The fast, innovative way to detect, manage, and collect forensic information on issues within your application environment

Take the time and complexity out of application management

Applications have become increasingly complex and difficult to manage. Detecting issues, troubleshooting, and applying patches or fixes can become very time-consuming. The global talent shortage also means it's difficult to find IT workers with the necessary skills and expertise to keep IT environments operating efficiently. When executed manually, vital infrastructure maintenance and monitoring tasks can quickly consume the capacity of an IT team, detracting from other valuable initiatives.

Technology used

- Red Hat Ansible Automation Platform
- Red Hat Runtimes

Key benefits

- Rapid, precise diagnosis of system issues.
- Forensic insights into critical performance and reliability challenges
- Enhanced security
- Reduced IT workload

Discover a faster, smarter way to keep your environment operating at its best

Built on the Red Hat Ansible Automation Platform, Hitachi Systems' event-driven Application Automation Solution delivers automated, efficient monitoring and management of your IT environment. It integrates event-driven use cases with a sophisticated observability tool to proactively identify and address performance issues.

- **Increased IT efficiency** – reduces workload for your IT team with automated monitoring and standardised processes that minimises costly downtime. The automated 'thread dump generator' eliminates performance disruptions and security risks without requiring manual admin access, enhancing the efficiency of resource utilisation and distribution.
- **Rapid diagnosis** – immediate detection of issues in essential application states ensures precise and rapid diagnosis of fleeting issues that manual methods may miss.
- **Proactive fault management** – rapid diagnosis enhances overall system stability and prevents small issues from escalating into major outages.
- **Increased reliability** – responsive, resilient, and efficient resolution of system faults ensures optimal Mean Time to Recovery (MTTR).
- **Improved security** – limited requirement for manual access to sensitive systems reduces potential security risks, ensuring a safer operating environment.
- **Enhanced user experience** – provides a more reliable, stable experience for your customers by resolving performance issues before they escalate.

- **Detailed analysis** – in-depth diagnostic data helps operators understand where issues are occurring and how they can be resolved. The solution delivers clear insights into thread behaviour, streamlining the process of pinpointing concurrency issues in intricate systems where manual recreation of problems is impractical.
- **Seamless integration with existing tools** – compatible with your existing Application Network Monitoring (APM) tools, ensuring clear visibility into real-time application states and performance bottlenecks.
- **Incident forensics** – the event-based automated analyser captures forensic data during incidents, such as thread dumps, long-running queries and DB locks. This data provides users with a comprehensive snapshot of what went wrong, enabling accurate root cause analysis, with all the necessary artifacts collected in real time.

How an automated solution alleviates the risks of manual IT monitoring

Manual thread dump monitoring	Automated Application Performance Monitoring
Generating thread dumps in production is slow, time-consuming and often occurs after an issue has been resolved.	Issues are detected and rectified rapidly, without extensive IT involvement.
Requires root /admin-level server access for each 'fix' which can be time-consuming to acquire and implement.	No manual administration access is required for individual fixes – resolutions are actioned automatically.
Can lead to incomplete troubleshooting efforts due to the risk of mistimed captures.	Troubleshooting occurs rapidly and reliably.
Can fail to capture fleeting issues like deadlocks, race conditions, and temporary bottlenecks, hindering diagnosis and problem reproduction.	All issues across the environment are captured and tracked efficiently.

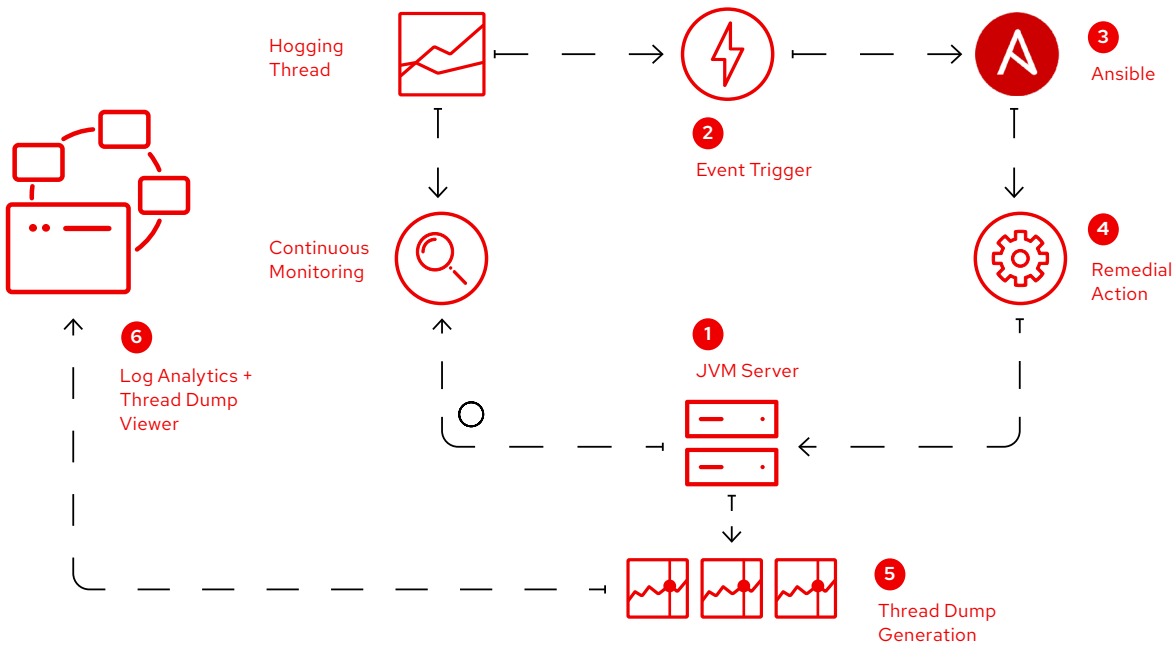


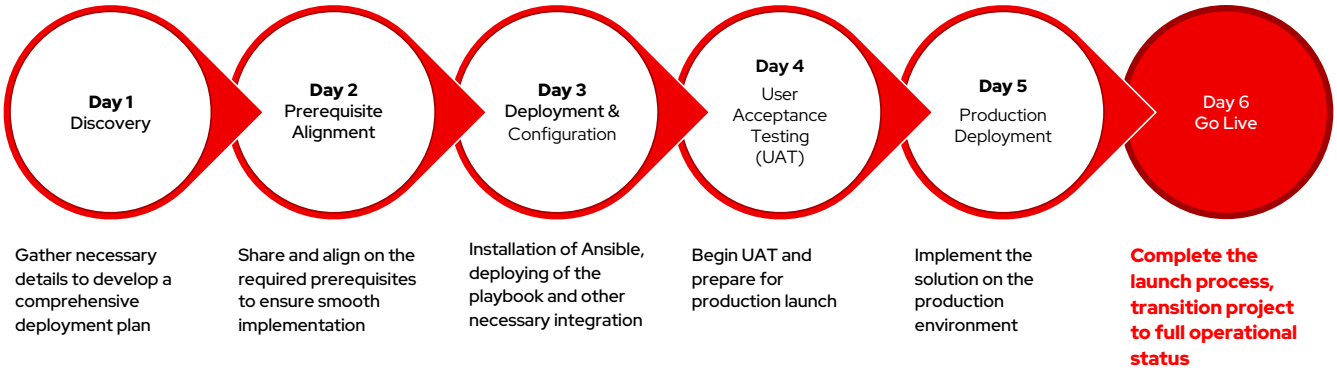
Figure 1: System architecture

Key features

- **Advanced APM capabilities** – specialised algorithms and techniques ensure real-time application health analysis, early anomaly detection, and predictive insights to prevent performance degradation before it impacts the end user.
- **Integration with automated thread dump generator** – thread dumps are captured and displayed directly within the solution in real-time, offering instant visibility into application states. Purpose-built processes for interpreting thread dump data provide actionable insights and speed up issue resolution.
- **Tailored use cases** – customised automation workflows and diagnostic tools target key areas such as performance bottlenecks, resource contention, and thread deadlock detection. Data provides actionable insights and speed up issue resolution.
- **Automation and orchestration** – utilising the Red Hat Ansible Automation Platform for thread dump generation and management, the solution includes proprietary scripts and configurations to streamline deployment, execution and integration – minimising manual intervention and optimising performance management across complex application landscapes.
- **Deep customisation** – the solution can be finely tuned to address both common problems and unique, sector-specific needs.

Getting started is quick and easy

Hitachi Systems' Application Performance Monitoring solution can be implemented in your environment within a week. Key steps include:



Success story: Financial services organisation reduces downtime by 40%

A leading financial services organisation in India recently implemented our Application Performance Monitoring solution to monitor their critical applications. The solution provides real-time visibility into thread bottlenecks, and allows the customer to address underlying root causes rapidly, leading to improved system reliability and operational efficiency. Post implementation, the organisation achieved a 30% faster issue diagnoses and reduced its IT downtime by 40% - resulting in a 50% drop in thread-related incidents.

Our customers report that automation of thread dump capture has been a game changer. Businesses no longer face extended downtime, and system stability has improved significantly. Many clients have described it as having an extra layer of defense against performance issues.

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