TABLE I
List of notations used in the paper

Notation	Description	Notation	Description
$\Pr\{A\}$	The probability that event A occurs	$\mathbb{E}\{\Re\}$	Expected value of the RV $\Re$
$\mathrm{H}(\Re)$	Entropy of RV $\Re$	$f_{\Re}$	The PDF of RV $\Re$
$\mathbb{R}^{++}$	The set of positive real numbers excluded zero	$\mathbb{N}$	The set of natural numbers
λ_g^i	Arrival rate of i-th application	λ_g	The discrete RV denoting the application rate $\in \Lambda_g$
$\hat{\lambda}_g$	The adversary's estimation for λ_g	λ_d^{ij}	Augmenting rate of dummy packets in mapping application i to j
μ_g	Original packets service rate	γ	Packets departure rate
t_l	The l-th packet arrival time	d_l	The l-th packet departure time
Λ_g	The set of ordered sequence of the rates of all applications at the host.	Θ_{i*}	The set of candidate dummy rates λ_d^{ij} such that satisfies $\lambda_g^i + \lambda_d^{ij} \in \Lambda_g$, where λ_g^i is the i-th application rate.
P_e	The adversary's estimation error probability	M	Stationary marked point process
M_0	Synchronous stationary marked point process	N	The number of applications in the source
p_{ij}	The probability of changing the rate of application i to the rate of application j	α	Weighting parameter of the trade-off between communication cost and privacy degree
$\psi_{ij} = f(\lambda_d^{ij})$	The cost of transmitting dummy packets with rate $\lambda_d^{ij} = \gamma^j - \lambda_g^i$		