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(57) Abstract :

A novel access control framework (100) for multi-cloud environments includes a Context Evaluation Engine (101), a Policy Decision Point (102), distributed Policy Enforcement Points (103), and an Interoperability Middleware Layer (104). It dynamically assesses real-time contextual parameters to enforce intelligent, platform-agnostic access decisions. The system further includes an immutable Audit Log (107) and orchestration module (106) for policy synchronization. The invention enhances security, compliance, and operational consistency across cloud infrastructures by adapting to evolving contexts using AI-based evaluation mechanisms.

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