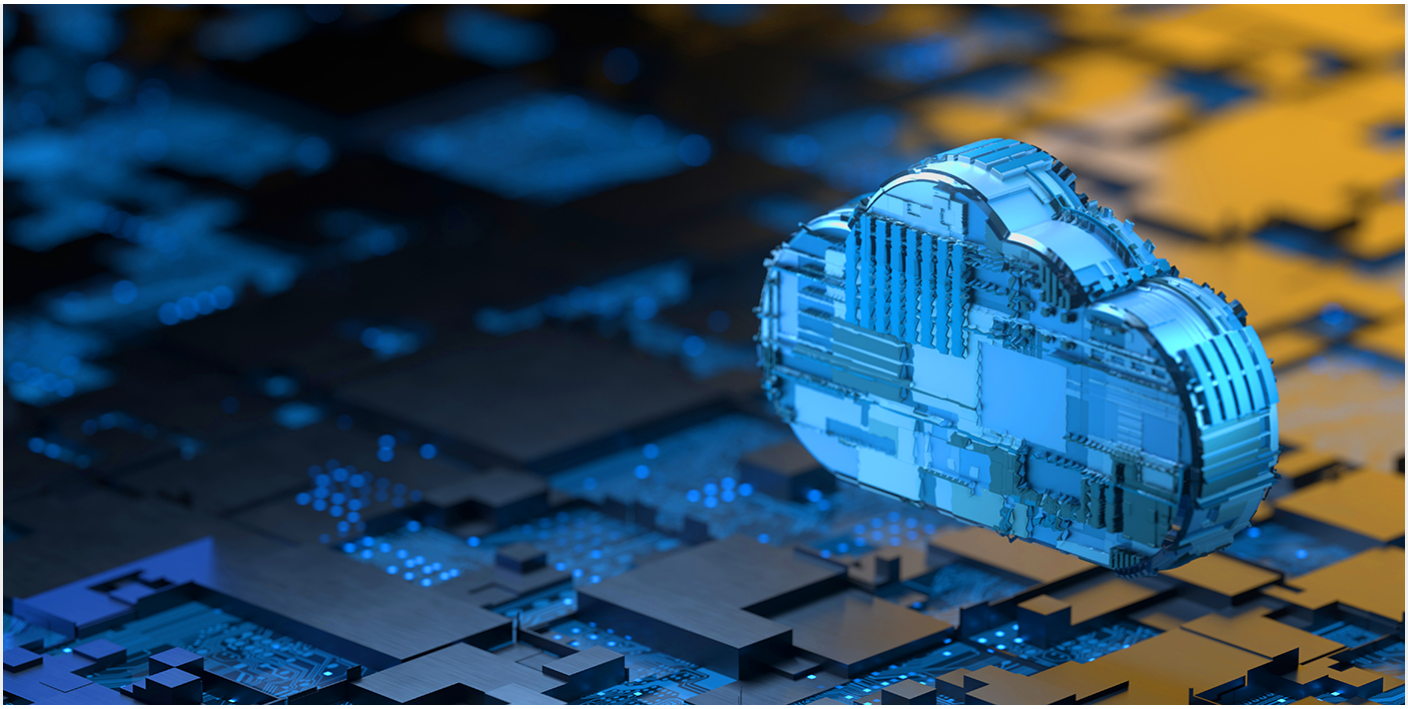
THE FUTURE OF WORKLOAD AUTOMATION: EMBRACING CLOUD AND AI-DRIVEN ORCHESTRATION



Workload automation is at a turning point. Once confined to traditional batch processing and job scheduling, it has now become a central driver of digital transformation. The results of the latest Enterprise Management Associates (EMA) Research Report, *The Future of Workload Automation and Orchestration*, highlight a crucial shift: enterprises are increasingly relying on cloud-driven automation and artificial intelligence (AI)-powered orchestration to navigate modern IT environments.

Cloud adoption is reshaping automation strategies at an unprecedented pace. More organizations are moving their workload automation to cloud-native and hybrid environments, breaking away from rigid, on-premises infrastructures. According to survey results, approximately 30 percent of workload automation (WLA) jobs are run in public clouds and 14 percent are run in hybrid cloud environments. As businesses accelerate cloud migration, the need for seamless application and data workflow orchestration across multiple platforms like Amazon Web Services (AWS), Azure, and Google Cloud, while also ensuring consistency, security, and compliance, has never been greater. Solutions must evolve to not only keep up with this shift but also to proactively streamline cloud operations, offering deep integration and visibility across hybrid ecosystems.

At the same time, AI is redefining the future of orchestration. In fact, 91 percent of survey respondents identify AI-enhanced orchestration as extremely or very important, with 70 percent planning to implement AI-driven capabilities within the next 12 months. The ability to go beyond automation and enable intelligent decision-making is becoming a necessity rather than a luxury. AI-driven orchestration is not just about optimizing job scheduling; it's also about predicting failures before they occur, dynamically reallocating resources, and enabling self-healing workflows. As

organizations integrate AI and machine learning (ML) into their IT and business processes, automation must evolve to support complex data pipelines, MLOps workflows, and real-time data orchestration.

This transformation is not without its challenges. The complexity of managing automation across multi-cloud environments, the growing need for real-time observability, and the increasing role of AI in automation demand a new level of sophistication. Enterprises need solutions that do more than execute tasks—they need platforms that provide visibility, intelligence, and adaptability. The role of workflow orchestration is no longer about keeping the lights on; it is about enabling innovation, agility, and resilience in an era of digital acceleration.

Platform requirements

Clearly, application and data workflow orchestration will continue to be a critical driver, and choosing the right orchestration platform one of the most important decisions a business can make. With that in mind, I'd like to share eight key capabilities a platform must have to orchestrate business-critical workflows in production, at scale.

Heterogeneous workflow support:

Large enterprises are rapidly adopting cloud and there is general agreement in the industry that the future state will be highly hybrid, spanning mainframe to distributed systems in the data center to multiple clouds—private and public. If an application and data workflow orchestration platform cannot handle diverse applications and their underlying infrastructure, then companies will be stuck with many silos of automation that require custom integrations to handle cross platform workflow dependencies.

SLA management:

Business workflows such as financial close and payment settlement all have completion service level agreements (SLAs) governed regulatory agencies. The orchestration platform must be able to understand and notify not only the failures and delays in corresponding tasks, but also be able to link this to business impact.

Error handling and notification:

When running in production, even the best designed workflows will have failures and delays. The orchestrator must enable notifications to the right team at the right time to avoid lengthy war room discussions about assigning a response..

Self-healing and remediation:

When teams respond to job failures within business workflows, they take corrective action, such as restarting something, deleting a file, or flushing a cache or temp table. The orchestrator should allow engineers to configure such actions to happen automatically the next time the same problem occurs, instead stopping a critical workflow while several teams respond to the failures.

End-to-end visibility:

Workflows execute interconnected business processes across hybrid tech stacks. The orchestration platform should be able to clearly show the lineage of the workflows for a better understanding of the relationships between applications and the business processes they support. This is also important for change management, to see what happens upstream and downstream from a process.

Appropriate UX for multiple personas:

Workflow orchestration is a team sport with many stakeholders such as developers, operations teams, and business process owners, etc. Each team has a different use case in how they want to interact with the orchestrator, so it must offer the right user interface (UI) and user experience (UX) for each so they can be effective users of the technology.

Standards in production:

Running in production always requires adherence to standards, which in the case of workflows, means correct naming conventions, error handling patterns, etc. The orchestration platform should be able to provide a very simple way to define such standards and guide users to them when they are building workflows.

Support DevOps practices:

As companies adopt DevOps practices like continuous integration and continuous deployment (CI/CD) pipelines, the development, modification, and even infrastructure deployment of the workflow orchestrator should fit into modern release practices.

EMA's report underscores a critical reality: the future belongs to organizations that embrace orchestration as a strategic imperative. By integrating AI, cloud automation, and observability into their application and data workflow orchestration strategies, businesses can drive efficiency, optimize performance, and stay ahead of the competition.

To understand the full scope of how workflow orchestration is evolving and what it means for your enterprise, explore the insights from EMA's latest research.