



ESTABLISHING EFFECTIVE SLA MANAGEMENT TO IMPROVE AUTOMATION SERVICE DELIVERY

A Workload Automation Expert Series by Broadcom

The Snapshot

For workload automation teams who have service level agreements (SLAs) to meet, the criteria can be simple yet all too unforgiving. SLA targets are hit or missed—and when they're missed, the penalties can be steep. That is why it is so vital to establish advanced SLA management capabilities. Your workload team needs to be able to track all the dependencies that SLAs are riding on, and they need to be able to manage and optimize service levels to ensure SLAs continue to be met. Every time.

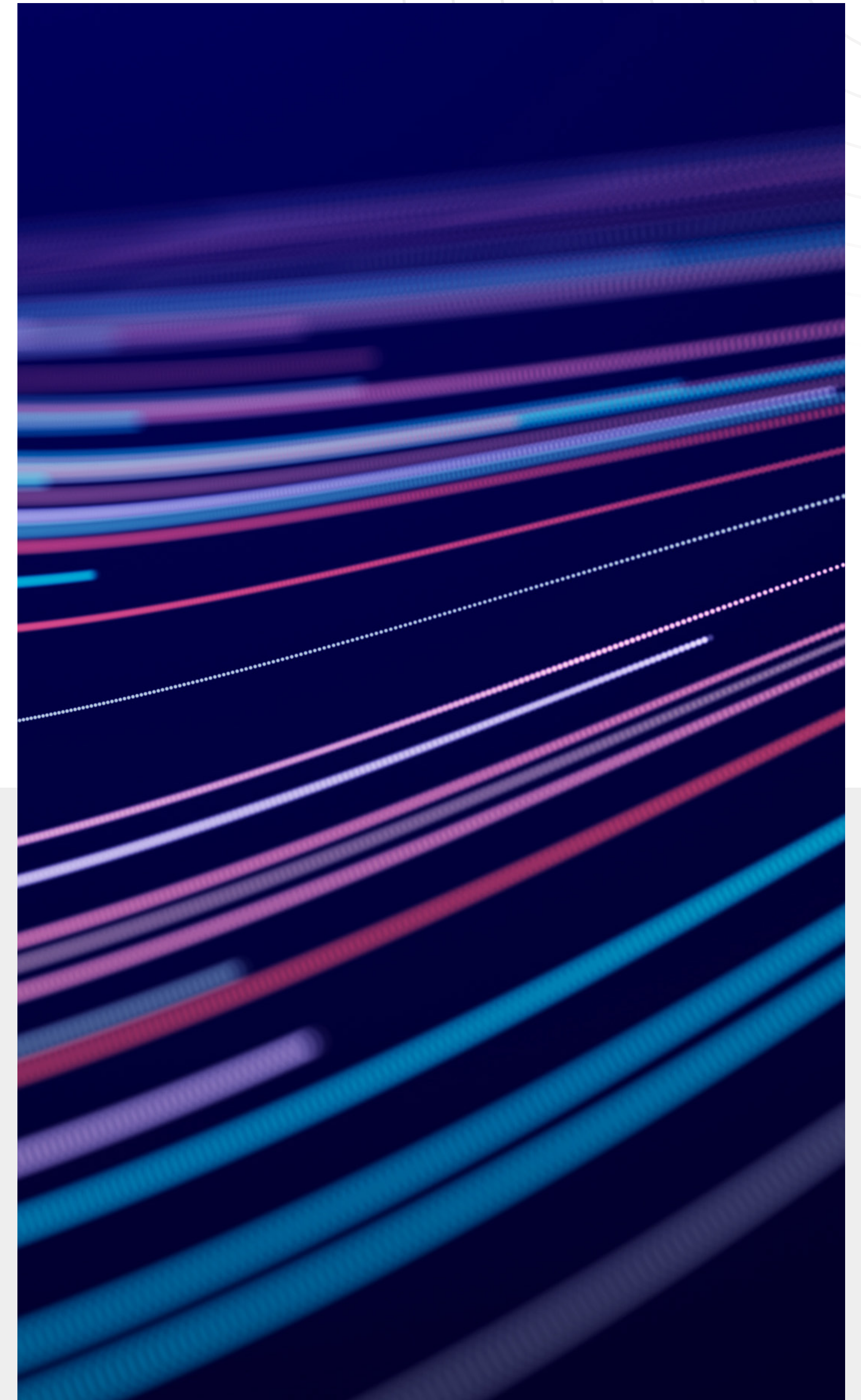
In this Automation Expert Series edition, we provide an overview of the features you need to establish effective SLA management, so you can more effectively track, manage, and optimize SLA compliance. The series is based on in-depth conversations with Broadcom automation experts and features spotlights on our most successful customers.

Our Expert

Martin Rybczynski is a Global Advisor for Automation Analytics & Intelligence with close to 20 years of experience with the product. Prior to its acquisition by Broadcom, Martin held various positions at Terma Software Labs, from software developer to field engineer to VP of client services. In his current role at Broadcom, Martin works with AAI customers, focusing on strategy and implementation around business process delivery and workload technology modernization.



MARTIN RYBCZYNSKI
Global Advisor



The Challenge: For Many, SLA Management Tools and Approaches Fall Short

Managing SLAs, complying with those agreements, and adhering to relevant policies and regulations is not a trivial effort. If you think compliance is expensive, try noncompliance!

The impact of noncompliance underscores the vital nature of SLA management, yet for many enterprises, existing tools are failing. This leaves teams ill-equipped to manage service levels and SLAs effectively.

In a recent survey, 98% of respondents reported that automation issues drive SLA breaches, and 61% report SLA breaches monthly. However, 68% stated that they cannot predict whether an automation delay will result in an SLA breach.¹

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Tools Lack Business Process Context

Many organizations rely largely upon milestone-related tracking, whether a specific job is completed within a specified threshold. However, the late completion or failure of a given job doesn't necessarily mean that the entire business process or its associated SLA(s) will be affected. When jobs are not aligned with business process SLAs, they may present a fragmented and incomplete picture, create false alerts, or worse, they may not generate alerts at all.

Home-Grown Tools Exacerbate the Challenges

Some teams have opted to create homegrown tools to track automation performance. The problem is that these tools lack integration with other tools in the ecosystem. For example, they typically don't capture job definition changes made in workload automation systems, meaning teams must manually make these updates for accurate insight into business process performance. In addition, new features, job types, capabilities, etc., that are added to the workload automation systems will also likely require code changes in the bespoke monitoring solution. This increases costs and overhead associated with building and supporting in-house-developed tools.

How Lack of SLA Management Capabilities Hurts Businesses

Limited SLA capabilities and in-house developed tools result in challenges, such as:

Alert Storms

Without a central, intelligent way to manage SLAs, teams invariably must navigate complexity and alert storms. Disparate teams rely on distinct technologies that generate their own alerts. A single issue can lead to dozens of overlapping alerts in different systems. With high volumes of alert noise, the organization is left operating in a reactive mode, responding to problems after services are affected and SLAs are breached.

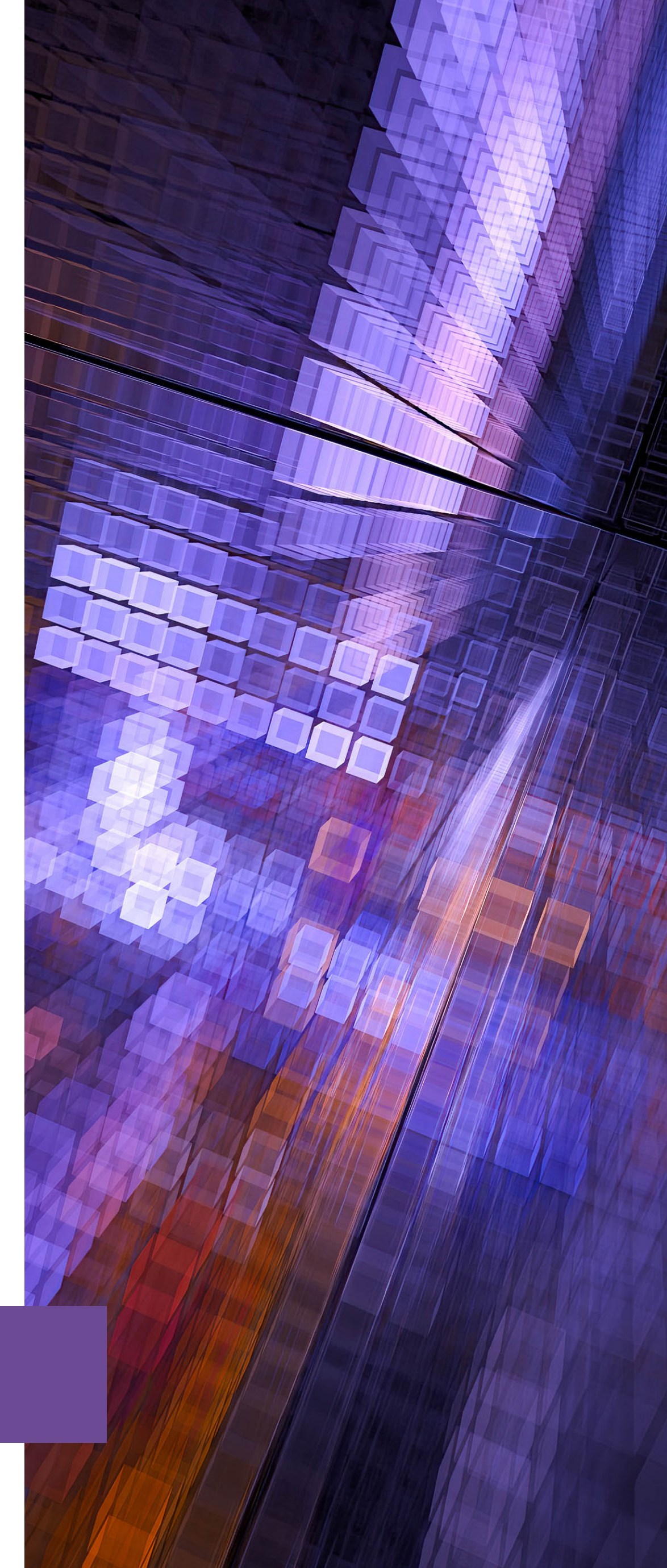
Limited Visibility and Insights

While massive volumes of data are generated, the result is a lack of real insight to spot trends and preempt potential issues. Further, this lack of insight blocks measures to gauge progress and improvement. All the workloads that affect SLAs are not understood, let alone tracked. Teams cannot establish realistic SLAs or make sustained progress in improving SLA compliance.

Limited Coordination

With different teams relying on different tools, teams lack a common way to set goals, track progress, and collaborate. Workload teams and business process owners lack dependable, efficient ways to share intelligence and improve consistency.

These issues can cost businesses dearly, leading to compromised service levels, dissatisfied customers, fines for non-compliance, lost revenues, and more.



Defining SLAs

It is vital to establish concrete performance measurements to improve operations and demonstrate the levels of service delivered. To achieve these aims, SLAs represent a foundational element for workload automation teams and their business partners. In defining SLAs, it is important to be cognizant of the different types of agreements and what they're used for.

Here's a brief overview:



Micro and Macro SLAs

SLAs can be established at both a micro and macro level. At the macro level, SLAs typically map to top-level business services. At the micro level, SLAs are measures of lower-level subprocesses or jobs that make up the business process. A macro-level SLA may have underlying micro-SLAs associated with it.

Operational-Level Agreements (OLAs)

These agreements can help define how responsibility is assigned among different groups, which can support improved collaboration and accountability.

External and Internal SLAs

Generally, people think of SLAs as agreements between a service provider and an external customer. These tend to have financial commitments associated with them and tend to be given the most attention. However, many teams also manage internal SLAs, or SLAs associated with different teams or organizations within the same organization.

DevOps SLAs

Teams are increasingly weaving SLA management into their DevOps lifecycles to promote efficiency and service level optimization. By doing so, teams can mitigate potential issues earlier in the development lifecycle, which is more time and cost-efficient.

Ultimately, by establishing clear, consistent, and objective SLAs, teams can begin to track, manage, and improve operational efficiency, service levels, and business performance.

Required SLA Management Capabilities

Visualization of Business Processes Against SLAs

Users need to be able to track the execution of automated business processes against SLAs, which represent deadlines critical to the business. These capabilities are critical for optimizing automation to address business requirements. When SLAs are created for critical processing, the milestones help workload teams, IT ops, and business stakeholders focus on delivery and promote awareness and ownership.

SLA Organization

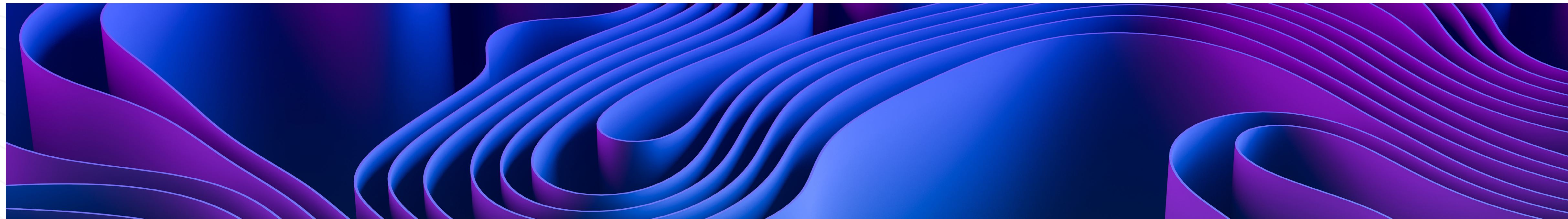
To gain intelligent visibility and control, it is vital to organize SLAs in a manner that makes sense to the business. Doing so provides a grouping and filtering mechanism for related business processes and the ability to zero in on specific details. Further, these views need to be customizable so different teams and user types can see the specific domains and workloads they are responsible for. For example, an engineer should be able to view only the aspects relevant to the specific technology domain.

Predictive Alerting

Finding out about issues after they have occurred is not helpful; it is simply too late. Automation users need to be aware of potential issues before a problem occurs. Groups need to be alerted to potential SLA breaches before they happen, be able to leverage historical data, and apply statistical modeling. With these capabilities, teams can identify emerging anomalies and get an early warning that helps them avoid issues and guide triage, repair, and escalation of existing problems.

Self-Service Dashboards

It is vital to not only capture data for managing SLAs but also make this data easy to access, organize, use, and act upon. Toward this end, it is important to provide self-service access to dashboards so that users can access the data that they need exactly when they need it. Teams should be able to analyze issues, see business processes that are running late, and spot which jobs are deviating from normal.



Best Practices for SLA Management

In defining and managing SLAs, here are several key best practices to follow:

- **Define goals based on business objectives.** For both new and existing SLAs, it is important to assess and concretely define goals and objectives at the business level. Toward that end, seek feedback from key decision-makers and stakeholders from various teams and disciplines.
- **Identify SLA owners.** Define and communicate who the SLA owners are. These are the people who depend on the automation process to support the business and who have the ultimate responsibility for ensuring SLAs are met.
- **Define micro and macro SLAs.** It is important to define the top-level macro SLAs and the underlying micro SLAs that the macro SLA depends on. Teams should ensure they have capabilities for real-time monitoring at both levels.
- **Repeat and refine.** It is well advised to go through this definition and execution process two or three times. In this way, areas of improvement are identified, and repeatable processes are ultimately established.
- **Document.** Groups should develop a “recipe” that other teams can follow. Workflows, key contacts, and lessons learned should be fully documented.

The Broadcom Advantage: Automation Analytics & Intelligence

With the unified monitoring capabilities of Automation Analytics & Intelligence (AAI), IT operations and business users can reduce risk and optimize their automation service. The solution delivers these critical capabilities:

Unified Monitoring of Automated Processes

The solution delivers dynamic and automated critical path visualization, process dependency insight, SLA awareness, and unified visibility across scheduling engines, platforms, and hybrid cloud environments.

Accelerated Root Cause Analysis

With the solution, teams can harness consistent monitoring data, a long-term historical data archive, and trending analytics for effective root cause analysis to drive faster triage and remediation.

Amplified SLA Management

This solution, with organized SLAs and easy-to-use dashboards, enables users to track the execution of automated business processes against critical business deadlines and gain predictive analytics informed by statistical modeling based on history to provide early warning for potential issues.

AAI delivers unified enterprise-wide observability across multi-cloud and on-premises workloads, eliminating islands of automation. With end-to-end visualization of automated business processes, predictive analytics driven by a long-term historical data archive, and advanced SLA management, customers can optimize service delivery and deliver more complex workloads faster.

AAI in Action: How Global Financial Institution Prevents SLA Breaches

The Problem

For this global financial institution's senior leadership, timely access to liquidity reporting is crucial. They rely on these reports constantly to manage cash flows, comply with regulations, mitigate risks, and maintain investor confidence. However, due to overnight processing problems, these vital reports were coming late, sometimes up to six hours after they were due. These delays caused missed SLAs and posed an increasingly significant impediment to business operations and decision-making.

The Solution

To combat these issues, the automation group had to identify the cause of these reporting delays and address them to meet their critical SLAs and ensure these reports were available for business teams when needed. With AAI, the team established the visualization and intelligence they needed to manage their complex workloads across multiple scheduling solutions. With the solution, they could analyze the processing issues that were creating delays in their liquidity reporting.

The Payoff

The solution enabled them to identify predecessor jobs that the liquidity reporting relied upon, but that weren't associated with the reporting's SLAs. With AAI, they identified these gaps and established the visibility needed to track these jobs within the report's SLAs. Ultimately, they could better ensure SLAs were being met and mitigate potential issues before they resulted in an SLA breach.



Conclusion

Today's workload automation environments are becoming increasingly complex and highly interdependent. IT operations and business teams that are using them struggle to gain an end-to-end view of their business processes and manage their SLAs effectively. This leaves the business exposed to costly compliance breaches and fines, eroding customer satisfaction and impacting the bottom line.

AAI delivers the advanced SLA management capabilities needed to mitigate these risks. With the solution, you can view SLAs holistically, track performance and service levels, and identify issues and optimization opportunities. As a result, you can reduce errors, boost performance, increase efficiency, and ensure SLA compliance.

For more resources, visit [Automation Analytics & Intelligence](#) on the Broadcom Software Academy.

About Broadcom

Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops, and supplies a broad range of semiconductor, enterprise software, and security solutions. Broadcom's category-leading product portfolio serves critical markets including cloud, data center, networking, broadband, wireless, storage, industrial, and enterprise software. Our solutions include service provider and enterprise networking and storage, mobile device and broadband connectivity, mainframe, cybersecurity, and private and hybrid cloud infrastructure. For more information, go to www.broadcom.com.

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