

SYSVIEW® Performance Intelligence

Shift from Reactive to Proactive Performance Management

Highlights

- **Open access to operational data:** Access operational data from across your hybrid IT environment using open and secure APIs.
- **Embedded domain-trained AI to drive business outcomes:** Analytics and algorithms have been trained for the mainframe environment and are embedded within our software solutions.
- **Reduction in cost:** Reduce cost through increased efficiency, smaller address space footprint, and zIIP engine exploitation.
- **Application performance insights:** Proactively identify and quickly resolve application performance inefficiencies to reduce cost, improve response times and lower risk of production issues.
- **End-to-end visibility from mobile to mainframe:** Link business transactions across the application workflow providing a full end-to-end view of the environment.
- **Capacity intelligence reporting:** Analyze CPU consumption of critical systems and workloads with a robust set of reports.

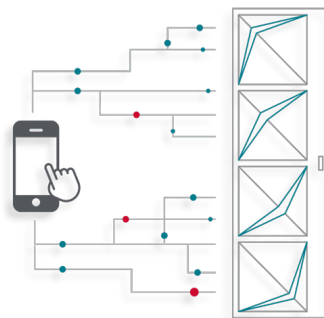
Overview

Behind every digital app lies massive interconnectivity and computing complexity—hundreds of interwoven services, developed by a mix of proprietary and open source contributors, running across multiple environments that span from cloud to mainframe. If these processes are not executed flawlessly, securely and whenever needed, customer experiences are impacted and businesses suffer.

Traditional IT management can no longer keep up with rising digital demands. Findings in a 2020 industry study¹ show the following results:

- 58% of organizations consider *blind spots* in the digital delivery chain to be a major challenge.
- 60% of organizations reported that a unified view into their dynamic environments is key for IT performance management.
- A 76% increase in the number of organizations reporting that making IT data actionable is their key goal.
- A 91% increase in missed revenue due to performance and availability issues since 2016.

Figure 1: Access Operational Data from Across Your Hybrid IT Environment



Businesses rely on the mainframe to process their most critical workloads.

Businesses rely on the availability and reliability of the mainframe to process their most critical workloads. Optimizing IT operations, proactively detecting performance problems, and preventing downtime is crucial. SYSVIEW Performance Intelligence combines comprehensive performance management capabilities to address the following needs:

- Advanced monitoring and management of systems and sub-system resources
- Embedded anomaly detection
- CPU consumption reporting
- Monitoring of Db2 subsystems
- Proactive application performance issue detection and resolution
- End-to-end service management

Business Challenges and Opportunities

Business growth is putting pressure on IT to provide increased scalability and availability of mission-essential services. Leading organizations rely on the mainframe to meet these needs. Unfortunately, traditional reactive approaches to mainframe management will not be able to keep up with the velocity of change and dramatic growth.

Scale and Value

Many companies are experiencing increased workloads on their mainframes—without the equivalent increases in staff or resources, which requires them to do more with less. IT organizations need the ability to scale and provide high availability to support the most critical systems that drive business growth, while maximizing efficiency and managing costs.

Business Agility

Due to the growing complexity of applications in the digital world, it can be difficult to identify the root cause of the problem when production issues occur. Delayed access to system data and an inability to efficiently communicate often leads to finger pointing, frequent and lengthy war-room calls, and unnecessary escalations that cost time and money.

Achieving Service Level Commitments

For many businesses, any breach of service level agreements (SLAs) for priority workloads is unacceptable. The dilemma is that IT must provide the best possible service to the business, while the business must prioritize cost containment strategies.

Too Late, Too Long, and Too Many

IT operations teams are being overwhelmed by too much data causing delays in the identification of the root cause of a problem. The following challenges exist:

- Problems notification is coming too late, these teams need more advanced warning to prevent system issues from having a significant impact to the business.
- It takes too long to gather data from the interrelated sources, determine what is relevant and derive insights to identify the cause of a problem and remediate it.
- Too many people are required to collect, interpret, and diagnose complex system issues. New automated approaches are needed to simplify mainframe management, increase efficiency, and quickly on-board new IT specialists to support mainframe operations.

IT operations teams need information on systems, subsystems, and applications. Unfortunately, each operations function works independently from the others, with its own data collectors and tools for monitoring and management. As a result, relevant information remains locked away in silos. With SYSVIEW Performance Intelligence, organizations are able to integrate data from many domains, feed analytics, anticipate issues, and trigger automation. It starts with modernizing the mainframe with performance management capabilities that provide visibility across multiple system domains, allowing a shift from reactive to proactive management.

Providing visibility across multiple domains allows a shift from reactive to proactive management.

Solution Overview

SYSVIEW Performance Intelligence breaks down silos and provides contextual insights by opening access and sharing data across hybrid IT. This solution allows you to analyze faster, anticipate sooner, automate with trust, and prioritize your IT initiatives based on data driven decisions. In addition to providing access to the right data across many systems and reducing the noise, SYSVIEW Performance Intelligence turns your data into meaningful and actionable insights. These insights help you to better understand what is going on across your IT environment and what to do about it.

Systems and Sub-System Management and Monitoring

An essential performance solution, SYSVIEW Performance Intelligence helps simplify mainframe performance management. It increases the effective use of mainframe system resources by providing detailed system monitoring and alerts for proactive and faster responses. Using a newly designed Web interface, operators at all levels can more quickly and easily collaborate with systems programmers, performance analysts, and experts to more efficiently monitor and manage system resources. The following capabilities help improve performance management:

- Centralized management of your z/OS systems and subsystems, with comprehensive real-time and historical monitoring of z/OS, JES, JVM, MQ, TCP/IP, CA Datacom®/AD, z/OS Connect, IBM CICS, IMS, and DB2.

Solution Overview (cont.)

- Cross-system and sysplex data displays that enable a comprehensive enterprise view.
- Smaller address-space footprint and lower total cost of ownership with a high percentage of zIIP processor offloading.
- Modern and traditional interfaces to support multiple personas.
- Systems programmer toolkit for centralized management and monitoring.
- Exception processing that can capture system information at the time of an alert to quickly diagnose the cause and evaluate the impact.
- Technology currency which exploits the latest IBM technologies from the latest z/OS operating system and subsystems to monitoring new technologies such as IBM System Recovery Boost and z/OS Container Extensions.

An API-first strategy is essential to enabling an open approach to performance management.

Open Access to Operational Data

An API-first strategy is essential to enabling an open approach to performance management. That is why our solution has opened access to operational

data and exposed systems programmer toolkit functions using open and secure APIs. The following capabilities facilitate an open approach to performance management:

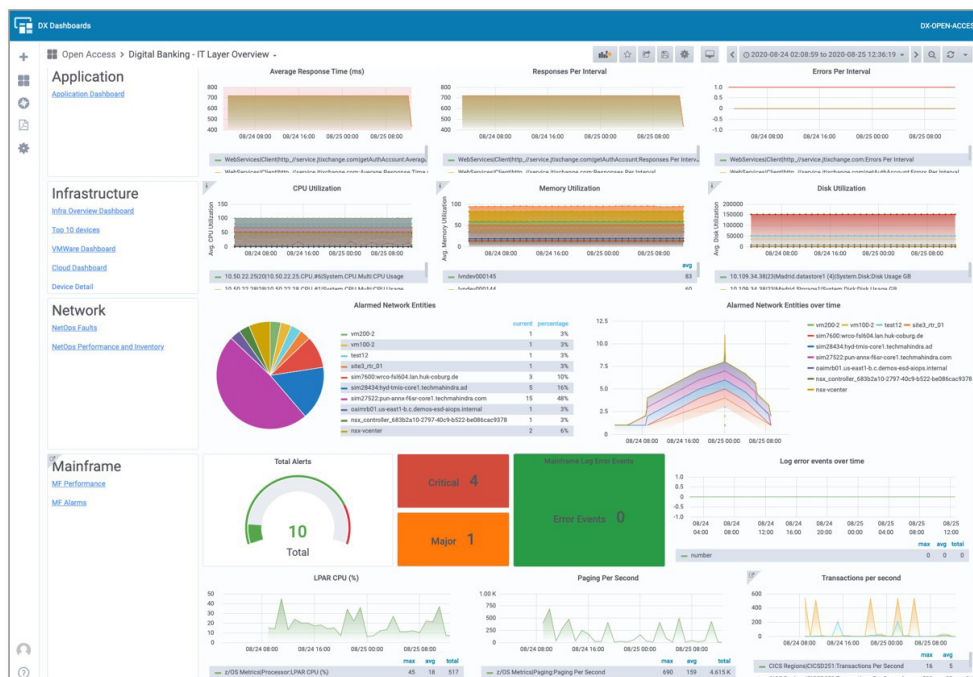
- Open access to operational data enables you to surface performance insights related to your custom applications.
- Easier integration with third-party vendor solutions provides increased flexibility.
- Zowe conformance allows application developers, DevOps, and CI/CD administrators to display data and take actions.

Machine Learning Intelligence

Our solution uses machine learning algorithms trained with operational data to detect problems in the infrastructure or backend applications before they occur. These algorithms search millions of change events, logs, metrics and workload trends across environments, subsystems and application components to find patterns that have led to problems in the past. Multi-source data feeds enable you to gather data and derive intelligence across multiple systems and sub-systems—including data directly from the IBM z Systems environment as well as data from Broadcom software products. Machine learning intelligence enables the following performance improvements:

- Detect abnormal patterns and discover hidden connections across silos by leveraging dynamic alerting.

Figure 2: Gain End-to-End View of Business Services



Solution Overview (cont.)

- Diagnose issues and pinpoint the root cause faster with multi-source data feeds and advanced data science algorithms.
- Proactively detect issues in time to mitigate or prevent business impact.
- Augment and improve operations by combining machine and human intelligence. Mainframe domain expertise is embedded into the AI algorithms and automation.
- Deliver automation that you can trust with built-in feedback loops and guardrails. You can 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.

Correlating data from mainframe to originating application is paramount to managing end-user experience.

End-to-End Service Management

IT needs to manage hybrid IT environments which are getting more complex with additional application transaction workflows. The mainframe today is a key piece of that environment, and the correlation of the data from the mainframe to the originating application is paramount to being able to manage the end-user application experience.

Designed to provide 24x7 monitoring of business critical transactions that span distributed and mainframe environments, our solution provides DX Application Performance Management (formerly CA Application Performance Management) with the key mainframe system and sub-system performance data that you can view on a single pane of glass. This unified view has the following benefits:

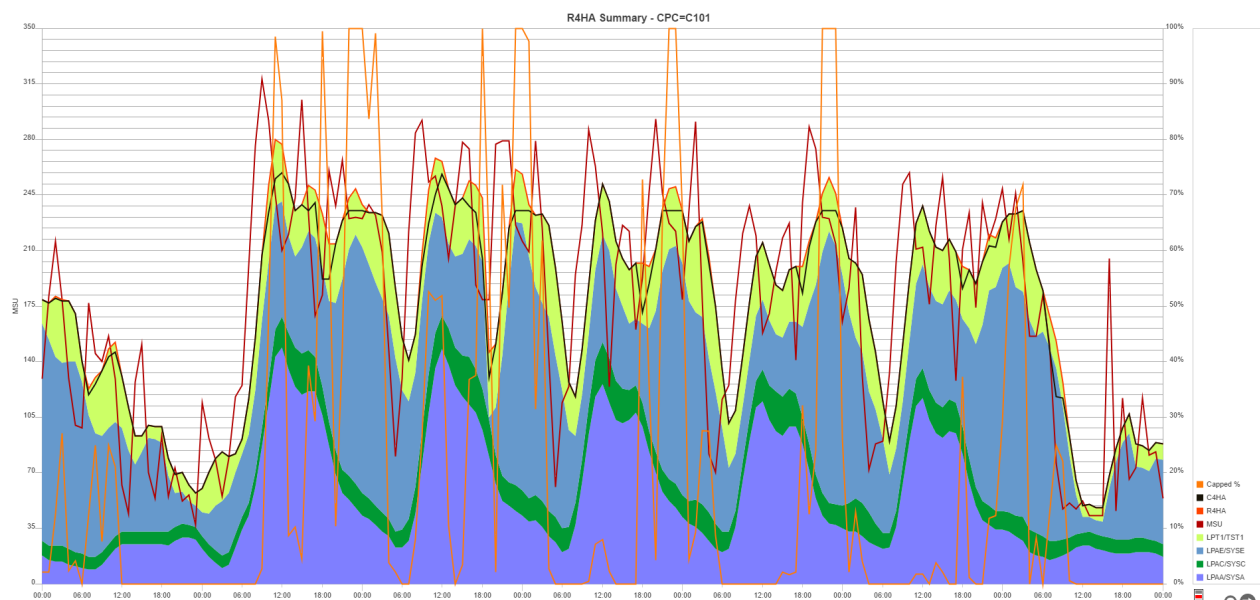
- Enables distributed and mainframe teams to increase collaboration across silos.
- Provides application views of mainframe resources associated to business critical applications.
- Provides greater visibility into end-user transactions in real time as they cross from distributed platforms into the mainframe environment.
- Increases IT ops efficiency by complementing traditional infrastructure management with end-to-end transaction views of critical business services.

Data Visualization and Reporting

Access to operational data is essential to making data-driven decisions based on meaningful and actionable insights. With CA SYSVIEW Performance Intelligence you can break down silos, foster collaboration, gain access, and easily visualize operational data. Robust data visualization and reporting capabilities allow you to better understand what is going on across your IT environment. You can use this data to achieve the following goals:

- Improve collaboration and speed remediation through modern Web interfaces and dashboards.
- Effectively manage SLAs through real-time displays, historical reporting, exception processing, and anomaly detection.

Figure 3: Easily Visualize System Resource Consumption



Solution Overview (cont.)

- Speed issue triage and root-cause analysis using visual analysis tools, self-service dashboards, and ad-hoc reporting.
- Better manage costs with easy to understand trend, pattern, and system resource consumption reports.
- Analyze workloads and visualize the simulated impact of shifting those workloads and resources.

Deep Application Performance Insights

When a performance anomaly is proactively detected, SYSVIEW Performance Intelligence provides advanced application-level analysis that enables the following benefits:

- Optimize your overall z/OS application portfolio and tune individual applications using workload-specific views and intelligent code-level suggestions to achieve specific SLA or cost-reduction goals.
- Focus performance investigations and prioritize activities to optimize costs and plan software upgrades based on application KPIs and yearly trend analysis.
- Ensure the quality of application code before it gets deployed to production, by conducting preventive performance benchmarks powered by modern open-source automation frameworks.

Benefits

SYSVIEW Performance Intelligence is uniquely designed around a flexible and open architecture that provides numerous benefits:

- **Ease access to operational data:** SYSVIEW Performance Intelligence allows you to access operational data from across your hybrid IT environment using open and secure APIs—enabling you to track where the data is being used, and by whom.
- **Embed domain-trained algorithms to drive business outcomes:** SYSVIEW Performance Intelligence applies analytics and machine learning to big data to help you augment your IT operations. But data and algorithms are not the whole story; the algorithms need to be trained by domain experts and 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.

- **Integrate breadth of visibility with depth of analysis and expertise:** There is no single solution that provides everything for every environment and situation. You should leverage solutions that allow you to easily integrate new capabilities as they emerge—facilitated by an open and extensible architecture. 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 and open approach to mainframe performance management that encourages incremental change at a sustainable rate. These changes add up over time to transform your IT operations and ensure that your business continues to deliver the outstanding digital experience your customers expect.

Next Steps

To learn more, visit broadcom.com/products/mainframe/operations-mgmt/sysview

About Broadcom Mainframe Division

Broadcom Mainframe Software continues to drive the next evolution of open, cross-platform, enterprise innovation. 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. This goes beyond products and technology to partner in creative ways that support customer success.