



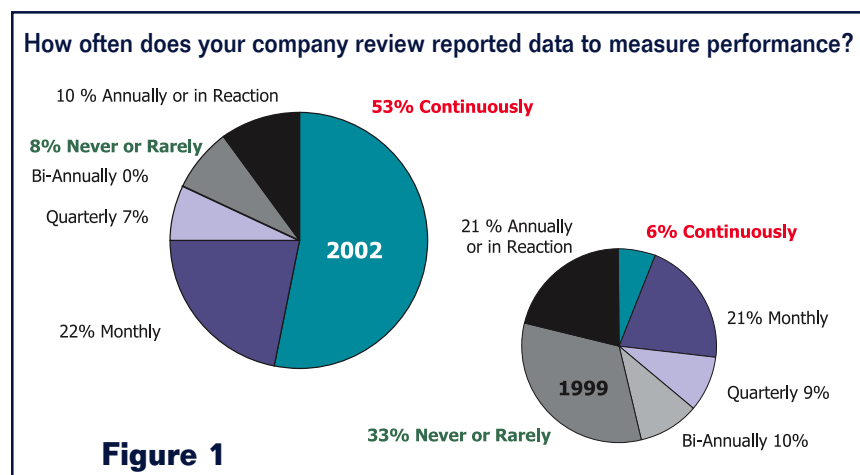
Newport Group, Inc.

IT Trends Research and Reporting

THE NEWEST TRENDS IN IT APPLICATION INTEGRITY

Like many other aspects of information technology, performance management practices have undergone many changes as the industry transitioned from the boom period of the late 1990's to the more fiscally discerning period we currently face. In that process, organizations of all types have been forced to change the way they conduct business. Now, in every corner of the enterprise, management must search for ways to save money, do more with less, and have a solid justification for any new expenditures. As a result, performance management tools have transitioned from the fancy 'bells and whistles' stature of elite enterprise IT shops, to the indispensable backbone that supports the optimal performance and integrity of business-critical applications and systems.

According to 2002 Newport Group research focused on the optimal operation of applications and systems, 53% of respondents reported that they continuously review reported data to measure performance. This represents nearly a 900% increase from the 6% that answered the same question in 1999 (see Figure 1). As further evidence of the increased interest in application and system performance and the corresponding increase in the adoption of tools, 75% answered yes when asked if they cared to know if their application were performing optimally. This reflects a significant increase over the 58% that answered the same question in 1999.



Increased pressure to quickly justify return on investment (ROI) for IT purchases, accelerating competitive pressures, and an expanding combination of complex technology components have conspired to necessitate that IT managers not only optimize application performance and integrity, but supply and substantiate performance metrics to upper management on an ongoing basis. This task simply cannot be accomplished without the use of some type of performance management tool and systematic practice. For this reason, Newport Group has updated its 1999 performance management research project in order to better understand what has, and has not changed to reflect the newest application integrity and performance management trends.

RESEARCH PREMISE AND METHODOLOGY

To better understand current obstacles and trends relative to application integrity and performance, Newport Group conducted a focused research project to closely mirror the initial study conducted in 1999. The new study was designed to gauge what elements have changed in regard to enterprise application performance and integrity issues. The study was conducted during July of 2002. E-mail invitations were sent to a targeted group of IT professionals directly involved in the use and management of application performance and integrity tools and practices within their organizations. Participants were asked to complete a survey on the Newport Group Website. The average IT budget for the participants totaled 303 million. The average cost of downtime for these organizations is \$12,700 per hour with a total of 2.9 instances of downtime per month. The average time it takes to resolve a performance problem is 25.8 hours, which had not changed much from the 1999 figure of 25.65 hours.

LEVELS OF RESPONSIBILITY

An equal number of respondents, 28%, are each responsible for Mainframe, UNIX and NT environments. Another 4% are responsible for Linux and the remaining 12% report being responsible for 'other' types of application environments. Fifty-eight percent (58%) answered yes when asked if their company offers any incentive for saving money by under-spending the IT budget slated for performance management tools, staffing and practices. Newport Group thought it was appropriate to ask this question given the current economic climate. The reality is that companies are much more concerned with where and how their money is being spent, as apposed to the late 1990's when organizations were spending more freely on hardware or tools that may or may not have been needed or appropriate. Currently the tool selection process appears to be more stringent and companies are taking more time to make tool selections.

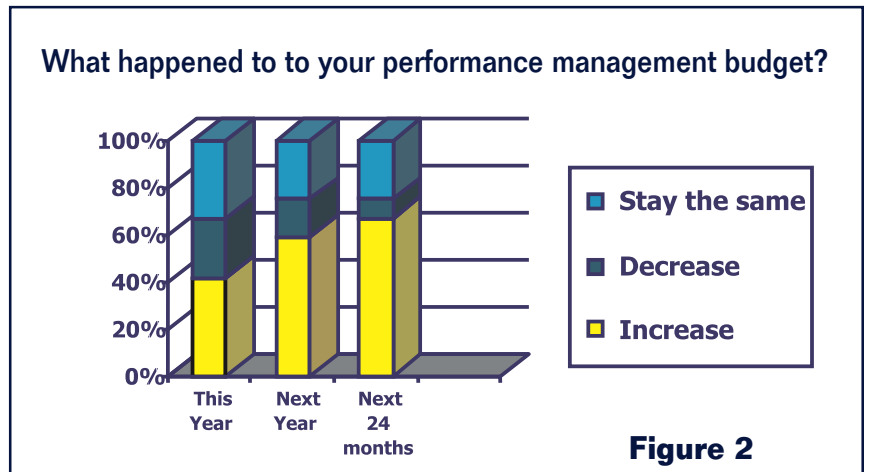
When asked specifically who within the organization is responsible for a poorly performing application in production, the top three answers in order of importance were the Applications Group, Development and Operations Administrators. Three years ago, the top answer was the Operations Group. People seem to be heading more towards the Applications Group with the belief that they are more closely in tune with the application functionality.

Adding pressure to the issue of problem resolution is the constant challenge of effective communication. Newport Group continuously asks survey participants about their level of communication because of the significant effect it can have on success. In this study, when asked to rate the relationship between IT application development staff and operations staff, the following responses were reported.

- 42% - Work very collaboratively, strong lines of communication between the two groups
- 50% - Work together collaboratively only in the case of a problem, and
- 8% report strained relationships or lack of any productive communication.

We have actually seen the 'work very collaboratively' percentage slip a little from our previous research. In 1999, the research showed that 50% believed that the groups worked very collaboratively and had strong lines of communication, now that number is 42%. This latest result is somewhat disheartening because ultimately an IT solution is only as good as the people that use it. Newport Group views this as probably one of the greatest challenges facing large organizations today, and the data suggests there is significant room for improvement in this area, especially given the fact that applications are becoming more complex and the different groups need to be able to effectively communicate and work together to solve problems and ensure success.

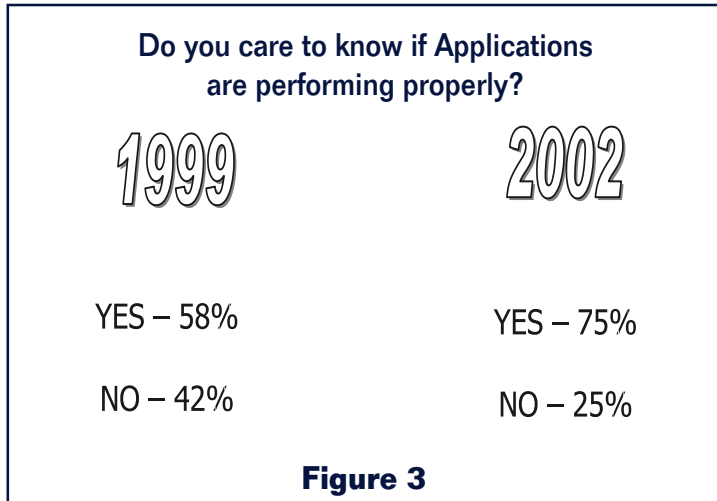
In the 1999 study participants were asked how important it was to have spare IT budget money remaining at the end of the year. At that time 73% said that it was important. In



the most recent study, when asked if they felt compelled to exhaust annual IT budget due to fear of budget cuts, 83% answered no. The implication with these results is twofold. First, the data supports the fact that organizations are watching every corner of the enterprise in an effort to save money, and second, IT is not fearful of their budgets being cut if they do not spend it all in one year given the necessity of these tools. In fact, when asked specifically about budget dollars for performance management solutions, 67% reported they expect an increase in their budget over the next 24 months (see Figure 2). Organizations now realize that by spending a smaller percentage of their budget on performance management tools, they can avoid the trap of spending a far greater percentage on new hardware, as in the past, to try and resolve performance related problems.

ROI MEASUREMENTS

Over the last few years, organizations have felt the painful effects of the downturn of the US economy. As a result, most companies experienced a re-prioritization of IT projects in conjunction with learning how to do more with less. Limited budgets have translated into limited resources. As an interesting byproduct of this adjustment period, organizations of all types have come to realize the true potential of solutions aimed at optimizing system and application performance. As these organizations have searched for ways to cut costs, astute business managers have focused their attention to



IT departments to better understand the specific cost to the business of their revenue generating applications. Suffice it to say that these managers have realized if they can find a way to manage and gauge the optimal performance of their applications, they can avoid the untold expense and serious negative impact to the business from chronically poor performing applications. The 2002 Newport Group research fully supports this fact. When asked if they care to know if applications are performing optimally, 75% answered yes. This was a key finding of this recent research project since only 58% answered the same question in 1999 (see Figure 3). Clearly the current trend indicates that IT professionals have proven the business value that can be derived from implementing adequate performance management tools and strategies.

Further, participants were asked if they correlate IT expenditures with company profitability. More than half, or 58%, answered yes as compared to only 38% in 1999. Again, this significant increase reflects the trend that organizations are more serious about their application integrity. It remains increasingly vital for business and IT managers alike to understand the costs and benefits of their IT systems and applications relative to how the bottom line is impacted. Drilling down to more detail, 58% of survey participants reported that they now understand what transaction types cost the company the most money to execute. This data

also supports the trend that organizations today are more closely tracking the impact IT has on the bottom line. Newport Group sees this a very positive step in the effort to achieve higher quality software applications.

TOOL SPECIFICS

To gauge what users are most interested in when selecting a performance management tool, we asked what attributes were most important in the selection process. The top three choices were:

1. Breadth of monitoring capabilities and data collection,
2. Integration with other performance management/monitoring tools, and
3. Footprint size of the monitoring agent.

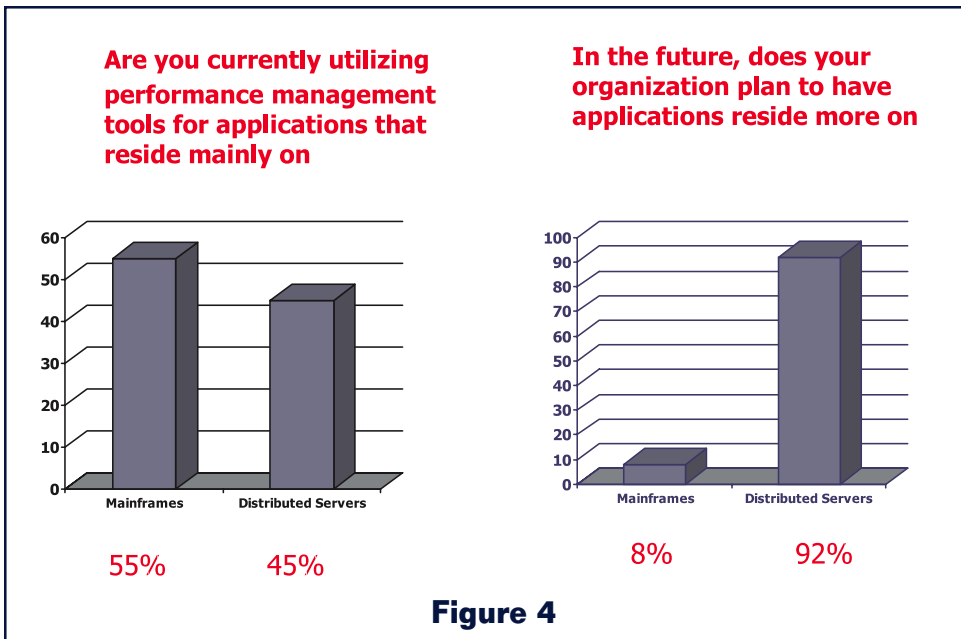
Other choices included middleware support, intelligent reporting capabilities and support for and integration with systems management frameworks.

The top three choices given when asked what purpose participants felt their performance management solutions are utilized for were:

1. Capacity Planning and Resource Utilization,
2. Performance Trend Analysis, and
3. Performance Problem Prevention.

The interesting point regarding the number one response is the fact that resource utilization shared the top spot. As a result of Newport Group interviews with performance management professionals, there is an equal interest in leveraging performance management tools to both predict application performance as well as supply and plan hardware resources accordingly. With the increased attention on the bottom line, managers seem to have become more interested in trying to relate resource consumption in terms of business value. For example, how many orders per hour will the system be able to handle in the future, and will the resources be available to process those orders. Of course performance is part of that equation but from a planning perspective it seems managers want to know that their systems are designed for and are flexible enough to handle future growth. Other responses included performance monitoring and application tuning.

Regarding where applications are residing, there was a clear indication that business critical applications will move off the mainframe. Specifically, 45% currently use performance solutions on applications that reside within a distributed server environment, while an overwhelming 92% plan to have applications reside on distributed servers in the future (see Figure 4). This transition to move applications off the mainframe and into distributed server environments can become a double edge sword. The flexibility gained by moving applications to distributed server environments also translates into increased complexity. This is further validation of the need for tools that can automate the performance management of these complex environments.



always understand what they are looking at, depending upon the level of detail and how the information is presented. This ties into the issue of creating efficient lines of communication, and interpreting and communicating this complex data in a digestible manner. Vendors are steadily working to deliver tools that can quickly facilitate the dissemination of complex performance data to audiences outside of IT.

As evidenced in Figure 1, one of the more significant findings of this study is the shift in percentage of those who view reported data. In 1999 when we asked this question, only 6% reviewed performance data continuously, while 33% never or rarely looked at the data. Now, a majority, or 53% review reported data with only 8% never or rarely looking at

RESOLVING PERFORMANCE PROBLEMS

Newport Group asked what the most important factor was in regard to resolving performance problems. The number one response for both the 1999 and 2002 study was accuracy of report data. This stands to reason because it is critical to have accurate data in order to understand and accurately pinpoint performance issues. Some of the other top choices for this question included response time to determine latency, collection of event data surrounding a performance problem, and response time broken down by application.

From the question regarding who is responsible for leading the charge to resolve performance problems, the top selection was the system administrator. Also, the help desk is playing an increasingly important role in problem resolution by streamlining the process of directing complaints to the appropriate party. From the 1999 study, the top two answers were network and system administrators.

The end user was fingered as the most likely culprit for causing any negative impact on performance. Certainly in some cases, the end user does contribute to causing application problems, but they have consistently been the focus of blame for application performance problems.

REPORTING

Newport Group was interested to know where exactly performance reports were going within the organization. The research revealed that 34% deliver reports directly to the CIO, with the remaining 66% delivering reports directly to VP level executives.

It is important to mention that although CIO's and VP's are requesting and receiving this information, they may not

it. This data represents a significant shift in the use of performance management tools and bodes well for the efficient running of business critical applications. The more information managers consume about the performance and integrity of their applications, the greater chance they will have in successfully collaborating with the IT department to meet business objectives.

One stumbling block for these executives however, revolves around the ability to understand reported data, and whether or not it is sufficient to help resolve problems. In what at first may appear as a contradiction, 91% indicate that reported performance data is clear to understand to help resolve performance problems, while 82% also indicate that there been instances where the performance data was not sufficient to help resolve the problems. For those that have been in the IT trenches, trying to resolve a problem, it is no secret that while initial performance data may be clear and can point to the general area where a problem exists, there are many times where the data is not sufficient enough to help quickly resolve the problem. Often performance data from multiple sources is blended and used to manually uncover the root cause of a problem. This is very time consuming and accounts for the average problem resolution time within these organizations to be in excess of 25 hours. On the bright side, despite systems and applications becoming more complex, it is encouraging to see that the software vendors have responded to end user needs and worked to fine-tune and enhance the reporting capabilities of their tools in an effort to make data easier to understand for multiple disciplines within a single organization (in 1999 only 59% indicated data was clear).

There are still problems when trying to resolve performance problems. Tools and practices remain a work in progress. Forty percent (40%) report there have been instances where

Do you ever use performance data to create your own custom reports beyond what your current tool can provide?

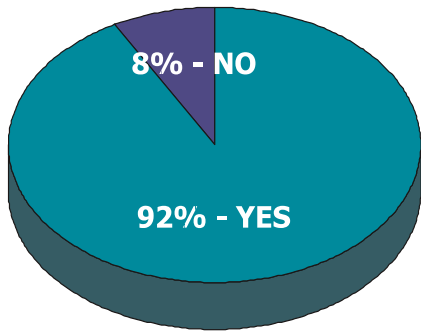


Figure 5

the staff member tasked with solving the problem misinterpreted performance data. Even though this happens less than half the time, 40% is significant, indicating an area in need of further development from both a tools and staff perspective. The next step for the vendor community is to work towards providing a better correlation of performance data from multiple sources. Because each environment is unique, this is a tall task for the vendors and in the final analysis it is the responsibility of the individual organization to decipher the data that is unique to their environment in order to find the smoking gun.

In a final example of the effect of the human factor regarding the use of performance solutions, given all the functionality that has been developed over the past several years, there is still an overwhelming 92% that report that they use performance data to create their own custom reports beyond what their current tool can provide (see Figure 5). This really speaks heavily to the fact that environments are unique and the requirement for customization will never fully go away. It is to be expected.

Vendors will never be able to deliver their solutions with enough reports to accommodate every single unique need, but with continued communication between the two groups, hopefully there will be improvement to an obvious need.

CONCLUSION

With the intention of comparing the 1999 Newport Group performance management study against similar questions posed in the study conducted in 2002, there are obvious indicators suggesting change. Clearly there is a stronger interest and adoption of tools and practices aimed at protecting the performance and integrity of today's business-critical applications. While some findings, such as cost of downtime and time for problem resolution have not significantly changed, what we do see is substantial positive movement in the time, staff and budgets organizations are committing to managing the performance and integrity of their applications and systems. This is evidenced by an increase in those that are calculating RIO measurements and also attempting to understand the impact that specific transactions have on the business bottom line. Organizations are clearly more interested in reviewing performance data on a continuous basis because today there is truly a more obvious connection between performance and revenue.

In summary, the research data in this report shows improvement with the reporting capabilities that performance tools offer in terms data clarity, but obviously some additional data integration and correlation would help in order for firms to resolve problems quicker. We see that the issue of effective lines of communication between business groups has not significantly changed, in fact the data suggest that the problem has gotten slightly worse. Newport Group believes that this is an area of vital importance and is one that must be continually improved. Addressing the human element of working together collaboratively to manage performance and integrity and achieve successful solutions using a team-based approach will be the greatest challenge to any organization. But, it will no doubt deliver the greatest rewards.

About Newport Group

Newport Group is an independent information technology research firm. Founded in 1997, Newport Group was created with the intent and interest to provide detailed research services to major corporations and software vendors that share a vital interest in information technology. Drawing on years of IT research experience, Newport Group concentrates on selective IT research topics and trends. The benefits of this exclusive research approach are passed on to the client base with demonstrated expertise and insight.

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