

Mainframe AIOps

Drive Operational Excellence Across Hybrid IT

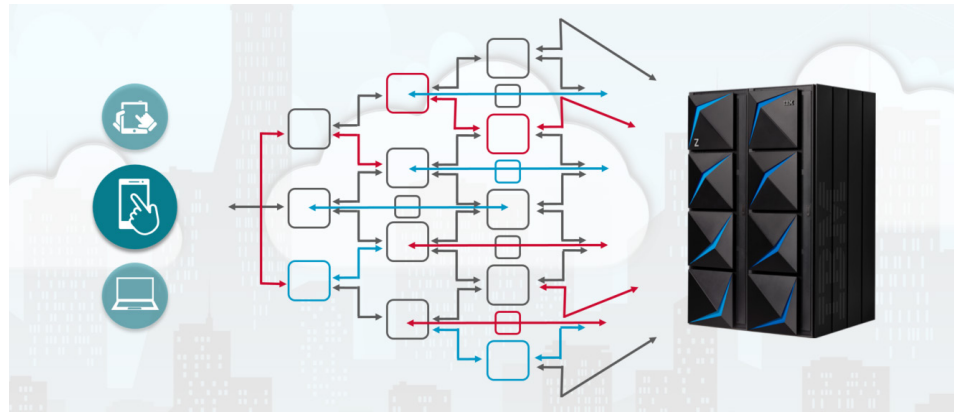
Highlights

- **Improve visibility across your end-to-end hybrid environment by opening access to IT data silos.**
 - Ease access to operational data with an open-first approach.
- **Augment and improve operations by combining machine and human intelligence.**
 - Mainframe domain expertise is embedded into AI algorithms and automation.
- **Make data-driven decisions based on meaningful and actionable insights.**
 - Prioritize efforts that will bring the biggest return on investment.
- **Deliver automation that you can trust with built-in feedback loops and guardrails.**
 - Implement AI-driven automation incrementally, training the AI to your environment.
- **Shift from reactive recovery to proactive avoidance by anticipating sooner and analyzing faster.**
 - Spend less time fighting fires and chasing down false alarms.

Overview

In order to compete, enterprises must deliver digital experiences that perform flawlessly in seconds and delight their customers. The challenge is that behind each digital app is massive complexity: hundreds of interwoven services, developed by a mix of proprietary and open source contributors, connect mainframe and multi-cloud infrastructures with billions of end user devices.

Figure 1: Behind each digital app is massive complexity.



Business Challenges

The exponential growth of data and transaction volumes makes it increasingly difficult for IT operations to keep up:

- There is too much data, complexity, and change to manage manually.
- It takes too long to gather data and diagnose problems.
- Problems are discovered too late to avoid business impact.
- There is too much pressure placed on too few subject matter experts.

Business Opportunity

To address these challenges, organizations are turning to artificial intelligence for IT operations (AIOps), which combines big data, machine learning, and AI technologies to improve operations. Mainframe AIOps solutions from Broadcom provide a pragmatic approach that is focused on helping you achieve outcomes incrementally, based on your prioritized goals and needs. Built on an open architecture, these solutions ease access to operational data while integrating breadth of visibility with depth of analysis and years of mainframe expertise. All to help you augment and automate your day-to-day operations and deliver exceptional customer experiences.

Break down silos and provide contextual insights by opening access and sharing data across hybrid IT.

Business Opportunity (cont.)

In today's digital world, where downtime or even slow performance can significantly impact the bottom line, leading enterprise organizations continue to rely on the mainframe to run their most critical digital services. This proven platform is built to process exponential growth with scalability and speed. Yet, IT organizations are often siloed and find it challenging to manage services which span multiple environments, such as mobile devices, mainframes, and multi-cloud infrastructures.

In order to provide exceptional customer experiences, you need the ability to access, analyze, and act on insights from every element of your hybrid IT environment. With Mainframe AIOps solutions from Broadcom, you can integrate the mainframe into your overall service management strategy, ensuring that business priorities are aligned across IT for greater efficiencies, reduced operating costs, and decreased the risk of downtime.

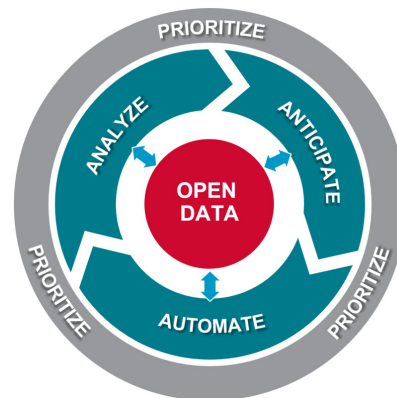
Solution Overview

Mainframe AIOps solutions break down silos and provide contextual insights by opening access and sharing data across hybrid IT. These solutions allow you to analyze faster, anticipate sooner, automate with trust, and prioritize your IT initiatives based on data driven decisions.

Because AIOps starts with data, many organizations fall into the trap of thinking, "the more data, the better," but then they quickly realize that most of that data is irrelevant noise. To be useful, operational data needs to be analyzed in context. And that context is provided by the metadata and related information around the data, such as the importance of the data to the business, the upstream and downstream impacted systems, any relevant, recent changes, and historical patterns.

In addition to providing access to the right data across many systems and reducing IT noise, Mainframe AIOps solutions embed domain expertise to turn your data into meaningful and actionable insights that help you better understand what is going on across your IT environment and what to do about it.

Figure 2: A Pragmatic and Open-Data Approach to AIOps



Solution Overview (cont.)

Mainframe AIOps solutions from Broadcom empower you to achieve real results by augmenting and automating your IT operations incrementally at a sustainable rate:

- Analyze data faster to discover hidden insights and identify root causes.
 - Diagnose root causes faster and reduce problem recovery times by discovering and surfacing cross-domain insights, patterns, correlations, and possible causation factors.
 - Automate insight discovery and analysis, allowing even novice IT operations staff to triage issues faster, while engaging only the experts needed, freeing up SMEs to focus on higher priority initiatives.
 - Get the benefits of AIOps without the need to rip and replace your existing tools. Analyze across IT domain silos using open APIs to access and integrate the data that you are already collecting.
- Anticipate issues sooner to proactively resolve and avoid them.
 - Shift from reactive recovery to proactive avoidance by anticipating business-impacting issues before they spiral out of control.
 - Mine your data for patterns and insights in near real-time using machine learning algorithms that adapt as your environment shifts. Generate meaningful and actionable insights by filtering out irrelevant data and deciphering normal versus abnormal behaviors.
 - Leverage Broadcom solutions that embed algorithms specifically trained for the mainframe and designed to drive automated corrective action based on years of mainframe expertise.
- Automate wherever possible to reduce manual effort and to increase efficiency.
 - Optimize your operations by automating day-to-day IT ops activities ranging from performance monitoring and reporting, to data correlation and analysis. Repetitive tasks might take only five or ten minutes to complete manually; but they add up. Through incremental automation, IT personnel can reclaim a significant amount of time for more value-added work.
 - Deploy AI-driven automation that you can trust with built in feedback loops and guardrails. Define specific purposes, permissions, and limitations for each automation to prevent triggering unintended consequences. After you specify your intended outcomes, the automation software determines how to best achieve those outcomes within the guardrails.
 - Benefit from Broadcom solutions, which offer a pragmatic AIOps approach that incrementally augments and automates IT operations over time, while building trust every step of the way.
- Prioritize the first steps on your organization's AIOps journey to optimize ROI based on data-driven insights. AIOps is a journey, not a destination; and as with most journeys, getting started is often the hardest part.
 - Identify opportunities to improve efficiency and performance. Optimize your resource allocation by prioritizing the projects that have the greatest value and urgency to the business.
 - Use data from your environment to baseline your current operations, identify opportunities to improve, and track ROI of improvements over time.

A pragmatic AIOps approach incrementally augments and automates IT operations over time, building trust every step of the way.

About the Mainframe Division at Broadcom

The Mainframe Division at Broadcom continues to drive the next horizon of open, cross-platform, enterprise solutions. We specialize in DevOps, Security, AIOps, and Infrastructure software solutions that allow customers to embrace open tools and technologies, make mainframe an integral part of their cloud, and enable innovation that drives business forward. We are committed to forging deep relationships with our clients at all levels. We go beyond products and technology to partner with you in creative ways that support your success.

Benefits

Mainframe AIOps solutions are uniquely designed around a flexible, open, and composable architecture that provides numerous benefits:

Open access to operational data.

Without data, AI does not work. Mainframe AIOps solutions from Broadcom allow you to access operational data from across your hybrid IT environment using open and secure APIs, because it is important that you also understand where the data is being used, and by whom.

Embedded domain-trained AI to drive business outcomes.

At its core, AIOps is about applying analytics and machine learning to big data in order to drive the intelligent automation of your IT operations. But data and algorithms are not the whole story. You want AI algorithms to be trained by domain experts; but most IT operators do not have the time or skills to do this. The analytics and algorithms used in Broadcom solutions have been trained for the mainframe environment and are embedded within our software solutions.

Integrated breadth of visibility with depth of analysis and expertise.

There is no single AIOps solution that provides everything for every environment and situation. You should leverage AIOps components, facilitated by an open and extensible architecture, that allow you to easily integrate new capabilities as they emerge. This flexibility allows you to incrementally build up breadth and depth to continuously augment and improve your IT operations.

Broadcom partners with you to implement a pragmatic AIOps approach that encourages incremental change at a sustainable rate. These changes add up over time to transform your IT operations and to ensure that your business continues to deliver the outstanding digital experience that your customers expect.

Next Steps

For more information, please visit our site at mainframe.broadcom.com/aiops.