

## A Multi-criteria Decision Support System For Migrating Legacies into Open Systems

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**Abstract :** Timely reaction to an evolving global business environment and volatile market conditions necessitates system and process flexibility, which in turn demands agile and adaptable architecture and a steady infusion of affordable new technologies. On the contrary, a large number of organizations utilize systems characterized by inflexible and obsolete legacy architectures. To effectively respond to the dynamic contemporary business environments, such architectures must be migrated to robust and modular open architectures. To this end, this paper proposes an integrated decision support system for a seamless migration to open systems. The proposed decision support system (DSS) integrates three well-established quantitative and qualitative decision-making models—namely, the Delphi method, Analytic Hierarchy Process (AHP) and Goal Programming (GP) to (1) assess risks and establish evaluation criteria; (2) formulate migration strategy and rank candidate systems; and (3) allocate resources among the selected systems.

**Keywords :** decision support systems, open systems architecture, analytic hierarchy process (AHP), goal programming (GP), delphi method

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