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Agentic AI for Modern Enterprise Architecture Governance

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Abstract

Enterprise Architecture (EA) governance has traditionally relied on manual review cycles, Architecture Review Boards (ARB), and static documentation frameworks to ensure technology alignment, risk mitigation, and compliance with enterprise standards. While these mechanisms have historically supported organizational oversight, the accelerating pace of digital transformation, cloud adoption, and artificial intelligence integration has significantly increased the complexity and scale of architecture decisions that must be evaluated. Agentic Artificial Intelligence introduces a new paradigm for enterprise governance by enabling autonomous AI agents capable of reasoning over architectural artifacts, evaluating compliance policies, and assisting governance processes in real time. Rather than replacing human architects, agentic systems augment governance by continuously analyzing architecture documentation, validating design patterns, identifying potential security vulnerabilities, and recommending architecture improvements prior to formal review cycles. This presentation introduces an Agentic AI-enabled Enterprise Architecture Governance Framework designed to modernize Architecture Review Board processes. The framework integrates AI agents with enterprise architecture repositories, security policies, design standards, and operational telemetry to establish an intelligent governance layer capable of continuously evaluating architectural decisions. The session demonstrates how organizations can leverage agentic AI to automate architecture validation, accelerate Architecture Review Board decision-making, detect security and compliance risks earlier in the design lifecycle, and improve the scalability of enterprise governance models. Attendees will gain insights into how enterprise architects can design adaptive governance frameworks that combine human expertise with AI-driven intelligence to support secure and resilient digital transformation.