

EBOOK

# BROADCOM'S WATCHTOWER PLATFORM™

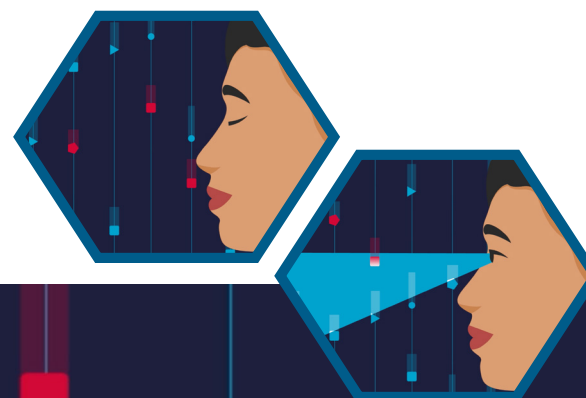
for Mainframe AIOps

Delivering breakthrough  
advances in mainframe issue  
identification and resolution



## Mainframe Challenge:

# Separating the Signal From the Noise



IT teams are drowning in a flood of data.

As digital business transformation continues to accelerate, always-on apps are rapidly multiplying. These apps connect with mainframes and are dramatically increasing the volume of system health tracking data that is generated.

This tsunami of data must be monitored, but there are simply not enough hours in the day to collect, investigate, and assess the information flowing in from multiple sources. The situation is made all the worse when operations are partitioned and functional teams use their own tools and data collectors, resulting in siloed data and fragmented views of system health.

In the midst of this data deluge, important insights are easily missed. It becomes nearly impossible to separate the signal from the noise – and that translates into business and customer impacts.

Rising above the tumult, Broadcom's WatchTower Platform for Mainframe AIOps offers you a firm foundation to stand on.

**WatchTower introduces an observability platform that delivers a unified and easy to navigate experience**

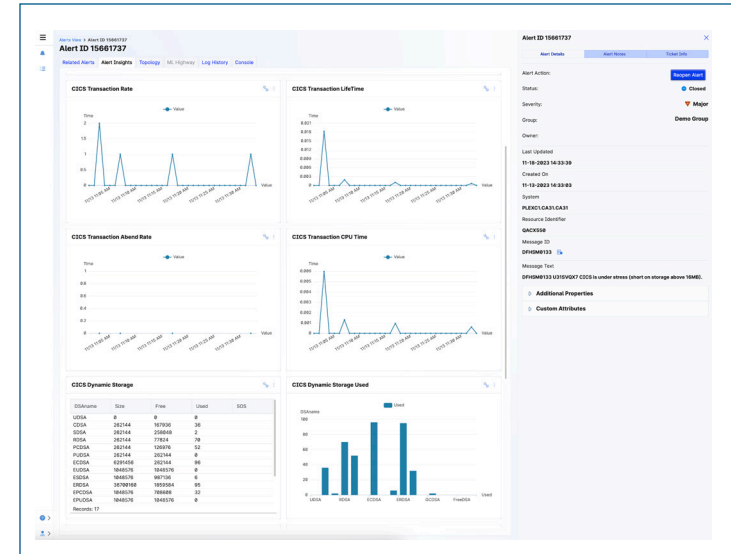
# Shift from Reactive Recovery to Proactive Avoidance

# Broadcom's WatchTower Platform

Broadcom's WatchTower Platform delivers breakthrough advances in mainframe problem identification and resolution. The platform efficiently streamlines these crucial processes by integrating operational tools, workflows, data, and insights from multiple sources and utilizing artificial intelligence (AI) and machine learning (ML) to reduce complexity and noise.

WatchTower expedites root-cause problem identification and improves Mean Time to Resolution (MTTR) by:

- Delivering predictive insights to prevent small issues from becoming outages
- Enhancing operational workflows within the mainframe environment
- Increasing automation of remediation tasks
- Facilitating the correlation of events across mainframe infrastructure components
- Providing a comprehensive picture of mainframe health
- Anticipating potential problems based on past patterns



Broadcom's WatchTower Platform offers substantial benefits for critical real-world scenarios, empowering you to transition from reactive recovery to proactive avoidance of mainframe IT issues, thereby supporting business continuity and optimizing business performance.



“There is no future of IT operations that does not include AIOps... It is simply impossible for humans to make sense of thousands of events per second being generated by their IT systems.”

- Gartner Market Guide for AIOps Platforms, May 30, 2022

# Detect Patterns and Avoid Issues

The best kind of problem is one that never occurs. The second best is one that has no opportunity to escalate. By detecting patterns that can indicate actual or potential problems early on, Broadcom's WatchTower Platform enables your team to tackle small sparks before they become five-alarm fires.

WatchTower scours millions of historical change events, logs, metrics, and workload trends across environments, subsystems, and application components. It uses embedded ML algorithms specifically trained for the mainframe to analyze data for performance patterns, identify anomalies that warrant attention, and generate insights your team can use to take corrective action.

By empowering you to shift your operations from reactive recovery to proactive resolution, you can avoid expensive downtime and negative business impacts. You even have the option to integrate insights into automation systems to mitigate potential problems without human intervention.

“As organizations continue to undertake digital transformation, IT operations no longer has the luxury of responding to issues after they occur. Instead, it must become proactive, get more involved in the entire value stream and, at a minimum, work to address potential issues before they impact user experience.”

- Gartner Market Guide for AIOps Platforms, May 30, 2022



## Anticipate Critical Issues Sooner

At a large financial services company, the average cost per hour of a critical application failure is \$500,000 to \$1,000,000. Consequently, the savings were huge when WatchTower's advanced machine learning anomaly detection capabilities revealed a database issue that could trigger a major outage.

WatchTower identified the abnormal database activity a full two weeks before the standard report would have shown the problem. The database team therefore had plenty of time to correct the issue, preventing the outage from occurring and avoiding business and customer impact.



### Abnormality Identification

See clearly what values are common for a given metric and what is out of norm

### Real-Time Insights

Receive alerts for anomalies when they happen, along with the ability to view historical data

### Valuable Algorithms

Leverage machine learning algorithms designed and user-tested on mainframe data

### Customized Rules

Use best practice rules specific to your mainframe built by mainframe experts

## WatchTower Contextual Alert Insights

# Resolve Problems Faster

The overwhelming volume of alerts bombarding a mainframe operator's screen makes it challenging to determine where to focus root cause analysis efforts. To complicate matters, operators are hampered in issue resolution by tedious manual processes that require coordination across multiple applications – often with no situational context being retained from one application to another.

All that changes with WatchTower. WatchTower significantly enhances your ability to prioritize, visualize, and act upon the alerts that truly matter as it:

- Uncovers cross-domain insights, patterns, correlations, and potential causation factors
- Centralizes mainframe alerts from various products across the entire organization
- Consolidates meaningful insights about alerts, including historical data and system topology
- Streamlines workflows to expedite problem identification, investigation, and incident resolution
- Expedites problem handover and escalation
- Improves collaboration among team members of varying skill level

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Worldwide, enterprise spending on AI solutions “is expected to grow to \$301 billion at a compound annual growth rate (CAGR) of 26.5% for the 2021–2026 period. This is more than four times greater than the five-year CAGR of 6.3% for worldwide IT spending over the same period.”

- IDC FutureScape: Worldwide Artificial Intelligence and Automation  
2023 Predictions, Published 2022

## Prioritize Critical Issues in Real Time

A multinational financial services organization used WatchTower to improve their signal-to-noise ratio. Initially, the business was getting approximately 150,000 alerts per market day on just one of their systems. It was truly impossible to find the needle in a haystack that large.

WatchTower slashed those hundreds of thousands of alerts down to just a few each day, enabling the organization to focus on alerts associated with issues that would truly impact their customers and the business. Those few alerts were efficiently researched and analyzed to determine if any remediation steps were necessary. Without the distractions and stress caused by an avalanche of alerts, the IT team zeroed in on the alerts that really mattered, kept the business running smoothly, and delivered a great customer experience.

### Alerts from Multiple Sources

Leverage machine learning-based correlation of alerts into issues

### ML-Driven Issue Intelligence

Reduce triage time with less expert involvement while proactively preventing failures

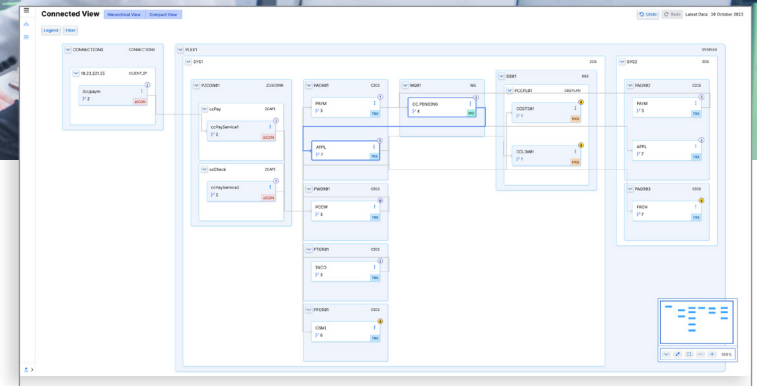
### Pattern Discovery & Alert Declutter

Correlate metrics in context and benefit from alert clustering

### Application Topology Hotspot

Drill down to specific alerts within context, with live and historic views

# Auto-Discover Component Connections



Mainframes host thousands of heavily-interconnected transaction and data components. A single business application can easily trigger multiple transactions and interact with dozens of data points. Mapping these processing paths is critical for:

- Pinpointing and remediating problems when a business application is failing to meet its objectives
- Planning application upgrades to ensure optimal functionality and avoid unintended ramifications
- Training newly-deployed personnel on the complexity of the IT environment

Traditionally, producing system and application topologies has been a labor-intensive manual task, with the static results becoming outdated as soon as subsequent changes in the environment occur.

WatchTower fully automates the topology discovery process for z/OS-based mainframe systems and ensures that views remain accurate even as applications evolve. Utilizing modern visualization technology, WatchTower empowers IT teams to rapidly visualize mainframe assets, applications, and their interconnections. Teams gain a high-level view of the entire environment coupled with the flexibility to delve into detail at any point.

The WatchTower Platform provides IT teams with easily-consumable, actionable insights for swift problem remediation. It advocates a proactive and open approach to AIOps by combining augmented intelligence with human expertise, breaking down silos across IT environments and ensuring uninterrupted operations.

## WatchTower Mainframe Visualization Cross-Correlate and Integrate Information

Traditional mainframe problem identification and resolution processes rely on standalone operational tools, disconnected workflows, and unintegrated data from various sources. In direct contrast to that approach, WatchTower provides IT teams with user experiences that streamline the monitoring and management of mainframe infrastructure health.

By integrating and cross-correlating events, data flows, signals, and key metrics, WatchTower enhances visibility across silos, improve workflows, and enable more efficient monitoring and problem resolution. Additionally, WatchTower augments alerts with pertinent context and expedites problem identification and resolution by eliminating multiple tool logins.

The WatchTower experience can be tailored to the needs of different roles, such as Level 1 and Level 2 support staff and domain specialists. It therefore promotes a collaborative support and operations team approach, allowing Ops staff with diverse skill levels to work effectively using the same tools and move rapidly from alert to resolution.

Through WatchTower, you are able to integrate data from various sources, deliver the appropriate insights to the relevant individuals, and empower them to make informed decisions at the right time.

# Analyze Data to Discover Hidden Insights

A European banking team views Broadcom's WatchTower Platform as a team member: one that never goes to sleep, never takes a break, never needs a vacation, and reduces the workload of the rest of the team.

WatchTower is constantly analyzing this organization's resources and rapidly delivering accurate insights into what is happening when baseline patterns begin to deviate from the norm. This is particularly useful to their most recent team members, some of whom are new to the mainframe. It allows them to visualize the status of their resources and take productive actions, or leverage automation scripts without having to dig deeply into individual diagnostics.

### Visualization

Create domain-centric or domain-agnostic views for users

### Comparison of Multiple Metrics

Assess trends over time across multiple metrics in a single view

### Differential Analysis

View the events of importance compared to "normal state"

### Reporting

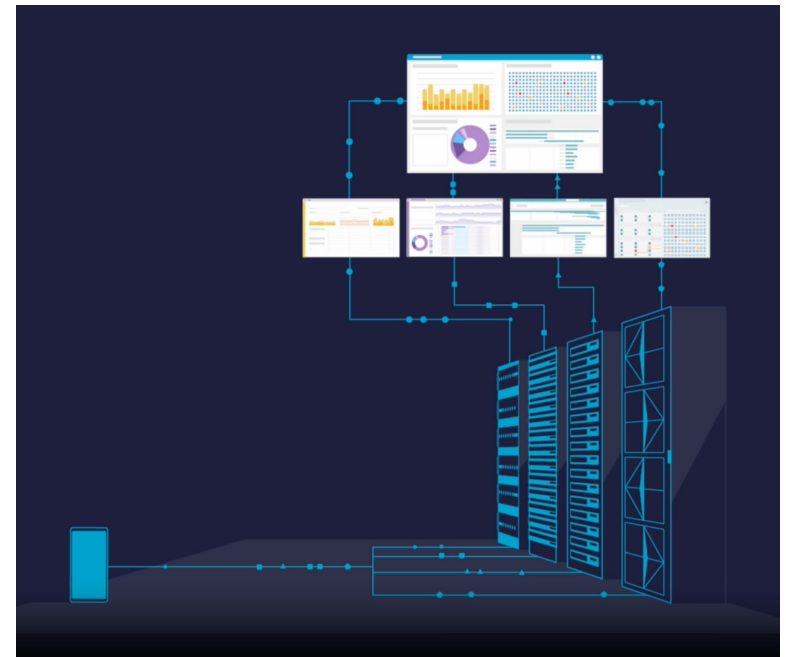
Schedule reports to deliver insights on your desired cadence

# Eliminate IT Management Silos

Enterprise-wide Application Performance Monitoring (APM) tools are commonly used to improve the availability and reliability of business services. However, many industry-leading APM tools lack visibility into application services hosted on mainframe infrastructure, even though mainframes typically host core business services that manage crucial customer data. This makes it impossible for IT to comprehensively analyze these services, identify performance bottlenecks, and assess any impact on the end-user experience.

Broadcom's WatchTower Platform uses open APIs to expose key insights and mainframe performance telemetry, making mainframe systems more observable to enterprise APM tools that span multiple computing platforms and domains. Doing so provides analysts with the real-time information they need to expedite root-cause analysis and remediation of issues with enterprise business applications.

Specifically, WatchTower uses OpenTelemetry: an open observability framework that standardizes the creation and exchange of application performance telemetry. It streams mainframe application traces to your APM platform of choice. By adhering to OpenTelemetry standards, WatchTower facilitates sustainable and vendor-neutral integration capabilities that can be configured to meet your enterprise's observability requirements.



“The capture of mainframe data must improve. Native abilities to collect mainframe monitoring (36%) data were at the bottom of the list.”

- Forrester's Q2 2022 Artificial Intelligence for IT Operations New Tech Survey



# Optimize Performance, Minimize Risk

Mainframe IT Ops teams excel in monitoring and tuning mainframe resources but often lack complete visibility into the performance of applications running in the environment. This limitation can hinder optimization efforts, increase risk to the business associated with application changes, and complicate root cause analysis at the application level.

Broadcom's WatchTower Platform includes application profiling, which addresses these challenges by capturing and analyzing critical application performance telemetry data. This capability enables teams to identify and visualize mainframe application flows and their impact radius. With this information, tuning opportunities are easily identified, application modernization efforts are de-risked, and the mean time to remediation is improved at the application level.

The application profiling capability enhances mainframe operations in three crucial areas:

- **Business Enablement:** By visualizing application job flows and capturing key telemetry data, businesses can improve the resilience of their services.
- **Operational Efficiency:** WatchTower auto-discovers and visualizes application flows, dependencies, and relationships, aiding in impact analysis, reducing risks associated with changes, and identifying optimization opportunities.
- **Application Development:** For AppDev teams, application profiling simplifies troubleshooting of complex performance issues and standardizes performance criteria during application testing. This capability helps assess the impact and risk of application changes, streamlining the development process.



“Broadcom’s new application profiling empowers IT teams to justify and measure the impact of application modernization and optimization... the lightweight solution requires no modifications to existing applications or user exits, ensuring easy adoption.”

- Steven Dickens, Chief Technology Officer, The Futurum Group

## WatchTower Dashboards

# Explore and Organize Mainframe Data

In today's data-driven landscape, mainframe operations teams must efficiently access, visualize, and interpret vast amounts of performance data to respond swiftly to challenges in mission-critical systems. Traditional tools often fall short, lacking the real-time adaptability needed to address system anomalies and requiring complex configurations to meet specific organizational needs.

WatchTower dashboards overcome these limitations, offering instant access to essential mainframe metrics and insights without lengthy setup, so teams can make quick, informed decisions. By unifying metrics from critical z/OS systems, WatchTower dashboards provide a streamlined view that accelerates decision-making and boosts performance.

Key features include:

- Instant insights: Access critical metrics in real-time, enabling teams to quickly pinpoint and resolve issues.
- Pre-built templates: Ready-to-use dashboards provide immediate visibility into essential mainframe health metrics.
- Tailored customization: Using guided workflows, design dashboards to focus on your specific needs.
- Effortless collaboration: Share dashboards easily with team members, fostering a unified view across your mainframe environment.
- Drill-down analysis: In addition to the contextual data associated with alerts, SMEs have access to additional, in-depth data for problem investigation and resolution.



With WatchTower dashboards, mainframe teams gain a flexible, efficient solution that simplifies monitoring and speeds up issue resolution—making it easier than ever to maintain peak performance in mission-critical systems.

81% of respondents agree there is value in a shared IT Ops tool set that can be tailoring to meet the needs of different roles and skill levels.

*Survey of 31 Broadcom Mainframe Software users, conducted by UserEvidence. [uevi.co/5254IHEG](https://uevi.co/5254IHEG)*

# Elevate Mainframe Problem Identification and Resolution with WatchTower

Through the fusion of machine and human intelligence, WatchTower empowers your IT Ops teams to efficiently and effectively maintain Mainframe Ops, optimize business performance, and transition from reactive recovery to proactive avoidance.

WatchTower seamlessly integrates new capabilities with established solutions for performance management (based on SYSVIEW®), resource optimization (based on Dynamic Capacity Intelligence), task automation (based on OPS/MVS®), network operations (based on NetMaster®), and storage management (based on Vantage™). This integration empowers you to intelligently address issues and expand automation within your mainframe environment incrementally, capitalizing on the tools you already possess and amplifying the value of your mainframe investments.



Rise above the tumult of data, issues, and alerts  
with Broadcom's WatchTower Platform for Mainframe AIOps.

[mainframe.broadcom.com/watchtower](https://mainframe.broadcom.com/watchtower)

**GET STARTED**

## Questions?

Broadcom is here to help.

[TALK TO A MAINFRAME EXPERT](#)



## About Broadcom Mainframe Software

Broadcom Mainframe Software empowers customers to amplify the value of their mainframe investments. Our commitment to partnership is grounded in delivering to customers greater success with the platform. It starts with embracing open technologies in ways that unite the mainframe and hybrid cloud environments. Our leading DevOps, AIOps, Security, Data Management, and Core Infrastructure software solutions and innovative value programs go beyond code to unlock the platform's full potential.

**For more information, please visit our website at: [mainframe.broadcom.com](https://mainframe.broadcom.com)**

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