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(57) Abstract :
The presented system (100) is designed to achieve differentially private aggregation within a star topology network, even in the face of a realistic adversarial model. The system encompasses key components: individual peripheral nodes (102) responsible for generating sensitive data, a central aggregation node (104) tasked with receiving and aggregating the data, and a communication network facilitating seamless data exchange. A pivotal aspect is the Privacy mechanism (108) strategically embedded in both peripheral and central nodes, meticulously preserving privacy throughout the aggregation process. This privacy-preserving architecture is bolstered by a robust computing infrastructure, facilitating the execution of privacy mechanisms and ensuring efficient, scalable aggregation in the star topology network. The holistic design of this system stands poised to safeguard sensitive information while enabling accurate and meaningful aggregation, heralding a breakthrough in secure and private data aggregation.

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