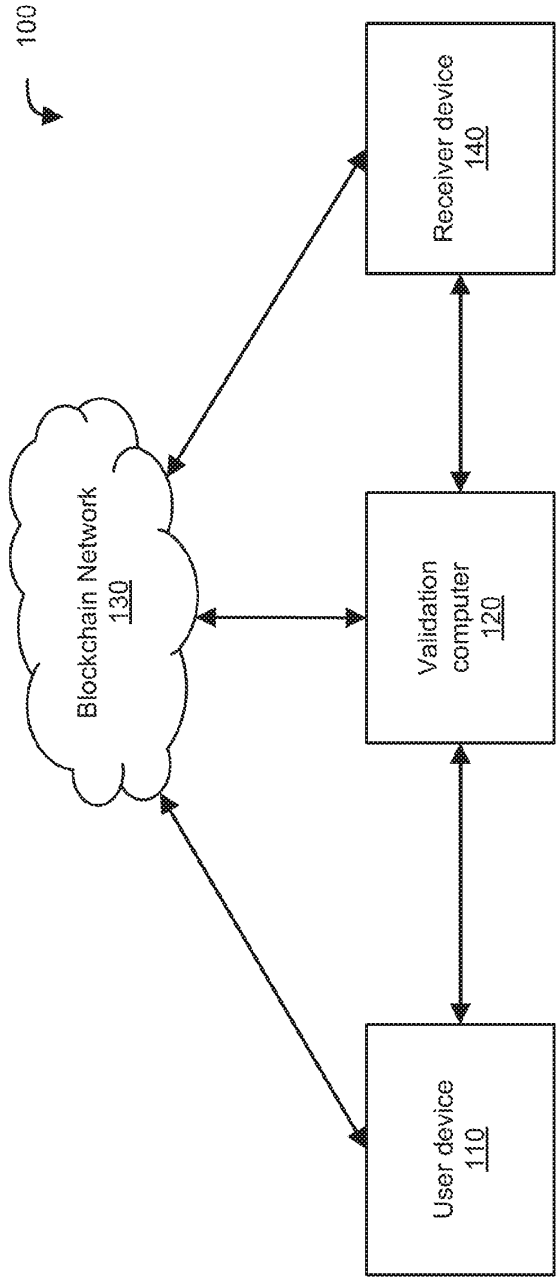


FIG. 1

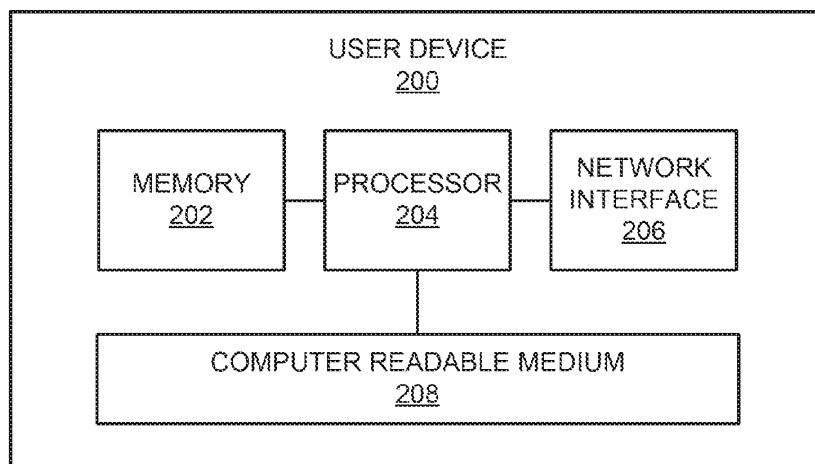


FIG. 2A

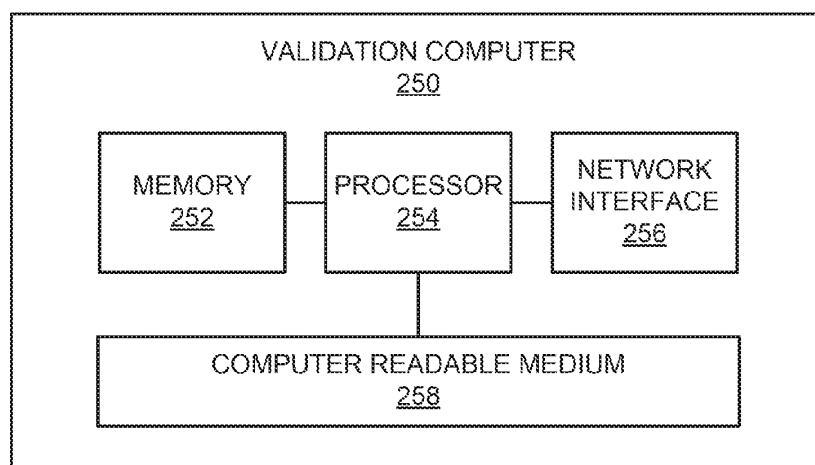


FIG. 2B

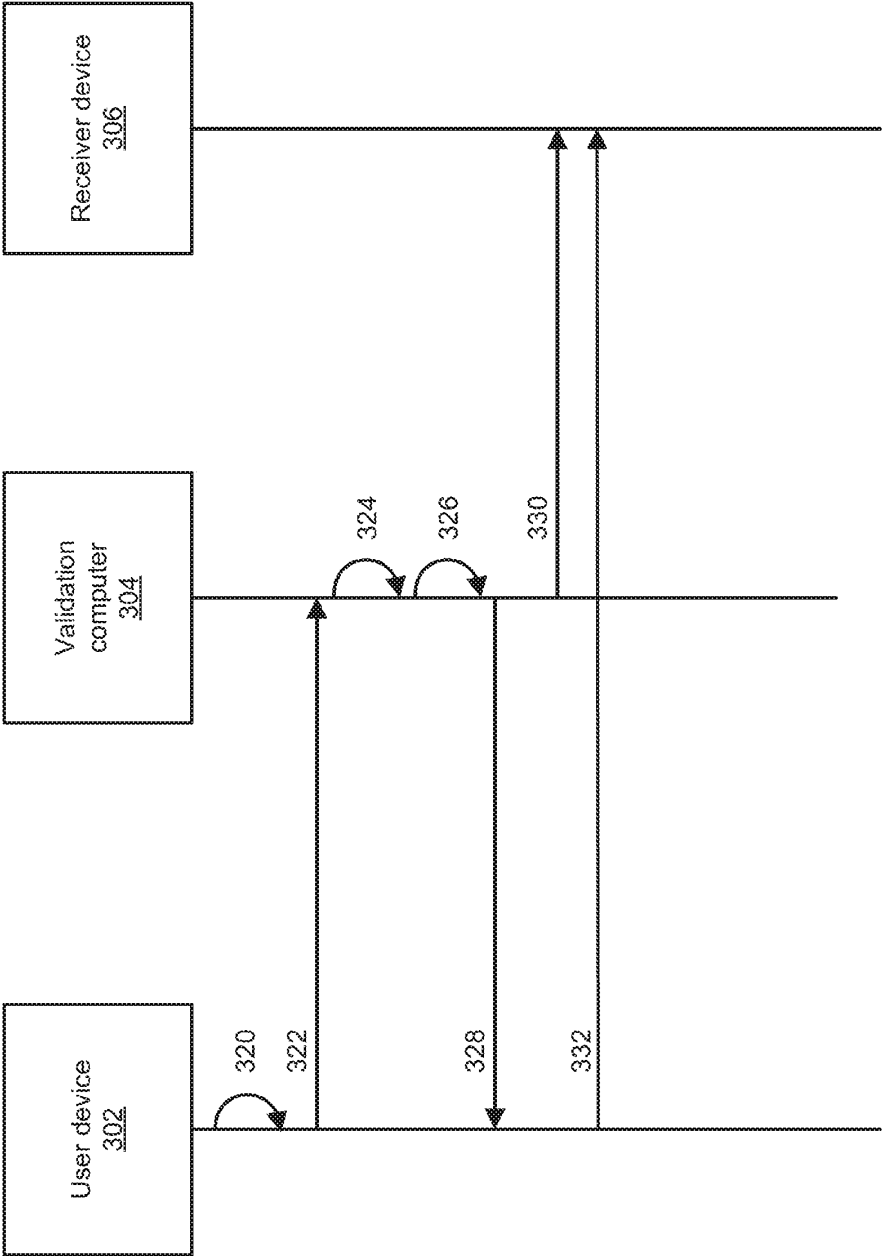


FIG. 3

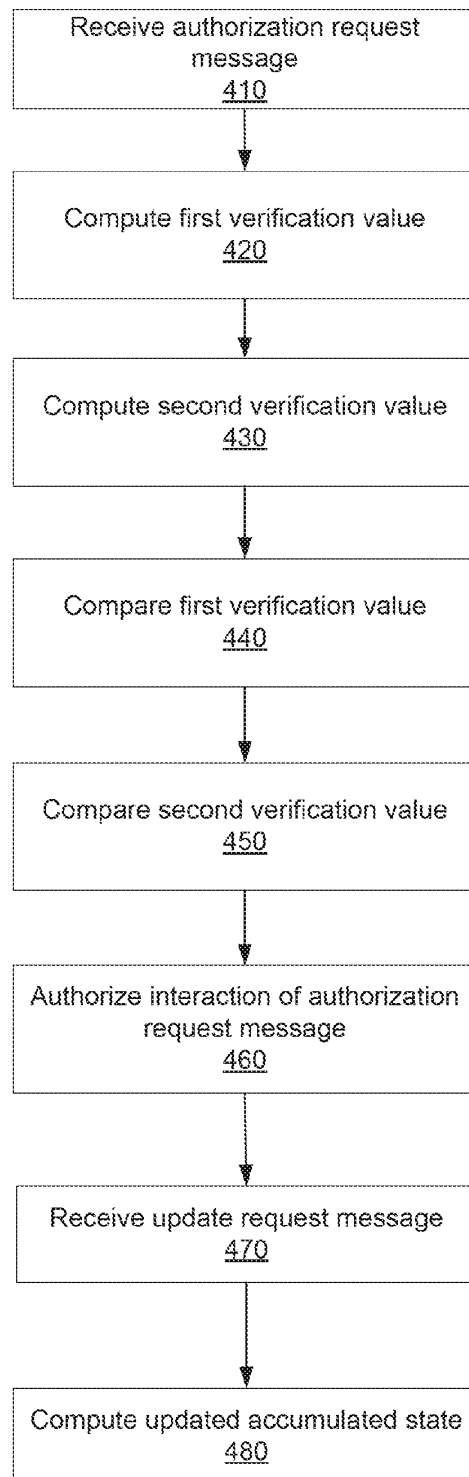


FIG. 4

$$A_X = \left(g^{\sum_{i \in [q]} x_i} \prod_{j \in [q] \setminus \{i\}} z_j^{z_j} \prod_{i \in [q]} g^{z_i}, q \right)$$

FIG. 5A

$$w_{x_k} = \left(g^{\sum_{i \in [q] \setminus \{k\}} x_i} \prod_{j \in [q] \setminus \{i,k\}} z_j^{z_j} \prod_{i \in [q] \setminus \{k\}} g^{z_i}, k \right)$$

FIG. 5B

$$\begin{aligned}
& z_{w_{x_k,1}}^{w_{x_k,3}} \cdot w_{x_k,2}^{x_{w_{x_k},3}} = \left(g^{\sum_{i \in [q] \setminus \{k\}} x_i \prod_{j \in [q] \setminus \{i,k\}} z_j} \right)^{z_k} \cdot \left(g^{\prod_{i \in [q] \setminus \{k\}} z_i} \right)^{x_k} \\
& = g^{\sum_{i \in [q] \setminus \{k\}} x_i \prod_{j \in [q] \setminus \{i,k\}} z_j} \cdot g^{x_k \prod_{i \in [q] \setminus \{k\}} z_i} \\
& = g^{\sum_{i \in [q]} x_i \prod_{j \in [q] \setminus \{i\}} z_j} \\
& = A_{X,1}
\end{aligned}$$

FIG. 5C

$$\begin{aligned}
& z_{w_{x_k,2}}^{w_{x_k,3}} = \left(g_{\prod_{i \in [q] \setminus \{k\}} z_i} \right)^{z_k} \\
& \prod_{i \in [q]}^{z_i} g_i \\
& = A_{X,2}
\end{aligned}$$

FIG. 5D