WHITE PAPER

A Comparison of Application Performance Management Suites from CA, HP and Oracle

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Executive Summary

Today's executives need actionable, insightful answer to IT-related business questions such as "How do my premier customers like the new customer service application?" It's no longer acceptable for IT to respond with typical IT-centric answers such as "The servers had 99% uptime." To deliver more useful and appropriate answers such as "99% of premier customers who used the application are fully satisfied," IT must rethink the way it operates and make management more business-centric. This means focusing on optimizing the performance of applications that drive the enterprise in a way that aligns with the needs of the business. This sea-change in expectations is driving a major shift in how IT needs to manage day-to-day operations.

Whereas in the past, IT traditionally monitored and managed the performance of individual components within the IT infrastructure, largely for performance and availability, organizations today need to manage performance from the perspective of the business applications running on those components. To achieve this new management model, enterprises must have the right tools in place to ensure the optimal flow of application-based business transactions.

> *"Based on Crimson analysis of the study findings, Oracle customers can save as much as $237,000 in yearly operational costs using the Oracle APM suite compared to customers using HP and CA."*

To help IT decision makers evaluate application performance management (APM) suites that support this business-centric model, Crimson Consulting Group conducted an independent research study sponsored by Oracle Corporation. Crimson focused on comparing three popular APM suites, based on in-depth interviews with actual customers from CA, HP, and Oracle.

The study showed that while all three APM suites enabled organizations to improve uptime and delivery against service level agreements, the Oracle offering provided customers with clear advantages over the APM suites from HP and CA in both traditional performance and availability monitoring as well as in business-driven IT management. The key findings of the study are:

- **Better business/IT alignment:** Customers using the HP and CA APM suites had to spend as much as 6 to 12.5 times longer gathering business-centric insights compared to Oracle customers.

- **Faster time to isolate and diagnose problems:** Oracle customers reported isolating and diagnosing problems as much as three to five times faster than HP and CA customers.

- **Faster time to resolve problems:** Oracle customers reported as much as 64 to 73 percent less downtime per incident compared to HP and CA customers.

- **Easier implementation:** Oracle and CA products were found to be easier to install and did not require professional services for deployment. Three out of four study participants cited having to use HP or third-party services to deploy the HP solution.

- **Reduced vendor management:** Oracle customers benefited from having fewer vendors to deal with for products and support.

- **Substantial operational cost savings:** Based on Crimson's quantitative analysis of the above benefits as well as anecdotal evidence provided by study participants, Oracle customers can save as much as $237,000 in yearly operational costs using the Oracle APM suite compared to customers using the APM suites from HP and CA. This figure is derived from labor savings on reporting, diagnosing, and developing/testing. It does not include other potential savings such as increased productivity through reduced downtime, licensing and support costs, etc.

Introduction

Over the years, IT management has evolved from managing individual IT infrastructure components to managing end-user experience, business transactions and business applications. While IT components such as physical and virtual servers, network, storage, database, middleware and applications still need to be managed, it is now done with an eye on ensuring the peak performance and continuous availability of the business-critical applications that they support.

Not surprisingly, Application Performance Management (APM) now not only requires products which provide synthetic user-experience monitoring, application performance monitoring, and application diagnostics and tuning, but also real user experience monitoring, business service level management, and business transaction management. This study provides a real-life comparison of three leading vendor APM Suites in this space with a focus on customer experiences. This work provides IT operations professionals and decision makers with specific and quantified comparisons to complement their efforts in evaluating and selecting the APM suite that best fits their needs.

Research Methodology

For this study, Crimson conducted primary research and a competitive analysis comparing the CA, HP and Oracle APM solutions. Crimson created a detailed questionnaire for study participants from a cross-section of industries and followed up with a phone interview with each participant.

In the questionnaire and interviews with the study participants, Crimson focused on the following key areas to develop a comprehensive profile of how customers are using the three APM solution suites to help their organizations manage IT operations in a more business-centric manner:

- **Functionality:** Crimson probed for capabilities around business/IT alignment, diagnosing issues, set up and custom programming required for monitoring, speed of data collection, and other functionality related to managing against business objectives.

- **Downtime**: A key component of the value proposition of APM solutions is reduction in downtime and mean time to repair, with the aim of making the applications available at peak performance 24x7. Crimson specifically looked at the reduction in the number of downtime incidents as well as the length/amount of downtime that occurred.

- **Management Coverage:** Crimson asked customers about end-to-end coverage of managed targets – meaning, the ability of the APM suites to find, isolate and diagnose problems anywhere in the application stack.

- **Ease of Implementation:** Study participants were asked about the level of difficulty and speed of implementing the chosen APM solution.

- **Vendor Management**: Crimson also asked respondents about the effort required to manage issues that involve dealing with multiple vendors for the application stack and problem resolution.

The data collected from interviewees included: the use of product functionality to support application-centric monitoring and management, amount and cost of downtime, management coverage for the entire application stack, ease of implementation, IT staffing costs, IT staff utilization, and effort expended to manage the vendor relationship. Using this data, Crimson then created a detailed analysis and comparison, with the highlights of that analysis presented in this report.

A broad range of company sizes and industries were identified for this study and the most advanced users of the aforementioned vendors' products with expert knowledge of APM products were selected. Participant profiles included:

> *"These tools give us end-to-end business transaction visibility. This information helps us make the improvements needed to facilitate more transactions and ultimately increase sales."*
>
> – Oracle Customer,
> Fortune 500 Technology Company

- A total of 14 companies and system integrators, including 4 CA users, 4 HP users and 6 Oracle users
- Industries representing aerospace, manufacturing, telecommunications, healthcare, technology, transportation, entertainment/media, and public sector
- Company sizes ranging from very small (under $20M in revenue) to very large ($59B)
- Geographic locations included North America, Europe, and Asia
- Participants had between 5 and 20 years of relevant experience

Table 1: Interviewee Titles and Company Descriptions

Job Title	Company Description
Product Manager	Small ($20M) aerospace company
Director of Technical Operations	Medium-sized company with a B2B manufacturing marketplace
Manager, Enterprise Monitoring	Major telecommunications company
Senior Analyst, Infrastructure Services Advisor	Major healthcare company with more than $50B in revenues
Senior Software Engineer	Large software company
Information Technology Consultant	Independent consultant specializing in APM integration services
Founder/Owner for APM Solutions	Small APM systems integrator
Systems Performance Engineer	Large software company
Senior Middleware Engineer	Major technology company
IT Director	Major transportation/logistics company
Server and Storage Team Lead	Large public sector organization
Software (SOA) Architect	Major entertainment/media company
IT Project Manager	Large Telecommunications company
Chief Infrastructure Architect	Large advertising/media company

Overview of the Products in the Study

For the purposes of the APM comparison study, Crimson focused on five areas of functionality and the corresponding CA, HP, and Oracle APM products for each area. The functional areas, as listed in Table 2, are based on segments of functionality for application performance management as defined by Gartner.[1]

Table 2: Product names by functional area compared in the study

Functional Area/Product	CA	HP	Oracle
End-user experience monitoring	■ CA Wily Customer Experience Manager (CEM)	■ HP Business Availability Center End User Management Real User Monitor (BAC EUM RUM) ■ HP Business Availability Center End User Management Business Process Monitor (BAC EUM BPM)	■ Oracle Real User Experience Insight (RUEI)
User-defined transaction profiling and business transaction management	■ CA Wily Introscope	■ HP Business Process Insight (BPI) ■ HP TransactionVision (TV)	Depending on the environment, customers can choose: ■ Oracle SOA Management Pack EE (Enterprise Edition) ■ Oracle WebLogic Server Management Pack EE (Enterprise Edition) ■ Oracle Management Pack for Non-Oracle Middleware
Application component discovery and modeling	■ CA Wily Introscope ■ CA Cohesion Application Manager (formerly Cendura Cohesion) ■ CA CMDB	■ HP Discovery and Dependency Mapping (DDM) ■ HP Universal CMDB (uCMDB)	
Application component deep dive monitoring	■ CA Wily Introscope	■ HP Business Availability Center Problem Isolation ■ HP Diagnostics ■ HP Business Availability Center SiteScope (HP SiteScope)	
Application performance management databases[2]	■ CA Introscope SmartStore ■ CA CMDB	■ HP Universal CMDB (uCMDB) ■ HP Business Availability Center Profile Database	■ Oracle Enterprise Manager repository ■ Automatic Workload Repository (Oracle DB Diagnostics Pack) ■ SQL Tuning Repository (Oracle DB Tuning Pack)

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[1] "Magic Quadrant for Application Performance Monitoring," Gartner RAS Core Research Note G00173116, Will Cappelli, February 18, 2010

[2] Some of the application performance management databases are components of products and may not be sold as independent products

Key Focus Areas for the Study

Crimson focused on the five key areas to develop a comprehensive profile of how customers are using the APM suites from CA, HP and Oracle. Each of these areas will be discussed in depth in the paper:

■ **Product/Suite Functionality:** Crimson probed for capabilities around business/IT alignment, diagnosing issues, set-up and custom programming required for monitoring, speed of data collection, and other functionality related to managing against business objectives.

■ **Reduced Amount of Downtime per Event**: A key component of the value proposition of APM solutions is reduction in downtime and mean time to repair, with the aim of making the applications available at peak performance 24x7. Crimson specifically looked at the reduction in the number of downtime incidents as well as the length/amount of downtime that occurred.

■ **Management Coverage across the Application Stack:** Crimson asked customers about end-to-end coverage of managed targets – meaning, the ability of the APM tools to find, isolate and diagnose problems anywhere in the application stack.

■ **Ease of Implementation:** Study participants were asked about the level of difficulty and speed of implementing the chosen APM solution.

■ **Vendor Relationship Management**: Crimson also asked respondents about the effort required to manage issues that involve dealing with multiple vendors for the application stack and problem resolution.

Product/Suite Functionality

Support for Business/IT Alignment

For IT to truly manage the IT infrastructure in a business-centric way, it needs quick and easy access to relevant business- and IT-oriented application performance data. Therefore, organizations selecting an APM tool must choose one that can bring together comprehensive performance reports and business-oriented views that enable IT to correlate and align IT performance with business metrics.

"I save approximately 10 hours per week creating these reports, and because they are no longer painful to create, I run them daily."

– Oracle Customer
Large Public Sector Organization

Customers in the study using Oracle were able to achieve this business-centric view with a minimum of effort. The Oracle business-driven application management approach was found to provide these customers with a single, consolidated reporting and viewing capability. This comprehensive information is essential for proactive management, particularly in identifying trends that may influence capacity planning and for early detection of potential problems before they occur.

Unlike either the CA or HP APM suites, the Oracle APM suite was found to deliver one source of information from both the technical (IT) and the functional (business) perspective. For example, business decision makers were able to get answers to questions such as how many orders were completed by customer type or the level of satisfaction of users of a particular application in addition to technical key performance indicators (KPIs) such as uptime and exceptions. "Now we actually have two reports in one. The first part shows typical IT metrics such as unplanned downtime, but the second part enables us to view business metrics. Now we can understand why orders didn't go through and what the impact of that was on the business," said one Oracle customer at a major technology company.

> **"Now we can understand why orders didn't go through and what the impact of that was on the business."**
>
> – Oracle Customer, Major Technology Company

In addition to enabling better business and IT alignment, this capability drastically reduced the reporting efforts of the companies using Oracle solutions. Compared to Oracle, customers in the study using the HP and CA APM suites spent as much as 6 to *12.5 times* longer attempting to gather similar insights. This resulted in time savings of 83.4 to 92 percent for Oracle customers. This substantial difference also resulted in some CA and HP customers avoiding creation of business-oriented reports altogether, perpetuating the same disconnect between IT and the business and undermining the alignment efforts. Oracle customers in the study reported spending only 3.9 hours (normalized) per week compared to a high of 23.5 hours for HP customers and 49 hours for CA customers to generate a consolidated view/report that reflected both IT and business metrics. This comparison is shown in Figure 1.

Figure 1. Hours per week needed to achieve both IT and business performance insight
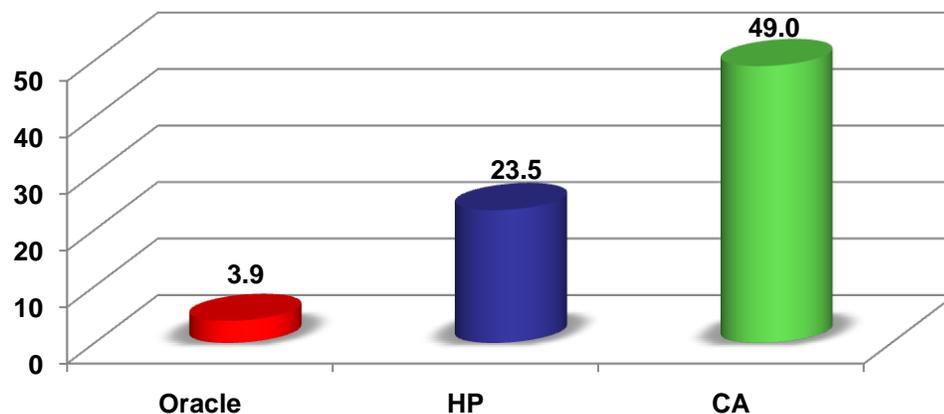
One study participant, an Oracle customer at a Fortune 500 company, indicated that this business alignment saves his IT organization between 4 and 6 hours per report. The participant runs the report daily during the work week, saving a minimum of 20 hours per week (4 hours per report X 5 reports per week.). To put this time savings into financial terms, a minimum of 20 hours per week not spent in trying to create comprehensive reports would result in a potential $58,000 in savings per year, based on a loaded full-time employee (FTE) labor cost of $56 per hour.

> **"The business functionality of Oracle Enterprise Manager saves my IT organization between 4 and 6 hours per report."**
>
> – Oracle Customer, a Fortune 500 company

Another respondent using CA products at a large software company commented that it takes his organization months to create a consolidated business/IT performance report. As a result, his organization goes to the lengthy effort to create this view of performance data only when management specifically requests it. The impact of the failure to communicate in this way cannot be overstated – Crimson believes that this company and other organizations are missing the opportunity to communicate with business decision makers in a timely manner and in a meaningful way that helps enhance the ability of IT to be agile and to better align and respond to changing business requirements.

> *"Creating a consolidated business/IT performance report takes months. As a result, my organization doesn't spend time on this until management specifically requests it."*
>
> – CA Customer, Large Software Company

Ability to Isolate and Diagnose Aborted Transactions

Another important capability when managing the IT infrastructure in an application-centric manner is the ability to identify, diagnose and repair problems quickly. While repair will be discussed below, the study found that the Oracle APM suite can isolate aborted transactions throughout the technology stack, including at and below the application level. These transaction management capabilities enabled Oracle customers to reduce the number of hours and associated costs required to isolate and diagnose aborted or delayed transactions which, coupled with the resolution activities discussed below, will provide a lower mean time to resolution (MTTR).

> *"It takes us between 8 and 40 hours to get information about aborted transactions that don't come from our CEM tool."*
>
> – CA Customer, Software Company

The CA customers in the study reported that they were able to diagnose only HTTP/HTTPS transactions. Furthermore, CA customers reported that they can only see aborted transactions within the user experience management tool, while Oracle customers were able to see all transactions (aborted, successful, delayed, etc.) from the end-user perspective as well as a real-time, server-side view of every transaction across the distributed J2EE infrastructure stack.

The HP customers Crimson interviewed were not using the HP APM suite to diagnose non-HTTP/HTTPS transactions. Crimson believes that while these customers were able to monitor and diagnose problems at the J2EE layer and trace issues beyond this layer, they were unable to *diagnose* those problems beyond the J2EE layer, specifically down to the database level.

To quantify the benefits of the ability to monitor and manage an entire transaction, Crimson analyzed the effort required by the companies in the study to isolate and diagnose aborted transactions across the technology stack. Oracle customers reported a normalized 0.72 hours per week spent isolating and diagnosing aborted transactions compared to 20.5 hours for CA.[3]

The wide gap in effort seen in the study between the companies using Oracle and the ones using CA is a result of the fact that Oracle enables IT to automatically monitor the entire transaction. The CA customers needed 20 plus hours to accomplish the same tasks because they first had to manually review logs in order to isolate and diagnose aborted transactions that were outside of the HTTP/HTTPS environment.

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[3] Note: Crimson could not compare hours and costs for the HP customers in the survey as they did not provide comparable data.

From a cost perspective, based on the reported figures for hours of effort, average labor costs per year for CA customers to isolate and diagnose the causes of aborted transactions would be approximately *$120,000* more than for Oracle customers.

One interesting data point related to isolating issues from a user-experience perspective centers around the size of the environment being monitored. According to Oracle literature, the Oracle Real User Experience Insight data collector can support up to 675 Mbps. Study participants reported that the equivalent functionality for CA and HP can only support 150 to 200 Mbps. This gives Oracle the ability to collect three times as much data as HP and CA.

Efficiency of Deep Diagnostics

Many vendors use a method called Byte Code Instrumentation (BCI) for deep diagnostics of J2EE (Java) applications. BCI is a process where an application is instrumented by modifying the byte code of a set of Java classes before it is loaded by the Java virtual machine (JVM) so that the application can be monitored and problems can be diagnosed. While BCI is used by all vendors, including CA, HP and Oracle, for application dependency mapping and transaction monitoring, Oracle's JVM Diagnostics does not use BCI for deep diagnosis whereas solutions from CA and HP do.

Using BCI for deep diagnosis is often associated with an increase in preproduction testing and administrative complexity as well as a substantial overhead penalty on the application being instrumented. Implementing BCI requires a substantial amount of time and effort from the development staff. Using BCI in production can also destabilize the application, and requires thorough testing with any release of a revision to the code or changes in configuration. Much more significant is the fact that due to high overhead incurred using BCI-based solutions, customers tend to diagnose problems off-line by taking the servers down or they only turn deep diagnostics on during diagnosis of a problem, which is too late since the problem already occurred.

Oracle has a different approach. Oracle's JVM Diagnostics utilizes an asynchronous memory sampler, which allows for an "always on" approach, ensuring that better data is available for problem diagnosis in a non-intrusive way. This approach enables customers to get code-level diagnostic visibility into their applications in a production environment. In contrast, those customers using BCI typically only use their tools for basic monitoring in production environments, and then go back to the test or QA environment for deep diagnostic analysis. Oracle customers, on the other hand, can use always-on, deep-dive diagnostics to resolve problems faster, increasing availability and saving costs.

> *"If I had to use BCI, I would have to write and maintain a special path, which would take approximately an extra day's worth of developers' time per week, and about 2 hours testing time from a QA analyst per week."*
>
> – Oracle Customer,
> Media and Advertising Company

Customers using CA and HP APM suites are unable to get this level of diagnostic visibility without significant performance overhead. Case in point, one Oracle customer reported figures that show savings of an estimated $22,000 per year of programmer/administrator time for one mission-critical application. These savings were based on not requiring the additional development and testing necessary when using BCI.

Reduced Amount of Downtime per Event

Once exceptions are diagnosed, they need to be fixed. All three APM suites in the study provided significant reduction of downtime, as reported by the study participants. However, the actual, absolute amount of downtime per incident was significantly lower for Oracle customers (0.9 hours/incident) than for HP customers (2.5 hours/incident) and CA customers (3.3 hours/incident). In other words, Oracle customers reported downtime that was *73 percent less* in duration per incident than that of CA customers and *64 percent less* than HP customers. Oracle customers reported that they were able to fix issues significantly faster than their counterparts with HP and CA tools because of the coverage of the Oracle tools of the entire application stack. HP and CA APM suites, for example, lacked a complete application-to-disk coverage for the Oracle database and business applications including E-Business Suite, Siebel, PeopleSoft, and JD Edwards, which made it more difficult to identify issues accurately and mitigate them quickly.

Figure 2 shows that the average downtime for Oracle customers in the study was slightly less than an hour at 0.9 hours compared to 2.5 hours for HP and 3.3 hours for CA.

Figure 2. Average hours of downtime per incident
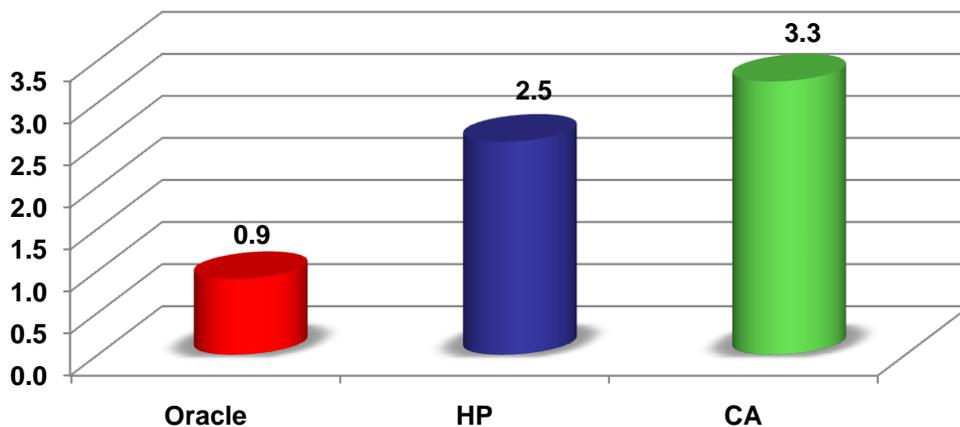
Overall, all of the customers Crimson interviewed reported that their APM suite helped them reduce downtime by 50 to 60 percent on average. This type of dramatic reduction in downtime can translate into significant dollar savings. Examples from study participants included:

- "We average 600 transactions per hour, €30 per transaction, which is €18,000 per hour. The 20 minutes gained in uptime equals €6,000 each day (more than US$8,000/day)." -- Oracle customer, entertainment and media

"It generally takes us less than half an hour to fix an ERP downtime incident, and just minutes to bring a customer facing app back up."

– Oracle Customer,
Advertising and Media Company

- "We use our Oracle tools to serve our customer service organization. Before these tools, the organization spent probably one day of overtime (Saturday) per quarter re-entering orders they couldn't be entered when we were down. This means 12 people at time and a half pay, four times a year. That's $23 an hour, a total of 32 more hours per person, which is approximately $13,250."-- Oracle customer, Advertising and Media

Management Coverage Across the Application Stack

With business applications playing a central role in the IT environment, it's critical for application-centric management tools to provide insight into performance across the entire application stack. The study showed that only the Oracle APM suite delivers this end-to-end coverage in conjunction with the Oracle database management and Oracle application management solutions. Neither the CA nor the HP solution was able to provide this depth of coverage.

Specifically, study respondents using the HP and CA solutions reported that their APM suites were unable to isolate and diagnose application problems in production below the application server level. This means that once they detect a problem, they need to turn to other vendor solutions, such as database diagnosis and tuning tools, for deep diagnosis and resolution. The result is that non-Oracle customers expended greater efforts diagnosing problems. Oracle customers in the study reported an average of 0.6 hours spent per week isolating and diagnosing problems throughout the stack, compared with 2 hours per week for HP and 2.8 hours per week for CA, as shown in Figure 3.

The study found that Oracle can also provide specially integrated management suites for popular enterprise applications such as E-Business Suite, Siebel, PeopleSoft, and JD Edwards and diagnostics and tuning products for the Oracle database.

Figure 3. Average hours per incident spent isolating/diagnosing problems throughout the stack, including at the database level.
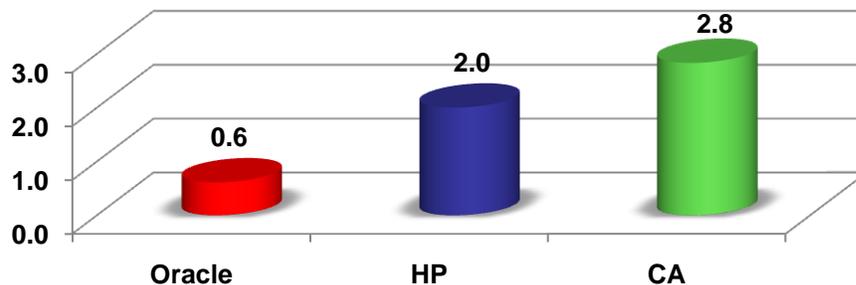
Despite the inability of the CA and HP customers to isolate and diagnose problems as quickly as Oracle customers, all the organizations in the study reported that they were able to reduce internal SLA penalties and meet target service levels with faster response than before using the tools. While all the customers in the study reported that they had achieved this goal, Oracle customers stated that they had reduced the number of application issues by 25 percent. HP and CA customers were unable to or declined to provide similar metrics.

"Our APM suite can only tell when something is wrong at the database level, but can't tell us what it is or how to fix it. We have to bring in our database analyst and he'll often have to spend a couple hours or more figuring out what's wrong using separate tools."

– HP Customer,
Fortune 500 Telecommunications Company

Ease of Implementation

The study also looked at the ease of implementation of the three APM solution suites. Oracle and

> *"These HP tools are difficult to install, and not all of their consultants are equally skilled. When you find one that is good, you put that specific person in the contract so that the implementation doesn't wind up being much more costly and lengthy than expected."*
>
> – HP Customer,
> B2B Manufacturing Marketplace

CA customers stated that their organizations did not need to use professional services to successfully implement their APM solutions. However, three out of four HP customers in the study reported using HP professional services to implement their APM solution.

In interviews with the HP customers in the study, the driving factor for using professional services was deemed to be the complexity of the solution and the implementation. Greater solution complexity and the need to rely on professional services to install the solution can increase the implementation costs and

total cost of ownership as well as implementation time. Crimson estimates that the cost for using consultants could be as much as four times that of in-house resources, based on an average hourly rate of $56 for in-house staff compared to approximately $200 per hour for HP or third-party consulting rates.

Vendor Relationship Management

Additionally, the study queried participants about the time they spent working with multiple vendors to resolve issues where responsibility was not clearly one vendor's, for instance, a problem that impacts both the database and the application or application server.

None of the study respondents reported that they actually measured the time it takes to handle these issues, but many did say that it was a pain point for them. This suggests that reducing the number of vendors involved could definitely reduce administrative overhead and hassle. Organizations running Oracle applications together with the Oracle APM suite have a lower number of vendors involved and thus reduced administrative effort required to manage issue resolution.

Additionally, My Oracle Support, which is a web-based support service from Oracle, is fully integrated within the Oracle Enterprise Manager console. The combined solution offers a single, integrated platform for IT management and customer support. Although not specifically covered in this study, this capability is designed to reduce the diagnosis and remediation effort. The study did not confirm whether HP and CA offer this capability, but because neither vendor offers business applications or databases it's not possible that they could offer a similar integration.

> *"It probably took me 1 FTE at around $80K average to deal with issues falling through vendor cracks. I was able to cut that in half by having Oracle as my only vendor."*
>
> – Oracle Customer,
> Advertising and Media Company

In particular, customers suffered from the separation of vendors who provided their IT infrastructure (for example, Oracle E-Business Suite) from vendors who provided only their management infrastructure (for example, HP Business Availability Center).

Summary and Conclusions

Looking across all the factors evaluated in the study, Crimson believes that the data indicates a number of distinct advantages for customers using Oracle Enterprise Manager's Application Performance Management suite as compared to similar offerings from HP and CA.

"The Oracle offering provided customers with clear advantages over the APM suites from HP and CA in both traditional performance and availability monitoring as well as in business-driven IT management."

In most cases, these advantages were created by the unique integration Oracle offers across its APM suite for end-to-end transaction monitoring and management as well as the coverage across the operational stack with the database and application management layers. Oracle customers in the study were able to see all transactions (aborted, successful, delayed, etc.) from the end-user perspective as well as a real-time, server-side view of every transaction across the distributed J2EE infrastructure stack.

These capabilities translated into the following significant benefits for Oracle customers:

- **Better business/IT alignment:** Oracle customers were able to quickly and easily gain both business- and IT-oriented insights into their business operations. Compared to Oracle, customers using the HP and CA APM suites had to spend as much as 12.5 times longer gathering similar insights, resulting in some customers avoiding creation of business-oriented reports (and the associated analysis/action) altogether.

- **Faster time to isolate and diagnose problems:** Oracle customers reported isolating and diagnosing problems significantly faster than CA and HP customers. The average time to isolate and diagnose problems was 0.6 hours per week for Oracle compared to 2 hours for HP and 2.8 hours for CA.

- **Faster time to resolve problems:** With its deeper coverage of the application stack, Oracle enabled customers to resolve problems faster and decrease the amount of downtime per event. This lowered mean time to repair (MTTR) with Oracle customers reporting 73 percent less downtime in duration per incident than that of CA customers and 64 percent less than that of HP customers.

- **Easier implementation:** Study participants reported that Oracle and CA products were easier to install and did not require professional services for deployment. On the other hand, three out of four study participants cited having to use HP or third-party services to deploy the HP solution, which can increase the overall cost of implementation.

- **Reduced vendor management:** Working with multiple vendors across the application stack and management was painful for HP and CA customers. Oracle, as a major vendor for customers' mission-critical applications, as well as offering end-to-end management tools, provided customers with one-stop shopping and support. Oracle customers were therefore most likely to benefit from having to deal with fewer vendors for products and support, resulting in less time spent on vendor management.

- **Substantial operational cost savings:** As a result of the above benefits achieved by the customers in the study, Crimson estimates that Oracle customers can save as much as $237,000 in yearly operational costs using the Oracle APM suite compared to customers using HP and CA. Crimson derived this figure from labor savings on reporting, diagnosing, and development/testing. It does not include other areas of potential savings such as increased productivity through reduced downtime, lower licensing and support costs, etc.

Overall, the study found that while all three APM suites were able to help organizations respond faster to issues and reduce the amount of downtime, Oracle clearly gave customers the ability to manage IT using an application-centric approach, which enabled deeper insight into issues and how they impact both IT and business. Oracle customers in the study were able to take this actionable insight and significantly reduce the amount of downtime per incident compared to the other vendors' solutions.

To learn more, contact your Oracle sales representative or contact Oracle in your local area at http://www.oracle.com/corporate/contact/global.html or contact Crimson Consulting Group at info@crimson-consulting.com.

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We help executives achieve market leadership

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