EQUIPPING SYSPROGS WITH AI/ML, INTELLIGENT AUTOMATION, AND A MODERN UX

As digital transformation reshapes IT landscapes, mainframe operations must evolve to keep pace. Today's mainframe operations teams require predictive insights to identify and resolve performance issues before they impact service delivery. With this in mind, artificial intelligence for IT operations (AIOps) can provide comprehensive visibility, helping operations ensure consistent service level agreement (SLA) compliance and cost-effective resource management. This approach drives operational efficiency, reduces costs, and maintains uptime, ensuring business continuity. By leveraging AI and automation for real-time anomaly detection, teams can proactively identify and address potential challenges in increasingly complex environments.

Next-Generation SysProgs: The backbone of modern mainframe operations

In the face of digital disruption, the next generation of systems programmers (SysProgs) must navigate complicated and complex infrastructures that demand agility and real-time response. To stay ahead, SysProgs need AIOps solutions that simplify workflows and empower them with AI-driven tools to detect anomalies and maintain resilience. This shift emphasizes intelligent automation and user-centric designs, enabling SysProgs to confidently, proactively manage mainframe operations, regardless of their experience and agility, and keep pace with the evolving demands of the digital enterprise.

Understanding "normal" and proactively detecting anomalies

Real-time anomaly detection is a key strategy for maintaining high availability and operational resilience. AIOps solutions like [BMC AMI Ops Insight](#) use AI and machine learning (ML) algorithms to establish a baseline of normal system behavior and continuously monitor for deviations. This proactive approach helps teams identify potential issues early, before they can impact mainframe performance and business operations.

The ability to detect anomalies in real time through multiple metrics allows mainframe operational teams to identify issues across various domains and ensure that nothing is missed. Unlike traditional tools that rely on predefined thresholds, the most powerful AIOps solutions use multivariate analysis, enabling more comprehensive monitoring across systems and reducing false positives.

A proactive approach to anomaly detection is essential for teams determined to stay ahead of disruptions. By identifying anomalies early, SysProgs can avoid reactive firefighting and mitigate issues before they escalate. This reduces the frequency of crisis management sessions—known as "war rooms"—and ensures that teams can focus on delivering consistent service.

Intelligent automation to simplify incident response

Automation has become a critical component of mainframe management, but today's best practices go beyond basic task automation. High-performing teams can leverage intelligent automation driven by AIOps to resolve incidents in real time. Tools like [BMC AMI Ops Monitoring](#) and [BMC AMI Ops Automation](#) offer data centers seamless, automated remediation, enabling proactive monitoring solutions to trigger automatic responses based on defined rules. This addresses issues without manual intervention, reduces downtime, and allows SysProgs to focus on higher-value tasks.

When automation is tightly integrated with monitoring and alerting systems, the entire incident management process becomes more cohesive—teams implementing intelligent automation benefit from streamlined workflows, faster resolution times, and reduced operational overhead.

Actionable insights for faster problem resolution

In addition to early detection, teams must ensure that their AIOps monitoring tools provide actionable insights. Knowing that a problem exists is not enough—understanding its probable cause and the scope of its impact is also critical for fast and efficient resolution. Monitoring solutions that provide detailed information on severity, trends, and affected categories (such as CPU, storage, or workload) allow SysProgs to confidently address issues.

Moreover, insights should also include the current state of the system, along with projections on the critical nature of the issue. For example, by providing data on trends (such as whether the issue is improving or worsening), SysProgs can effectively prioritize responses and allocate resources where they are most needed.

Future-Proofing with AIOps and the benefits of a modern unified interface

As mainframe environments grow more complex, the ability to manage systems from a unified interface is becoming even more important. Whereas a seasoned SysProg may be able to navigate

multiple legacy tools with ease, a new or less-experienced SysProg does not necessarily have the historical background, context, ability—or desire—to navigate multiple tools and possibly antiquated user interfaces. Instead, a modern, user-friendly user experience (UX) allows SysProgs, especially those less experienced, to quickly and easily access relevant data without navigating multiple tools or sign-ons. By streamlining access to AIOps-centric monitoring, automation, and insights, teams can increase productivity and reduce the likelihood of human error.

A modern, unified interface can also support collaboration across teams and departments, enabling faster decision-making. This is crucial as many organizations operate with remote and hybrid work environments. New hires, in particular, benefit from the simplified navigation and intuitive design, which helps them become productive more quickly and reduces the learning curve associated with traditional tools.

One step ahead of disruptions

Teams must also stay ahead of system disruptions to future-proof operations. Waiting for a phone call or a traditional alarm may mean it's already too late, leading, at best, to firefighting mode, and at worst, to SLA non-compliance. Today's rapidly evolving environments require solutions that enable teams to start at an advantage, proactively detecting problems and meeting changing business requirements.

Additionally, as experienced SysProgs retire, organizations face the loss of valuable expertise. Ensuring that new SysProgs are equipped with user-friendly, AIOps-based tools and built-in industry expertise becomes the key to minimizing the impact of these workforce changes. Modern tools can shorten the steep learning curve associated with traditional mainframe operational tools by providing solutions with built-in intelligence that are easy to use and navigate out of the box.

Explaining how proactive AIOps-centric monitoring improved their operations, a Vice President of Systems Platform Engineering at a global financial services company said, "We had a real-world issue with one of our applications where we were dropping transactions. The monitoring solution helped us drill into the handoff between IBM® MQ and IBM® CICS®, allowing us to understand what was going on and fix the issue. As a result, we drove greater customer satisfaction and processed more transactions."

Best practices for teams: Reducing cost, risk, and complexity

To maximize efficiency and reduce operational risks, organizations can follow these best practices:

1. **Proactive alerts**: Ensure that the monitoring solution provides proactive notifications when potential problems are identified, allowing SysProgs to act before issues escalate.
2. **Multivariate analysis**: Choose tools that monitor cross-domain metrics simultaneously, reducing the risk of missing critical anomalies and providing a more comprehensive view of system health.
3. **Industry expertise**: Look for monitoring solutions that incorporate built-in domain expertise, reduce guesswork, ensure that only relevant metrics are evaluated, and minimize MIPS consumption.
4. **Ease of use**: Invest in solutions that require minimal configuration and provide immediate value, allowing teams to gain insights as soon as the tool is installed.
5. **Continuous learning**: Choose solutions that continuously learn from data, becoming more

intelligent and effective at detecting and diagnosing issues over time.

Multivariate and probable cause analysis: Finding correlations and patterns for a more comprehensive understanding

One of the most powerful solutions for staying ahead of system disruptions is BMC AMI Ops Insight, which leverages ML to continuously learn what "normal" performance looks like and detect anomalies in real time. With multivariate analysis—as opposed to traditional single-metric monitoring—the system ensures that nothing is missed by evaluating multiple key metrics simultaneously to reduce false positives.

Built-in domain expertise eliminates the need for time-consuming configuration and guesswork, making it easier for newer SysProgs to start delivering value immediately. BMC AMI Ops Insight also provides probable cause analysis, allowing teams to quickly diagnose issues and act before they escalate, ensuring higher availability and minimizing costly downtimes.

The continuous learning capability of this solution allows it to get smarter over time, adjusting to new patterns and performance profiles to offer increasingly precise monitoring and diagnostics. Connecting the dots between key metrics and alerting teams early helps avoid costly slowdowns and unplanned outages.

Conclusion: Empowering mainframe teams for the future

As mainframe environments grow more complex, detecting and resolving performance issues before they affect service is critical. By ensuring comprehensive visibility through AIOps, operations teams can maintain consistent SLA compliance, optimize resource management, and drive efficiency while reducing costs. These capabilities help safeguard uptime and ensure business continuity. Leveraging AI, automation, and real-time anomaly detection allows teams to proactively address challenges, equipping them with confidence and resilience for the future of mainframe operations.

To learn more about how organizations can take advantage of AI/ML and intelligent automation to maximize mainframe operations, listen to the podcast, "AI, Intelligent Automation, and a Future-Proof Interface for Mainframe Ops."