

WatchTower Platform™ Capability Brief



Key Benefits

- **Automated infrastructure discovery:** Automatically discover z/OS components throughout a mainframe environment and quickly gain an understanding of the environment through a hierarchical view.
- **Support for application understanding:** Easily visualize connections between mainframe components such as CICS, Db2, z/OS Connect, and MQ from a business application perspective.
- **Continuous integration of application changes:** Automate changes to the configuration management databases (CMDB) as required by the continuous integration pipeline.
- **Intuitive and modern views:** View transaction connections with a single click; map mainframe components back to business applications and highlight subpaths through specific connections; search quickly for any discovered item and filter views based on components of interest.
- **No compromise of information:** All topology information is processed within the mainframe environment, eliminating concerns over transferring sensitive information to other platforms.

WatchTower Platform™ Topology

Autodiscover z/OS-Based Mainframe Structure and Component Interaction

Overview

The Broadcom® WatchTower Platform™ for mainframe AIOps automatically discovers the topology of z/OS-based mainframe systems, using modern visualization technology to present intuitive views of the structure and interaction between mainframe components. The views delivered by the WatchTower topology capability provide time, information, and insight to mainframe teams so they can focus their efforts on improving business outcomes.

Infrastructure autodiscovery eliminates the need for manual updates and enables IT teams to quickly visualize what is taking place in a mainframe environment. The modern user interface provides an overarching view of the overall environment with the ability to drill down to the required level of granularity.

Business Challenges

Mainframes are, by nature, inherently complex systems comprised of thousands of heavily interlinked transaction and data components. A single business application can easily initiate multiple transactions touching dozens of data points. When a business application fails to meet objectives, service personnel need to understand these processing paths to quickly determine the root cause of the problem, properly size its impact, and devise a remediation plan. This information is also necessary to make any planned upgrades to applications, as well as to train new personnel.

Traditionally, mainframe shops managed strategy planning rooms outfitted with whiteboards to map out the topology of their systems and applications. The process would require several days of intensive collaboration across multiple subject matter experts (SMEs) and the use of spreadsheets, log files, tools, and unwritten implicit knowledge to fill those whiteboards with a single view of the mainframe environment.

The time and effort involved in manually mapping out mainframe topology undercut the ability to assess where the mainframe was in real time, obscured clarity on how actions on the distributed side of the business may affect mainframe operations, and delayed issue resolution efforts. Plus, these static, whiteboard-based topologies were quickly be outdated when the first subsequent change to the environment was applied.

WatchTower provides a topology capability that addresses these challenges by automating the process of topology discovery, providing system personnel instant access to dynamic and configurable views of mainframe assets, applications, and the connections between them.

Solution Overview

The WatchTower topology capability automatically discovers mainframe systems and resources by reading SMF data and delivering fast, up-to-date visualizations of mainframe environments. Topology discovery is fully customizable based on the date and range provided, allowing you to refresh multiple times a day or on an overnight basis. WatchTower topology capability's auto-discovery eliminates the need to manually map out environment resources and ensures that views remain accurate.

WatchTower topology capability's dynamic visualization provides the following options for viewing mainframe resources:

- **Infrastructure View:** This view displays resources such as SYSPLEX, z/OS LPARs, and Started Tasks like CICS Regions, DB2 Subsystems, MQ Managers, z/OS Connect, and WebSphere Regions and their components.
- **Connected View:** This view provides a detailed visualization of connections between components. For example, a mobile banking application may be composed of CICS transactions accessing Db2 components. The Connected View shows all of the connections between these components and other elements within a mainframe environment.
- **Flow View:** This simplified visualization for large components assists personnel in application understanding. This view focuses on application flow, such as transaction connections, regardless of the underlying infrastructure it runs on.
- **Relationship Explorer:** This feature allows user to create custom queries and clusters to quickly find relationships in topology data. This is a fast way to provide insight into application or infrastructure dependencies and can be a basis for reporting.

The WatchTower topology capability delivers the invaluable information needed by service personnel to rapidly identify and resolve the root cause of issues.

- **Level 1 personnel** can quickly understand the layout of a z/OS mainframe environment and how components are connected so they can properly size problem impacts, quickly engage resolution teams, and accelerate the problem resolution process without needing to switch between different products or rely on unwritten, implicit knowledge.
- **Level 2 personnel** can see the connection between infrastructure components and business application flows so they can better troubleshoot problems and, if necessary, schedule changes to the current infrastructure without impacting critical applications.

Figure 1: Example Infrastructure View

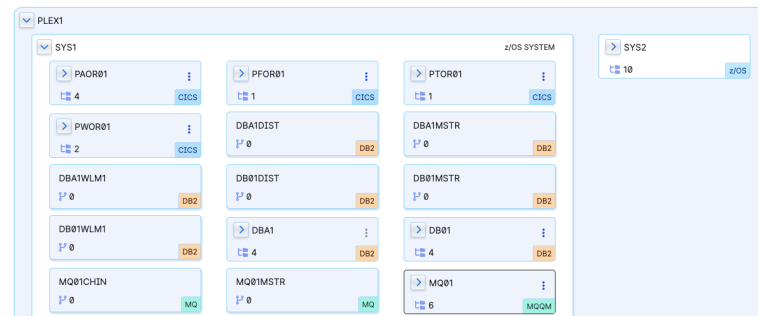


Figure 2: Example Connected View

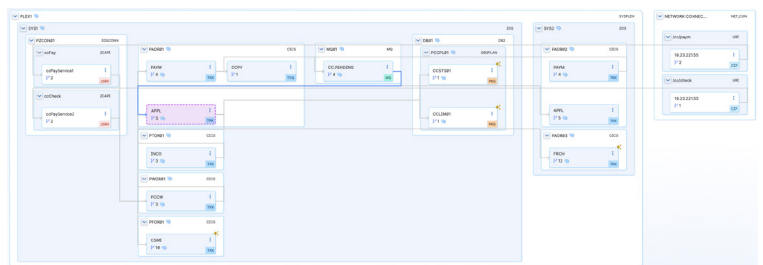


Figure 3: Example Flow View

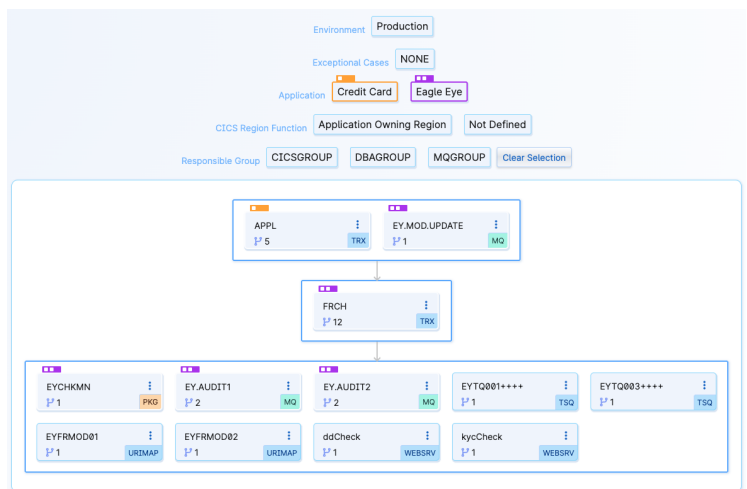
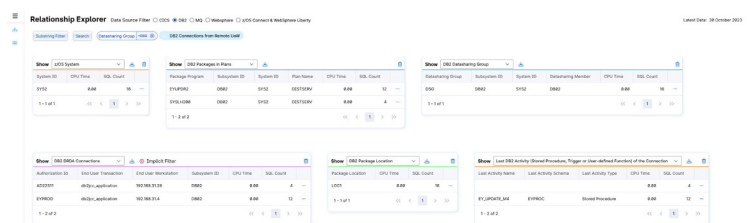


Figure 4: Relationship Explorer



Key Features

- **CMDB Integration:** Exports hierarchical topology visualizations to CSV files, so they can be uploaded directly to the CMDB.
- **Auto-discover based on SMF records:** Evaluates environments based solely on the SMF records already available.
- **Regular refresh:** Current data is used to ensure that environment views are up to date. Topology refreshes can be customized to run between several times a day to once per longer period.
- **Correlated, cross-domain view:** Multiple data sources and contextual information are automatically correlated, eliminating any need to access outside data sources or switch between different products to achieve a comprehensive view of all resources.
- **Alert integration:** Use the related topology map to quickly identify how an alerted resource is connected to other resources and alert hot spots to see the scope of the issue. This allows problem impacts to be sized and resolution teams to be alerted with less time and effort.
- **Track application flows:** Tags can be applied to CICS, DB2, and MQ domains based on identified fields. Custom tagging rules—such as naming conventions, geographic locations, business applications identified by transaction names, queues, packages, and other matching criteria—make this possible. Tags are visible in Hierarchical View, Connected View, Flow View, and Relationship Explorer.

Critical Differentiators

The dynamic visualization capabilities of the WatchTower topology capability deliver significant advantages to mainframe businesses that are not available otherwise.

For example, operators are responsible for managing system alerts and taking action if anything appears to be deviating from normal. But operator turnover tends to be high, and systems can be at risk while replacements take on the tedious work of learning their new environment. With the views provided by the WatchTower topology capability, new operators can readily see how systems and applications are uniquely connected and quickly assimilate the information.

The WatchTower topology capability also helps operators prioritize issues that need to be addressed. For example, if an alert is raised on the weekend or in the middle of the night, an operator can use topology views to trace the impacted areas. If those areas are mission critical, the alert can be escalated for immediate investigation and resolution. If the areas are of lesser concern, the issue can be safely held until regular business hours.

Accurate and consumable environmental topologies are not just useful for problem resolution; they can have significant value in helping mainframe operations teams with diverse skill levels complete a wide variety of tasks. Topology reduces the learning curve for less experienced staff, enabling them to do more research and exploration on their own and freeing mainframe experts to dedicate their time to tasks that require their specialized expertise, such as assessing how a planned change will impact mainframe operations, identifying the root cause of issues that arise, or optimizing mainframe operations.

For instance, the day following Thanksgiving is traditionally one of the heaviest shopping days in the United States. The increased traffic stresses mainframe systems beyond the daily norm. The information provided by the WatchTower topology capability helps planning experts determine which mainframe systems and applications will be under the most pressure from increased traffic and keep those areas under close surveillance to avoid business impacts.

Next Steps

The WatchTower topology capability is included in the *WatchTower Platform Suite*.

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