

Cross-Cloud API Traffic Governance: Database-Aware Swarm Intelligence for Dynamic Rate Limiting in ASP.NET Core

Sri Rama Chandra Charan Teja Tadi

Lead Software Developer, Austin, Texas.

Abstract: *Cross-cloud API traffic management is an essential aspect of managing dynamic rate limiting, especially in ASP.NET Core applications. Through the use of database-aware swarm intelligence strategies, this solution maximizes the effectiveness of managing API traffic across various cloud environments to ensure effective utilization of resources and responsiveness. Dynamic rate-limiting implementation is crucial in an attempt to counter the API overuse and abuse threats so that it merges with the predictability present in the network conditions and the demand from the user. Through this, the research provides useful insights into how smart algorithms can dynamically adjust rates in accordance with real-time traffic conditions as well as database access, thereby making cloud applications more responsive and secure.*

Keywords: Cross-Cloud, API Traffic Management, Dynamic Rate Limiting, ASP.NET Core, Swarm Intelligence, Real-Time Traffic Conditions, Database-Aware Algorithms