

AUTOMATION ANALYTICS & INTELLIGENCE FOR AIRFLOW

KEY BENEFITS

- **Optimize service levels.** Gain the intelligent, predictive capabilities needed to better spot potential issues. Harness root cause analysis that uncovers critical path and speeds remediation.
- **Gain complete observability.** Track and manage DAGs, tasks, and SLAs in a unified fashion. Centralize visibility across vendors, platforms, and cloud environments, including multiple Airflow environments. Leverage extensive data, custom dashboards, and predictive insights that fuel more intelligent operations.
- **Boost operational efficiency.** Avoid the labor-intensive, inefficient efforts needed to manage multiple orchestration tools. Harness the intelligent alerting and automated reporting workflows that boost staff efficiency and productivity.

KEY CAPABILITIES

- **Obtain direct visibility into Airflow.** Gain instant visibility into Airflow DAGs and use sophisticated analytics with a centralized view across cloud-native tools, distributed applications, and mainframe automation.
- **Harness predictive analytics.** Predict potential SLA breaches, and address issues before they affect the business.
- **Establish cross-platform and vendor visibility.** Obtain a real-time, single point of view across single or multiple Automic Automation, AutoSys Workload Automation, ESP Workload Automation Intelligence, CA 7 Workload Automation Intelligence, Control-M, IWS z/d, and Tidal Workload Automation systems.

Observability, Advanced SLA Management, and Predictive Analytics for Airflow Across the Enterprise

Business Challenges

As teams within today's organizations seek to speed digital transformation and boost agility, they increasingly turn to technologies like Apache Airflow. Airflow is an open-source workflow management platform used to develop, schedule, and monitor batch-oriented processing.

The use of Airflow continues to see rapid growth. In fact, one survey found that 87% of Airflow users are increasing their usage. With this increased use, the reality is that more business-critical workloads and services rely upon Airflow—but teams struggle to understand and control service levels in these environments.

Here are a few key challenges:

- **Lack of observability.** In Airflow, tasks are defined within directed acyclic graphs (DAGs). Typically, a given business process or service will rely on tasks from many DAGs as well as tasks running on other platforms. Relying solely on Airflow, users only have visibility into the task or DAG level. They may see an issue arise with a task but may have difficulty determining whether or how it affects the business service.
- **Difficulty managing SLAs.** Administrators can only manage SLAs at the DAG or task level through Airflow and only for automated rather than manually triggered or event-driven DAGs. Furthermore, SLAs defined in Airflow tasks are based on run duration and are measured from the start of the DAG execution. This leaves teams ill-equipped to intelligently map task-level data to the SLAs that matter to the business.
- **Inability to gain predictive insights.** IT operations groups cannot make informed predictions or discover emerging issues—until it's too late. This makes it difficult for groups to manage service levels proactively. Instead, they find out about breached SLAs and costly issues after the fact.

Solution Overview

With the unified monitoring capabilities of Automation Analytics & Intelligence (AAI), teams can reduce risk and optimize their automation services, not only those based on Airflow but across their multi-platform, multi-vendor, multi-cloud environments. The solution offers flexible integration with the open-source Apache Airflow, as well as the managed offerings from cloud vendors, including Google Cloud Composer and MWAA.

If organizations also use an enterprise automation solution like Automic or AutoSys, AAI can enhance benefits by integrating Airflow workloads into existing business applications, leveraging advanced scheduling capabilities, and creating dependencies between on-premises and cloud-based workloads.

CRITICAL DIFFERENTIATORS

- **Cross-platform and vendor visibility.** Monitor, manage, and improve workload automation across multiple vendors and platforms.
- **Predictive analytics.** Gain insight and understand your entire workload environment. Find unseen impacts and dependencies across applications, platforms, and vendors.
- **Business process perspective.** Manage your workloads from a line-of-business and business-process perspective rather than a series of unrelated job streams.
- **Dynamic critical-path discovery.** Harness real-time discovery of the critical path to speed root cause analysis and boost SLA compliance.
- **Workload intelligence.** Leverage long-term storage of historical activities to better identify outcomes of critical workload execution. Access Gantt charts with views of interdependencies and critical paths featuring current, average, and predicted run times.
- **Customizable dashboards.** Customize dashboards to meet the needs of different personas and provide self-service access.
- **Proactive operations.** Leverage adaptive analytics that provides unprecedented forecasting to spot potential issues and accurately determine the likely outcome.

More About the Solution

AAI delivers these key advantages:

- **Observability.** With AAI, customers get a single-pane-of-glass SLA view of all DAGs, as well as workloads across other enterprise scheduler workloads, including on-premises and multi-cloud environments.
- **SLA management.** With AAI, SLAs can be defined and tracked at the business process level. Operators can track end-to-end services rather than DAGs in isolation. The solution offers complete capabilities for monitoring, alerting, measuring, and forecasting SLA performance.
- **Predictive analytics.** AAI provides predictive alerting out of the box. The solution aggregates and abstracts vast quantities of historical execution data, including DAGs, tasks, and SLAs, and provides reliable forecasts for future runs. The solution features advanced, customizable dashboards, automated reporting execution and distribution, and more.

Related Products

- **Automic Automation.** Provides the workload, self-service, and data pipeline automation you need to accelerate your digital transformation.
- **AutoSys Workload Automation.** Delivers agility, speed, visibility, and scalability to orchestrate a diverse landscape of applications, platforms, and technologies.
- **ESP Workload Automation Intelligence.** Features a dynamic workload scheduler that minimizes batch windows, delivering optimal performance.
- **CA 7 Workload Automation Intelligence.** Offers fault-tolerant, highly available workload automation capabilities through an easy-to-use user interface.