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technologies

6 Ways AutoSys Workload Automation Operationalizes SOAPs

Executive Summary

IT operations walks an endless tightrope. With the business calling for 24x7 services delivery, real-time analytics and exceptional customer experiences, IT operations is tasked with managing the underlying workloads across a complex mix of platforms, ERP systems and the cloud. The task is growing, the pace is increasing and resources are limited.

Workload automation solutions – like AutoSys from Broadcom – have traditionally undertaken the 'heavy-lifting' of complex workloads across hybrid infrastructures, reducing the cost and complexity of managing mission critical business processes, while ensuring consistent and reliable service delivery.

However, the recent Gartner Market Guide for Service Orchestration and Automation Platforms (SOAPs)[1] reveals that workload automation strategies are due a reboot to cope with event-driven business models and cloud infrastructure. SOAPs orchestration engines, Gartner argues, are increasingly being used to streamline automating workflows spanning diverse application and infrastructure domains.

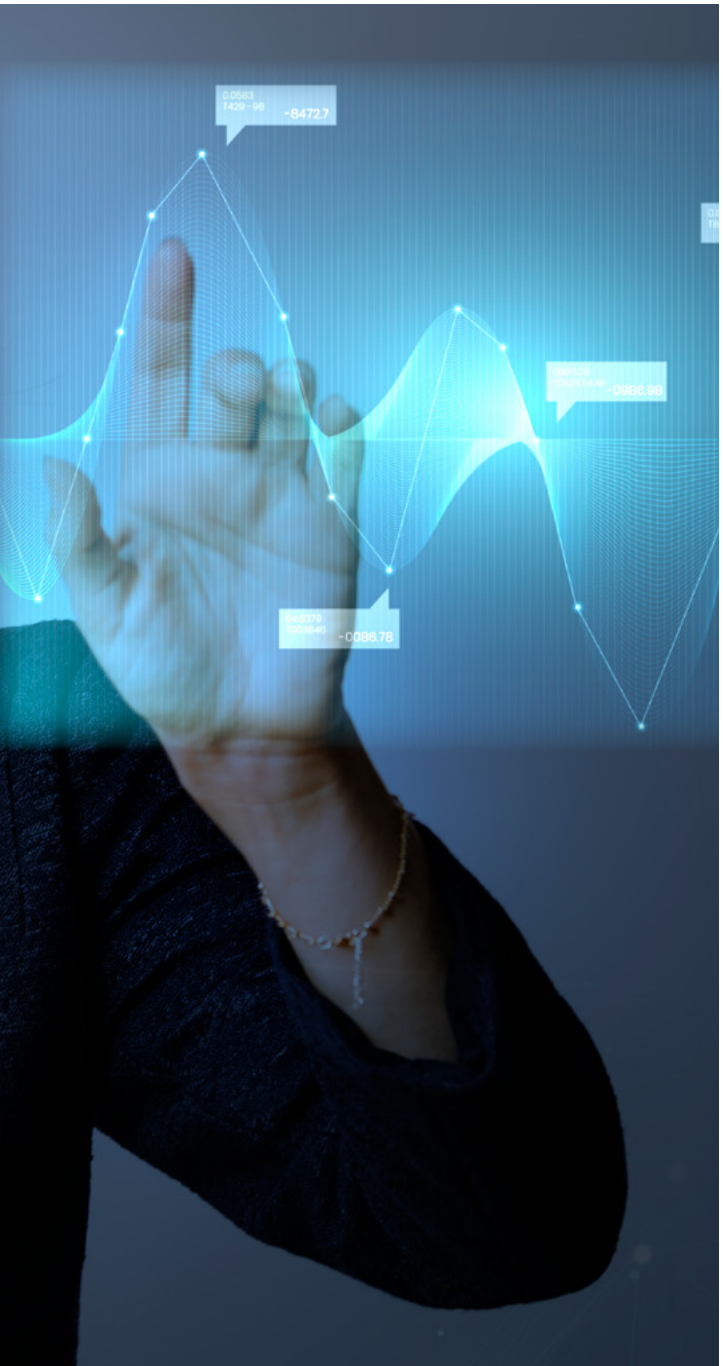
Gartner highlights six core differentiating capabilities of modern SOAPs:

- ☑ workflow orchestration
- ☑ event-driven automation
- ☑ self-service automation
- ☑ monitoring & alerting
- ☑ resource provisioning
- ☑ data pipelines management

[1]Source: Gartner, "Market Guide for Service Orchestration and Automation Platforms," April 17, 2020, ID: G00721991, Analyst(s): Manjunath Bhat, Daniel Betts, Hassan Ennaciri, Chris Saunderson.

AutoSys is also built for this future of automation. In this briefing, we analyze how AutoSys supports every one of these capabilities, ensuring enterprise agility, innovation and efficiency.

Introduction



Gartner's recent Market Guide for SOAPs reveals a shift in the market for workload automation tools. Gartner highlighted "Through 2024, 80% of organizations using workload automation tools will switch to service orchestration and automation platforms to orchestrate cloud-based workloads."[2]

There is good reason for this. SOAPs dramatically increase operational efficiency. Services are created through a blend of workflow orchestration, run book automation and resource provisioning across hybrid infrastructures. Data pipelines and event-driven application workflows can be managed quickly and easily through a 'single pane of glass' and a flexible orchestration engine. And some SOAPs tools have the functionality to schedule batch processes, monitor task statuses and alert users when new events are triggered.

It doesn't stop there. SOAPs also expand the role of traditional workload automation by adapting to cloud-native infrastructure and application architecture.

These tools complement and integrate with DevOps toolchains to provide customer-focused agility in addition to cost-savings, operational efficiency and process standardization.

So where does this leave AutoSys? The workload automation platform has been proven time after time to efficiently operationalize complex workloads across platforms, ERP systems and the cloud. Hundreds of enterprises the world over – from almost every vertical sector – rely on AutoSys to optimize the availability of critical business services, respond to real time business events and ensure efficient, consistent and reliable service delivery.

[2]Source: Gartner, "Market Guide for Service Orchestration and Automation Platforms," April 17, 2020, ID: G00721991, Analyst(s): Manjunath Bhat, Daniel Betts, Hassan Ennaciri, Chris Saunderson.

However, there is a lingering belief in some quarters that AutoSys is a legacy solution with its roots in job scheduling and running batch processes, like inventory reconciliation or payroll, and that it cannot support businesses as they shift from a batch-mode of operations to real-time event-driven workflows.

This is not the case.

The Gartner Market Guide highlights six key differentiating capabilities of SOAPs **(see Figure 1).**

AutoSys delivers on every one of these six characteristics, continually evolving to meet the needs of cloud-based workloads and real-time automation and response.

Figure 1:
Six key differentiating capabilities of SOAPs

In this briefing, we reveal how AutoSys unequivocally supports organizations as they modernize their applications from on-premises to cloud and meet the demand for near real-time customer experiences.

1. Workflow Orchestration

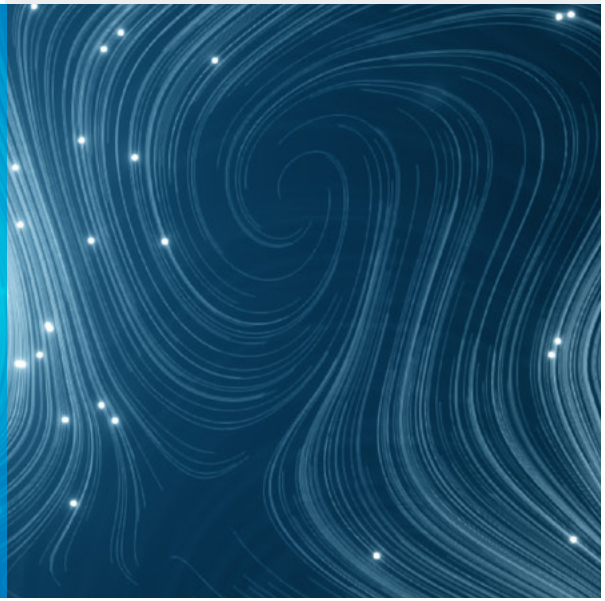
AutoSys offers one, unified automation platform for distributed, business application and other automation use cases, both on-premises and in the cloud. It eliminates the complexity associated with automating workflows across different application and infrastructure domains. Users benefit from one, intuitive graphical flow designer to design application workflows, visualize interdependencies and connect disparate tasks and data sources.

By introducing one central place to manage everything, this workflow orchestration operationalizes your automation strategy – and optimizes efficiency. For example, you no longer need to train people on different platforms. And AutoSys offers out-of-the-box integration with a wide variety of applications, from SAP and Oracle, to Hadoop, Informatica, and Peoplesoft. It also offers integrations to other mainstream technologies like JMS, messaging buses, SQL databases, monitoring log files and more.

The AutoSys Difference

- ☑ One automation platform for distributed, business application, cloud and other automation use cases.
- ☑ Wide catalog of integrations to tools, applications and ERPs.
- ☑ Supported extension plugins available for cloud-based services.

Of course, every one of these modern technologies has its own scheduling capability. However, if each of these is used independently, the tasks become separate, fragmented automation processes – the familiar 'islands of automation'. AutoSys visualizes it all in one flow: moving operations from simple workflow automation to connected and agile workflow orchestration.



2. Event-Driven Automation

SOAPs can automate IT processes that require physical intervention or manual scripting. Some SOAPs allow implementing a sense-policy-respond workflow. This involves sensing an input (trigger), validating against configured rules and policies and responding by taking appropriate actions. The 'sense and response' workflow can either use 'if-this-then-that' logic, heuristics or machine learning (ML) to determine recommended actions.

AutoSys offers this event-driven automation capability, with built-in event sensors for JMX, JMS, file triggers, text file monitoring, IP monitoring, process monitoring, disk space and MQSeries. This way, AutoSys senses an input trigger, validates it against configured rules and policies and responds with the appropriate action.

An integrated event engine also enables sophisticated automation policies based on business events.

Imagine for example, a message from one of your online systems arrives to signal it is ready for daily processing to begin. The business is dependent upon timely completion of the daily processing, so it needs to start immediately. AutoSys can detect the message and immediately execute the processing. There is no need for artificial start times and no guesswork involved; AutoSys can manage the events from beginning to end.

The AutoSys Difference

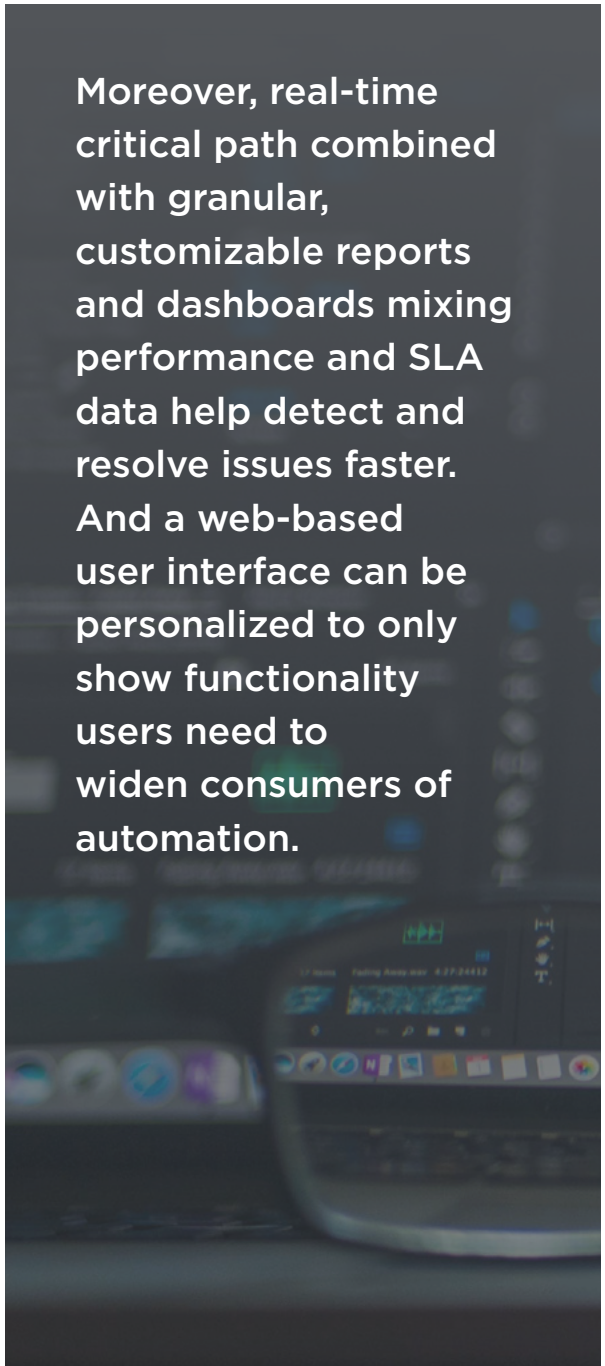
- ☑ In-built event sensors for JMX, JMS, file triggers, text file monitoring, IP monitoring, process monitoring, disk space, and MQSeries.
- ☑ Integrated event engine enables sophisticated automation policies based on business events.
- ☑ Automated workflows use SLA information and business events to make intelligent or predictive decisions.

3. Visibility and Alerting

Without a central point of visibility and control, it is difficult to manage multiple systems and application dependencies. You cannot see potential failure points, and you are unable to document regulatory compliance – all of which compromises your ability to deliver quality services.

Like a SOAPs platform, AutoSys offers service alerting to monitor the status of scheduled workloads in real time, including support for traditional time-based job scheduling. This predictive identification of potential risks to services from a single pane of glass helps improve SLAs and drives operational excellence.

AutoSys is rich with features to support this alerting. For example, ML-based algorithms help predict issues that could affect service levels. This automation intelligence maps workload flows to their associated services, enabling more intelligent issue detection, monitoring and triage.



The AutoSys Difference

- ☑ Dynamic workload monitoring, forecasting and workflow critical path determination using AI/ML.
- ☑ Customizable reports and dashboards mixing performance and SLA data.
- ☑ Customizable Web UI based on persona, showing only functionality users need to widen consumers of automation.

4. Self-Service Workflow Orchestration

The business is pulling IT in two separate directions: On the one hand, IT needs to reduce costs; on the other, IT is expected to improve service delivery. To be more efficient, IT needs to automate routine administrative tasks and optimize infrastructure utilization.

With AutoSys, business users, developers and other teams can request and execute workload processing that is controlled by workload policy and governance processes. A self-service web-based UI administration console – with role-based access controls – enables them to manage the visibility of their automation workflows. Granular security control also takes care of compliance, security and audit trails.

The result? IT operations teams are more responsive to business needs, more productive and liberated to focus on higher value tasks. Likewise, the business has more control over their own services for improved efficiency and control.

The AutoSys Difference

- ☑ Empower end users with an easy-to-use web UI or let them automate with a choice of multiple APIs.
- ☑ Granular security control enabling best in class compliance, security and audit.

Examples of this role-based self-service include:

Enabling Accounts Departments to run Month-End Reporting, Data Scientists to initiating big data analytics and generating a reports, Developers being able to safely reboot servers, and allowing end-users to process password resets all without the need to trouble IT Operations.

5. Resource Provisioning

Black Friday. The COVID-19 pandemic. A competitor launching an unexpected innovation.

Whatever the event, there will be circumstances when you need to rapidly scale up (or scale down) compute, network and storage resources in the cloud and/or on-premises. You can do all of this with AutoSys. It automates the provisioning of Kubernetes and OpenShift deployments, for example, while resource optimization coordinates workload based on available resources across physical, virtual and multi-cloud environments.

The Gartner report provides a useful example here, commenting "Integrate with PowerShell and VMware PowerCLI APIs to automate the provisioning of network, VMs, guest OS, storage within VMware environments (for example, vSphere, vSAN, VMware Cloud on AWS)."[3]

Also, integrate with Terraform and other cloud-specific infrastructure automation tools to automate the creation of staging, testing and production environments."

The AutoSys Difference

- ☑ Simplifies efforts to create, deploy and decommission environments in public and private clouds.
- ☑ Automate the provisioning of Kubernetes, OpenShift deployments.
- ☑ Resource optimization coordinates workload based on available resources across physical, virtual and multi-cloud environments.

[3]Gartner, "Market Guide for Service Orchestration and Automation Platforms," April 17, 2020, ID: G00721991, Analyst(s): Manjunath Bhat, Daniel Betts, Hassan Ennaciri, Chris Saunderson.

6. Orchestrate Data Pipelines

With AutoSys, you can automate file transfer and orchestrate data pipelines quickly and efficiently.

A data pipeline is a logical grouping of activities that collectively accomplish a task.

The data pipelines can be used to ingest and process data either for batch processing (for example, Apache Hadoop) or interactive processing (for example, Apache Spark). With AutoSys, you can automate Databricks, Azure Data Factory or Hadoop jobs (HDFS, PIG, HIVE, SQOOP, Oozie) and SQL statements without the need to write scripts.

An example of data pipeline orchestration is training ML models. This demands the ingesting and cleansing of data from multiple back-end sources. This in turn requires orchestrating data pipelines that ingest, prepare, transform and analyze data before being consumed for training ML models.

The AutoSys Difference

- ☑ Integrated managed file transfer for secure and reliable file exchange between automated systems.
- ☑ Automate Databricks, Azure Data Factory or Hadoop jobs and SQL statements without writing scripts.

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