



Transforming Systems Management for Digital Business

Most mainframe monitoring tools haven't kept pace with the needs of digital businesses. Enterprises need a true mainframe systems management solution to meet the bigger, faster needs of digital business while reducing costs.

Today, every business is a digital business. Customers use mobile and web apps for shopping, making payments, booking vacations, tracking finances, interacting with insurance companies, and so much more. And they expect those apps to be available at any time, day or night.

Mainframes provide the foundation for digital interactions, and they must support a huge and growing number of transactions.

Complexity is being added in two major ways. First, customer interactions with web and mobile apps are

increasing, putting more of a load on the mainframe that supports those apps. Today's transactions no longer follow an established pattern — they often occur outside of regular business hours — and a growing number of these transactions aren't about generating revenue. For example, consumers expect mobile alerts that tell them when a package has shipped or when they have a low account balance, and they expect those alerts to be available anytime and immediately. This is challenging mainframe IT to provide always-available, high-performing applications.

Second, IT is deploying new and modernized applications

to provide more personalized services. With plenty of Java developers available, many organizations have turned to Java on z/OS so they can roll out new applications quickly at an attractive price, but Java's resource usage can negatively affect other key applications, putting critical business services at risk. This has made the IT environment more complex, making it necessary to be able to view and manage the entire environment from one place.

At the same time, the mandate to optimize costs continues unabated, and this includes spending on system management tools. Because the world is operating at such a rapid pace, organizations need intelligent automation to diagnose and fix problems before they happen. With traditional monitoring tools, it's difficult to find the root cause of problems, and troubleshooting takes a long time. When customers can't complete transactions or become frustrated with slow service, they take their business elsewhere. [Some studies](#) have found that ecommerce sites have just three seconds to provide shoppers with the

information they want or else they will leave.

This means that traditional monitoring tools can't keep up. They can't proactively find and fix problems before they negatively affect application performance and 24 x 7 availability. That puts the business at risk of not being able to deliver the application performance and availability necessary to meet customer demands in the digital economy — and gain a competitive advantage.

Today's Mainframe Challenges

As companies roll out new mobile and web apps, people are interacting with those apps more frequently. A decade ago, a user might have logged in to an online banking site once a week. But today's customers are using their smartphones to check on their accounts, pay for goods and services, and deposit money dozens of times per day. In fact, a [2015 report](#) found that average consumers have 37 mobile interactions per day; by the end of 2017, they will likely have 50 interactions per day.

Are You Monitoring Your Mainframe or Managing Your Mainframe?

PASSIVE MONITORING	DYNAMIC SYSTEMS MANAGEMENT
Monitor a technology	Proactive problem resolution
Manual processes and procedures	Dynamic intelligent, self-learning automation
Silo-specific monitors (IMS, CICS, z/OS, operations)	Single view of entire system
Alarms not priority based	Centralized intelligent smart alarms
Diagnosis requires specialized knowledge	Drill down to problem source
Resource intensive, high MLC costs	Cost efficiency; zIIPs and collect data once

Every interaction with an app generates between four and 100 additional interactions within a company's IT systems. For example, to check on a flight's status, a mobile app might need to get information from the airline's scheduling system, ticketing system, and the sensors on the plane itself, and then the IT systems must process that data and send it back to the mobile app. Thanks to this "starburst effect," mobile transactions will result in 400 billion internal IT events per day by the end of 2017. And as new apps and features become available, customers use them more often, driving mainframe transaction loads even higher.

Customers want personalized information immediately, at any time, day or night. In the good old days, a bank might have been able to perform a batch update to its systems Sunday night when the bank was closed. Nowadays, for some banks Sunday night is one of their busiest times of the week because everyone is paying bills and checking their balances before the start of the work week.

As if all this weren't enough to cope with, IT is also being told to reduce costs. Mainframe staff must do more work, but often can't hire new workers to replace those who leave. And many experienced staff members are retiring, taking their 20, 30, or more years of mainframe experience with them. When organizations can hire, they need to attract millennials who are accustomed to using very different sorts of tools.

In short, mainframe IT departments are stretched thin with the burden of added complexity, cost-cutting, new applications and transactions, and the need to deliver top-notch performance and availability. Those organizations that continue to use monitoring tools put their business at risk.

The Solution: Mainframe Systems Management
Organizations need a solution that makes it possible to

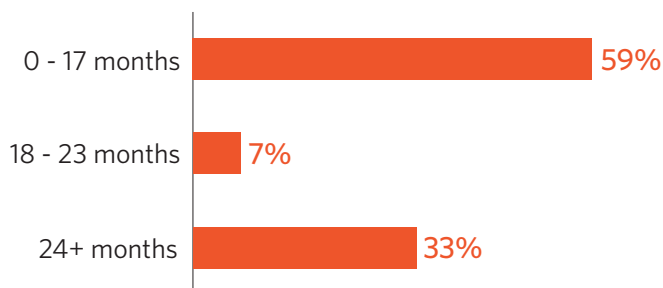
scale by leveraging technology. They require a true systems management solution that can help them save time, increase productivity, maintain application availability and performance, and keep budgets under control. One study of mainframe users found that among those who switched from a legacy monitoring solution to a comprehensive mainframe management solution, 59% reported ROI payback within 18 months. (See chart, this page.)

Enterprises must have a systems management solution that lets them monitor and control all of their mainframe resources, systems, and subsystems. It's not enough just to have the proverbial "single pane of glass." The mainframe is a shared environment, so it's vital to understand the interrelationships of all mainframe technologies and to be able to drill down with guided navigation to follow the problem to its root cause. Guided navigation means that problems are solved rapidly, with fewer staff members and without affecting service delivery. This is provided by a centralized architecture.

For example, a slow mobile app might actually be caused by a Java application running on the mainframe that has a poor garbage collection process. These types of interactions are difficult to find unless an organization has

Rapid ROI

59% received ROI payback in less than 18 months



Source: TechValidate survey of 27 users of BMC MainView

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a systems management solution with a single view and control of the entire environment.

This centralized architecture provides the foundation for four other essential characteristics of mainframe systems management:

• **Intelligent Proactive Automation.** Monitoring software can send alerts when problems arise, but it lacks intelligence and context. “Red lights” appear for issues that aren’t really problems. Staffers become accustomed to ignoring the alerts, making it likely that they’ll miss a true emergency. When there is a real issue, detection, solution, and remediation are elongated, threatening the delivery of business services. In many cases, IT doesn’t realize something has gone wrong until a call comes in from the help desk.

True mainframe systems management solutions are different because they offer intelligent automation capabilities. Dynamic, rules-based automation replaces manual checklists and processes. Smart alarms with built-in persistence checking eliminate one-off and irrelevant notifications.

Rapid problem detection and resolution depends on having the right thresholds. Intelligent automation also learns over time, using historical data to set alert thresholds dynamically based on business cycle changes, eliminating the need for guesswork. In addition, it knows the difference between a persistent problem and a one-time event. It sends alerts only when they are important, improving staff productivity.

When the management solution detects a problem, it often can fix problems proactively. Instead of staff waiting for a call to come in, the system resolves issues before end users notice that anything is wrong. As a result, application performance and mean time to repair improve

BMC MainView

One mainframe systems management solution delivers all the features organizations need to overcome the challenges of digital business. BMC MainView is a completely integrated solution built on centralized architecture. It uses intelligent automation to find and fix problems before they affect application availability and lead to dissatisfied customers. It offers a single view across all systems with a user-friendly interface that helps attract younger staffers. And it was designed from the ground up to use resources intelligently, keeping costs low.

A survey of 91 BMC MainView users published in December 2016 by TechValidate reveals that BMC customers overwhelmingly say that MainView outperformed its competitors:

- 89% — MainView helped them detect problems sooner
- 88% — MainView helped solve problems faster
- 92% — MainView reduced mainframe costs
- 86% — MainView improved productivity
- 95% — Would recommend MainView

dramatically. Dynamic triggers make appropriate actions happen — raising an alarm or invoking automation. And workload-aware capping protects critical workloads.

• **Single View and Control.** Monitoring solutions without a single image view require multiple monitors and multiple staff members to sign on at once, using additional resources. These solutions lack an integrated control point for all systems and subsystems. IT staffers often sit in front of a bank of computer screens, each tracking a separate part of the environment. If there’s a



problem, they must look at multiple consoles and can't follow the problem to its root cause.

With a systems management solution, staff members have a single image to view and manage the entire system. All systems, subsystems, and resources are visible and seamlessly accessible — staff can go anywhere and do anything. And console access through a secure connection improves staff response time.

The best mainframe systems management solutions offer a mainframe-based customizable interface so that staff members can be as efficient as possible. Veteran mainframe staff members often gravitate to a 3270 display (which they can customize), while other staffers will find a more app-like browser display works best for them. Importantly, the solution shouldn't require any additional components to be installed in order to obtain the functionality that workers need.

- **Central Administration.** Systems management solutions should make it easy to add new components and provide central setup and deployment of smart alarms to provide consistency and eliminate irrelevant

notifications. The ability to manage the entire mainframe ecosystem in a holistic manner will improve the availability and performance of key transactions and workloads, no matter how complex. And a single view and control delivers straightforward and intuitive operations.

- **Highly Efficient Resource Usage.** All mainframe monitoring or management solutions consume CPU cycles. And because mainframe software licensing fees are based on CPU consumption, those monitoring tools can drive up costs.

BMC MainView, an industry-leading mainframe systems management solution, was designed to manage these costs more effectively by being highly efficient in its resource usage. It offloads as much work as possible to specialty processors known as IBM z Systems Integrated Information Processors, or zIIPs. Workloads that run on zIIPs don't count toward IBM MLC fees, reducing costs. In tests, BMC MainView used, on average, 41% to 50% fewer CPU resources than the other tools tested. Thanks to its use of zIIPs, efficient code, common address spaces, and data collectors, it is up to 50% more cost efficient compared

with other monitoring tools. And the lower monitoring overhead frees capacity for critical workloads. In addition, console consolidation reduces costs for floor space, energy, and cooling. And dynamic cost-aware capping reduces costs by up to 20%.

Prepare Your Organization to Meet Digital Business Demands

The mainframe is the backbone for today's digital businesses. As these businesses roll out new customer-facing applications that rely on the mainframe, as complexity increases, and as customers demand around-the-clock availability, the risks of continuing to use an inadequate monitoring solution are high:

- Poor application response and availability
- Slow problem detection, solution, and remediation
- Increased burden on IT staff as experienced staff members retire
- Difficulty attracting and training younger staff members
- Increased costs
- Slow rollout of new applications
- Dissatisfied customers who take their business elsewhere

To avoid these risks, organizations need a better strategy based on more advanced tools. But not all tools are the same. Systems monitoring and management solutions are no longer a commodity. Organizations should audit the tools they are using to see whether they are still just monitoring their mainframes or have a true mainframe systems management solution.

The benefits of replacing monitoring tools with a mainframe systems management solution are significant:

- Lower costs
- Improved application performance
- Faster problem resolution
- Increased productivity for IT staff
- Increased staff satisfaction
- Faster rollout of new applications
- Satisfied customers
- Greater success for your digital business

Now is the time to make the switch from monitoring to systems management. It's the only way to thrive in digital business.

ABOUT BMC

BMC is a global leader in innovative software solutions that enable businesses to transform into digital enterprises for the ultimate competitive advantage. Our Digital Enterprise Management solutions are designed to make digital business fast, seamless, and optimized from mainframe to mobile to cloud and beyond. **BMC – Bring IT to Life**
BMC digital IT transforms 82% of the Fortune 500®.