Literature Review on Cloud Computing: A Paradigm Combining Service-Oriented Architecture with Internet-Based Solutions

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Abstract: *Cloud computing, a paradigm combining service-oriented architecture with Internet-based network solutions, has rapidly transformed the IT industry by offering on-demand access to shared resources. Key models of cloud services include Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). These models provide cost-effective, scalable, and flexible alternatives to traditional IT infrastructure, enabling enterprises to outsource hardware, software, and network services. Cloud systems such as Amazon EC2, Google App Engine, and IBM's Blue Cloud illustrate these benefits, significantly lowering costs through pay-as-you-go pricing structures. However, data security and privacy have become critical concerns, as cloud users must entrust sensitive information to third-party providers. Ensuring data confidentiality and implementing fine-grained access control are essential to maintaining user trust and enabling compliance with legal and organizational regulations. The success of cloud computing in the future depends on overcoming these security challenges, allowing enterprises to fully embrace its potential.*

Keywords: Cloud computing, IT infrastructure, Software as a Service (SaaS), Scalability, Data Security, Fine-Grained Access Control