

## WHITE PAPER

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# IT Economics: Streamlining Application Performance Management with Extended Visibility and Visualization

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## IDC OPINION

IT organizations are feeling significant pressure to reduce costs and operate more efficiently even as line-of-business users demand new services and technology innovation creates operational complexity. The concept of Lean IT is emerging to describe the principles and best practices required to strip inefficiency out of day-to-day IT operations in ways similar to how Lean Manufacturing strategies streamline manufacturing processes.

Application performance management (APM) tools and processes support Lean IT programs by providing real-time end-to-end visibility into the health of critical transactions across multiple infrastructure and middleware layers. The information provided by APM solutions enables IT teams to maintain service levels, quickly identify and remediate the root cause of problems, and direct limited IT resources at tasks that will have the greatest business impact.

When evaluating APM tools, IT decision makers should look for solutions that can:

- Monitor, analyze, and report on end-to-end performance and availability in the context of business objectives and end-user impacts
- Discover and analyze cross-tier dependencies across diverse environments, including virtualized infrastructure and middleware layers
- Streamline root cause analysis and speed up problem and incident management processes

With the recent release of the newest version of the CA Wily APM solution, CA significantly expands the breadth and depth of the application environments it is able to monitor and noticeably enhances the solution's dependency mapping, visualization, and business dashboard reporting capabilities. This major extension of CA Wily APM comes at a good time for many IT organizations that need to operate more efficiently in today's challenging economic environment.

## IN THIS WHITE PAPER

This IDC White Paper discusses how APM solutions can help IT managers cope with today's economic and operational IT challenges. The paper identifies the types of application performance management capabilities IT teams need to maintain efficient

operations and explains how several recently announced CA Wily Application Performance Management solution enhancements are positioned to help IT teams cope with IT complexity and economic pressures going forward.

## SITUATION OVERVIEW

Global economic uncertainty is driving many organizations to dig deep to streamline processes, improve employee productivity, and reduce costs in all areas of the business. IT leaders are not immune to these pressures and are being asked to contribute their fair share when it comes to trimming budgets and making more effective use of existing resources. Simultaneously, however, line-of-business decision makers are looking to IT to provide the advanced business intelligence insights necessary to help streamline critical business processes, and they expect IT to implement new applications that will help to automate and simplify inefficient business processes.

Clearly, IT teams cannot make decisions to reduce headcount or service levels in isolation from the needs of the business. Poorly chosen IT cost reductions can slow deployment of mission-critical applications or delay the optimization of inefficient business processes. As a result, IT decision makers need to focus on increasing IT's operational efficiency and improving IT resource utilization in ways that fully support business priorities while still keeping control of the IT budget.

The concept of Lean IT offers IT teams a model for tackling this set of interrelated challenges by applying the principles of Lean Manufacturing to the world of the datacenter. At the heart of all Lean models is the concept of examining each step of the production or service delivery life cycle to identify wasted effort and inefficient activities. Some examples of opportunities for IT teams to apply Lean IT concepts include:

- ☒ Improving visibility across technology silos to more quickly and clearly identify cross-tier dependencies and more rapidly detect end-to-end service-level agreement (SLA) violations (Business user productivity and customer satisfaction depend on end-to-end application and transaction performance. Fragmented views into the performance of different platforms and middleware tiers may show that each individual resource is available but may not raise an alarm when end-to-end transaction performance and application availability levels decline.)
- ☒ Improving the organization's ability to speedily and accurately identify the root cause of application performance problems and increasing the use of automation and knowledge bases to more quickly remediate and avoid recurring problems
- ☒ Strengthening IT's ability to collaborate with business decision makers in defining service-level objectives and making cost versus performance trade-offs (Service-level monitoring and reporting that provides business context for making these types of decisions both increases IT's credibility with the business and promotes more efficient decision making.)

## **End-to-End Application Performance Visibility Is Critical for Efficient IT Operations**

The ability to monitor and analyze end-to-end application performance status is critical for IT teams that want to streamline operations while maintaining and improving service levels. To operate at peak efficiency, IT organizations cannot afford to waste days or even hours isolating problems. Nor can they wait for end users to be the first to detect a problem.

Rather, IT organizations need proactive, real-time insight into the status of business applications. They also need to be able to assess real-time cross-tier dependencies that may impact end-to-end performance so they can quickly identify the root cause of a problem.

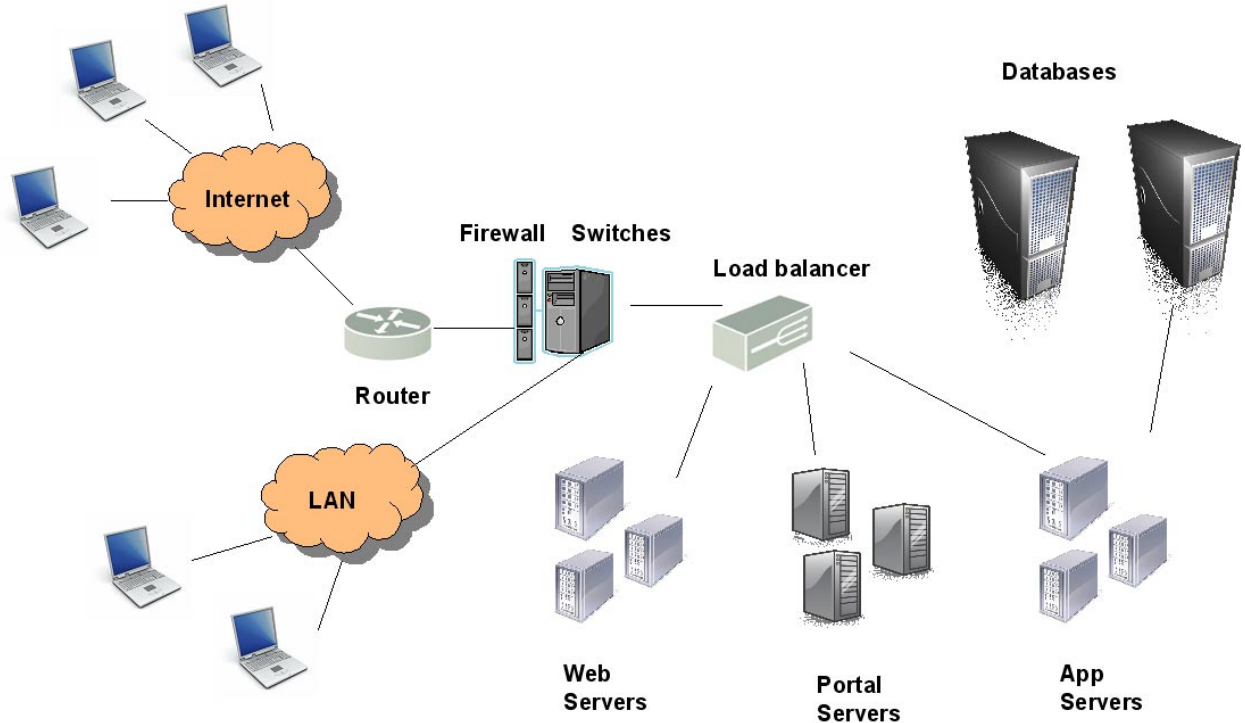
Unlike the standalone tools that provide in-depth detail on the status of a specific transaction or middleware domain, end-to-end application performance management solutions provide broad visibility into the status of a transaction as it moves across the entire business application workflow. This end-to-end visibility allows IT teams to:

- ☒ Monitor, analyze, and report on end-to-end performance and availability in the context of business objectives and end-user impacts
- ☒ Discover and analyze cross-tier dependencies across hardware and software environments
- ☒ Streamline root cause analysis and speed up problem and incident management processes and remediation activities

The more complex and distributed an organization's IT environment becomes, the more challenging it is to track application performance and business impact across physical and logical systems (see Figure 1). Likewise, heterogeneous environments that share workloads across legacy systems and emerging platforms can create performance monitoring challenges as transactions are linked from one environment to the next. SOA-based and composite application architectures make the task of evaluating end-to-end performance harder still, as do virtualization and dynamic workload provisioning.

**FIGURE 1**

Analyzing End-to-End Distributed Application Performance and Root Cause Requires Visibility Across Complex Environments



Source: IDC, 2009

Application performance management solutions that provide broad visibility across tiers and platforms are a necessity for any IT organization that is coping with complexity caused by SOA and heterogeneous IT environments. IT teams facing business and economic pressures to take out costs while maintaining service levels also need these types of solutions to improve productivity and maintain service levels. Without these types of end-to-end monitoring solutions, IT teams will inevitably waste time and resources manually diagnosing root cause across complex environments. They also run the risk of causing the business to lose revenue and customers at a time when it cannot afford to give up any competitive advantage.

### **Attributes of Effective APM Solutions**

With regard to selecting and implementing APM solutions, IT decision makers need to recognize that they will need to adapt operational processes to get the most value out of the tools and to become truly Lean IT organizations. For example, if the APM solution isolates the root cause of an application performance event, all IT specialists involved in the end-to-end application and associated transaction flow will need to agree to take action on the condition isolated by the tool, even if their domain-specific monitoring tools do not indicate there is a problem!

IDC's research indicates that organizations best positioned to harvest the full benefits of APM tools are strongly committed to the use of ITIL or other best practice process recommendations to simplify and take inefficiencies out of their day-to-day activities. Most organizations that successfully deploy APM tools do so using incremental implementation plans that begin with monitoring selected high-priority applications in areas where existing monitoring, troubleshooting, and remediation processes and tools are most inefficient. Over time, once the benefits of the tools have been documented, it becomes easier to quantify the benefits of using them in additional application and business areas. It also becomes easier to document and standardize best practice processes for using the reports generated by the tools.

When evaluating APM solutions, IT decision makers should look for tools with the following attributes:

- Provide end-to-end visibility into the health of legacy and distributed applications and transactions across diverse application, infrastructure, and end-user environments
- Monitor transactions seamlessly across multiple platforms such as .NET and Java, as well as emerging middleware layers
- Support real-time root cause and dependency analysis
- Automate business impact SLA analyses and SLA enforcement
- Provide effective visualization tools to assist IT administrators in assessing business and end-user impact
- Integrate with service desk and other infrastructure system and software management tools as well as standard service delivery and operational process workflows
- Enable fast and efficient deployment via the use of out-of-the-box templates and tools to simplify implementation across a customer's specific environment
- Deliver payback or ROI, as measured in terms of IT staff productivity, hard dollars, and overall ability to improve business and IT process efficiencies

Together, these attributes will ensure that the selected tools can adequately look across the organization's full environment and will have the best chance of allowing IT teams to standardize on a shared set of core solutions to keep technology-specific domain experts on the same page and working together to maintain end-user service levels.

Organizations that are able to effectively optimize the end-to-end performance of diverse applications also enable business units to fully realize the value of their application software investments by keeping those systems up and running at high levels of service until there is a business reason to move to the next generation of software.

## CA Wily Application Performance Management Solution Expands Depth and Breadth

The CA Wily APM solution helps over 1,200 existing customer organizations monitor and optimize the performance of SOA-based J2EE and .NET applications across complex environments.

Existing APM capability was extended considerably in April 2009 with the introduction of a new version of APM that significantly expands the breadth and depth of the APM solution's platform coverage and provides deeper visibility into cross-platform SOA, middleware layers, and transactions. The new releases also provide much broader dependency analysis capabilities as well as richer visualization and out-of-the-box templates that noticeably streamline the process of building and customizing dashboards.

New features in the release include:

- ☒ **Business-centric dashboards:** Custom business dashboards show real-time health of an application, including how end-user service quality is impacting the bottom line.
- ☒ **Service dependency visualization:** Automatically generates a map that displays interdependencies across an SOA-based application environment, including associated transaction metrics.
- ☒ **Real-time SOA dashboard:** Out-of-the-box dashboards that present a quantitative summary of the health of the SOA application and provide an up-to-date status display.
- ☒ **Extended cross-process transaction tracing:** Extends cross-process transaction tracing coverage beyond J2EE and .NET to include a number of widely used protocols, including HTTP, JMS, and MQ. It also includes a script-based development framework to enable IT staff and ISVs to build adaptors to trace additional middleware platforms and protocols.
- ☒ **Support for leading middleware platforms:** Extends monitoring and reporting coverage to include the Oracle Service Bus (formerly BEA AquaLogic Service Bus) and the IBM WebSphere Process Server.
- ☒ **Extended MQ support:** Increases visibility for MQ environments to quickly identify and solve performance problems that are caused by MQ, from Servlet all the way to the Queue Manager, extending cross-process transaction tracing to critical MQ components. It also extends MQ monitoring to environments where customers have limited access to the MQ system for security reasons to allow access only via a secure channel.
- ☒ **Improved visibility into databases:** Integration with CA Insight Manager provides improved visibility into database-related performance.

- ☒ **Improved .NET support:** Offers deeper integration with CA Wily Introscope to provide the same level of end-user experience management in .NET environments that was formerly available only for Java.
- ☒ **IPv6 support:** Enables customers to monitor transactions and operate efficiently in IPv6 network environments.

Together, these extensions to the CA Wily APM solution will help customers to efficiently monitor end-to-end application performance and more quickly diagnose and remediate problems.

Both business users and IT teams can benefit from CA Wily's ability to track transactions across multiple middleware platforms and SOA application environments, without losing visibility on an end-to-end basis or having to implement an additional set of tools to fill in the gaps.

## FUTURE OUTLOOK

IDC's February 2009 *Worldwide Black Book* forecasts that global IT spending will grow by just 0.5% year over year in constant currency. The greatest impacts will be felt in hardware markets, although spending on software is also expected to be slowed. Beyond IT, the International Monetary Fund's first-quarter 2009 forecast for worldwide economic growth calls for -2.5% growth in 2009 followed by a meager 1.2% increase in 2010. Against this backdrop, businesses and government agencies will need to emphasize Lean IT principles to make the most effective use possible of limited resources.

Despite these economic constraints, IDC expects many organizations will continue to aggressively deploy virtual servers into production application environments. IDC's research indicates that increased use of production virtual servers will raise operational complexity in many datacenters and impact application performance management requirements by increasing:

- ☒ The need for real-time end-to-end application performance analysis
- ☒ The need for visualization tools
- ☒ The number of applications, transactions, and workloads that need to be monitored
- ☒ The need for dependency analysis and correlation
- ☒ The need for executive dashboards

The combination of rising economic pressures and increasing complexity of application environments means that APM tools will become "must-have" solutions for many IT organizations.

## **CHALLENGES/OPPORTUNITIES**

The CA Wily APM solution has helped many organizations to more efficiently manage their J2EE and .NET environments. With the expansion of CA Wily's application and middleware coverage, there is an opportunity to grow the scale and scope of implementations at a time when customers are likely to need to more actively manage a wider range of environments.

However, the APM market is a crowded and varied place, with many vendors offering products that are highly tuned to the needs of specific environments. For CA to successfully expand its footprint beyond its current coverage areas, it needs to demonstrate to customers the benefits of using shared tools across multiple platforms and protocols.

CA will also need to provide customers with guidance as to how expanded CA Wily deployments may impact internal process workflows and best practices. Specialists responsible for specific environments, such as MQ, Oracle, or WebSphere may not be interested in changing the way they work and the tools they use, unless CA can demonstrate compelling improvements in operational efficiencies and end-user productivity.

## **CONCLUSION**

IDC expects that IT teams will continue to feel pressure to cut expenses while simultaneously needing to cope with rising datacenter complexity. IT organizations that do not currently make significant use of APM solutions should begin to explore how these tools can be used to improve service levels and increase operational efficiencies within their IT organization.

IT teams that already have experience with these types of tools need to consider at what rate and how extensively economic and technology trends will require them to extend coverage to a broader range of applications and platforms. The enhanced CA Wily APM solution provides a potential on-ramp for organizations that want to more actively take charge of their SOA application environments.

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