



*Newport Group, Inc.*

IT Trends Research and Reporting

## Performance Management and Monitoring Dynamics

*How much does Corporate America really know about the problem?*

The art of policing enterprise performance for event-driven, distributed applications and the systems that sustain them is complex. However, it is required if any sense of order and control is to be gained over system capacity planning, service level agreements, system maintenance and troubleshooting. IT leaders – as well as the organizations that employ them – are motivated to safeguard the significant investment in developing and maintaining enterprise systems by ensuring optimal performance. Or are they?

According to a focused Newport Group study of CIOs, a full 42% answered “No”, when asked if their companies cared to know if applications were performing optimally, thereby producing expected performance results. Further, 69% do not correlate IT expenditures with company profitability. With companies spending billions each year to implement and fine tune systems to be better, cheaper and faster in an effort to continually improve the bottom line, it’s hard to understand why such a large percentage of CIOs do not correlate the value of their systems with overall profitability. The short answer according to survey respondents is that drawing this correlation is difficult and the data necessary to make that correlation is not available to them.

The value and subsequent demand for performance management practices and tools is on the rise. Customers in today’s technology-driven world expect immediate results. Consider the explosion of E-Business applications utilized for stock trades, insurance services, airline reservations, and retail purchases to name a few, as well as the heavy reliance on distributed ERP and workgroup applications. With these applications in mind, it becomes clear why now more than ever companies must employ measures that inject confidence that their applications are operating at maximum performance levels. Primary motivators for the increased focus on managing and maximizing performance are the high costs associated with slow time and/or downtime, coupled with increasing rates of business growth in shorter time frames. In fact, we have already seen the costly consequences that can result from performance issues with several on-line brokerage firms who found themselves paying back millions of dollars to customers whose trades were not executed in a timely manner resulting in huge losses for the customer. Understandably, these are the stumbling blocks that come with the emergence of new technologies and new business models, but from these experiences companies must learn to employ strategies and tools that work to safeguard against current and future performance issues.



## NEWPORT GROUP RESEARCH METHODOLOGY

To provide insight into the current state of enterprise performance management, Newport Group, Inc. an independent IT trends research and reporting firm, conducted focused performance management research during February and March of 1999, the results of which are presented in this research note. Specifically, five thousand individuals were randomly selected from proprietary IT management databases and/or subscriber lists of IT publications. Sample members were sent an e-mail inviting them to participate in a web-based survey hosted on the Newport Group website. Approximately (4%) or 203 individuals went to the URL. Those that did not qualify were eliminated due to not being directly involved with performance management responsibilities. This left 53 CIO / IT Management level individuals who completed the survey. Overall, participants represented organizations with average annual IT budgets of \$1,032,000. The average number of downtime instances is 2 per month with an average cost of \$9,583 per hour. The average length of a downtime instance is 4 hours. Roughly, this equates to 24 instances of downtime per year with an annual cost of \$920,000.

## NEWPORT GROUP RESEARCH REVEALS

Believing in the adage, “time is money”, Newport Group was interested to know how committed organizations really are in increasing the efficiency of their IT systems and applications. Less downtime and faster systems equate to lower costs. When asked if our survey participants are interested in saving money on their annual IT budget by improving the performance of currently deployed applications, half (50%) said they are very interested, (44%) are moderately interested and the remaining (6%) are not interested at all. Further, Newport Group asked how important it is to have spare IT budget at the end of each year and the majority (73%) said it is important with the remaining (27%) stating it is not important. The discipline required for most IT departments not to spend money simply because it's available is a reflection of the growing reality of a fiercely competitive industry fighting to post healthy bottom lines on an annual basis.

## EFFECTIVE COMMUNICATION IS IMPORTANT

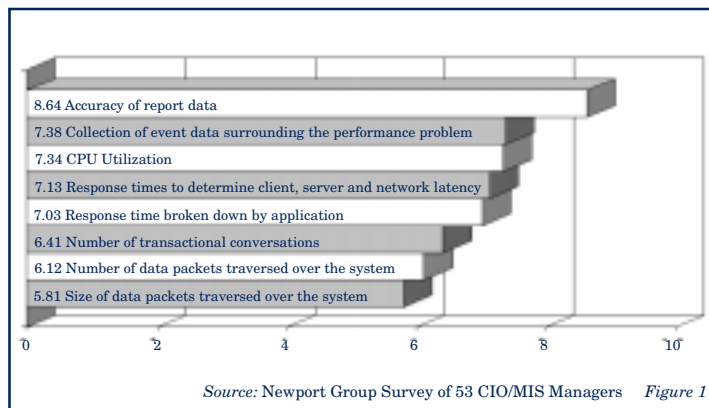
One of the challenges to managing enterprise level performance is communication, specifically communication among the groups within IT, such as IT managers, development, testing, operations, database administrators and network administrators. To be effective, there must be a continuous flow of information to alleviate finger pointing and allow for expedient resolutions to performance problems. Take our survey participants for example. They report that the average time it takes to achieve a resolution to a performance problem was 25.65 hours. Often performance issues are resolved through a number of changes to various components of the system, thus underscoring the importance of strong communication. The weaker the communication between groups within IT, the more difficult maximizing performance will be. One correlation found in

the research was that the larger the company, the longer the time and higher the subsequent expense incurred to address and correct performance problems. The synopsis, larger companies experience performance problems that are more pervasive throughout the organization. They have more people, more channels of communication and more red tape as a barrier to problem resolution.

Fifty percent (50%) of our survey participants report that IT groups work very collaboratively with strong lines of communication. Another (44%) report working collaboratively only in the case of a problem, and (6%) report weak communication with non-productive tension among groups. Encouraging is that no respondents indicated a strained relationship with lack of any productive communication. Newport Group has posed this question in other research projects over the years, with this being the first time there were no respondents indicating a strained relationship. As technology increasingly plays a critical role in the success of most companies, the days of hard line division between groups seems to be waning.

## WHAT INFORMATION IS MOST IMPORTANT FOR RESOLVING PERFORMANCE PROBLEMS?

Newport Group asked survey participants to rate the importance of the types of data collected on a scale of 1 to 10 (10 being the most important) for utilization in resolving



performance issues. In order of importance they reported: (1) Accuracy of report data, (2) Collection of event data surrounding the performance problem (3) CPU Utilization (4) Response times to determine client, server and network latency, (5) Response time broken down by application (6) Number of transactional conversations (7) Number of data packets traversed over the system (8) Size of data packets traversed over the system. (See Figure 1)

## THE MOST LIKELY SUSPECT FOR POOR PERFORMANCE

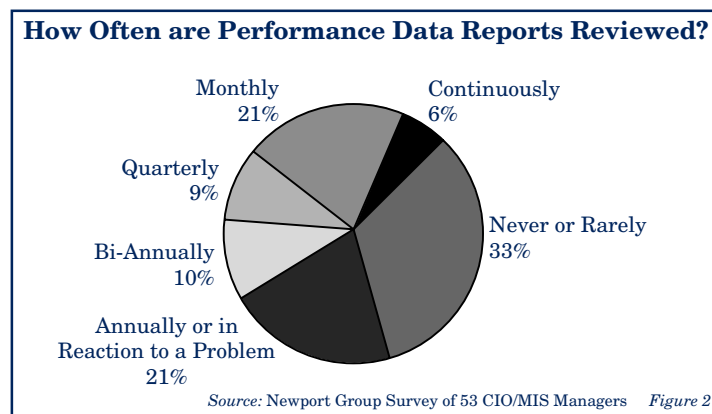
In the event of performance degradation, the individual most likely tasked with leading the charge towards resolution is the Network Administrator (42%), with the Systems Administrator following closely behind (37%). The development team is pulled in to resolve performance issues (12%) of the time, the database administrator (3%) of the time and the remaining (6%) reported that “other” individuals were tasked with leading the charge. From expe

rience and observation, study participants report the leading cause of performance problems to be related to hardware with the second leading cause being the network. This is an interesting finding because in general, when the IT industry encounters a performance problem, the leading prescription for that pain is new hardware. What organizations sometimes fail to realize is that this remedy fights the symptom, not the disease. Although new hardware will provide a short-term fix, very often there is a high chance that other remedies involving system and application optimization may have eliminated the need for new hardware. In times when IT budgets become squeezed, purchasing new hardware may not be an option, however the problem must still be resolved to satisfy business user expectations.

As it relates to resolving performance issues, (52%) report most problems to be short-term fixes (less than 6 months). Thirty six percent (36%) report performance problems to be mid-term fixes (more than 6 months, but less than one year) and (12%) report long-term fixes, taking upwards of a year to resolve.

## REPORTING ON PERFORMANCE

Respondents were fairly evenly split with regard to how they stored and analyzed performance data. The majority stored and analyzed data from a flat data file (34%) with the remainder reporting (22%) for each an SQL-based repository, spreadsheet applications such as MS Excel or Lotus, and a Microsoft Access database, respectively. Of concern was that 33% of all study participants rarely or never review performance data (See Figure 2). Clearly this indicates that for the majority, resolving performance issues is still largely a reactive process that is compounded



for those lacking the tools necessary to uncover and effectively resolve issues. There is evidence that some adhere to a more proactive process due to those who indicated concrete timeframes for performance report reviews. Contributing to the weakness in performance report reviews could be that a full 41% of study participants feel that reported performance data is not clear enough to aid in quickly determining and resolving performance problems.

Adding to the challenge of resolving a performance problem should not be interpreting the data. Combing through piles of raw data and/or gathering data from multiple

sources (network, server, client, database) and trying to make sense of it only adds one more item to an IT manager's "To Do" list and will ultimately discourage those charged with resolving the problem. Therefore, it is sometimes easier to prescribe additional hardware, install extra memory in a machine or add new routers to the network than to sit down and decipher performance data. However, during times when budgets for new hardware are constricted due to mergers, acquisitions or downsizing, organizations need to find a way to maximize performance on their existing systems to contain costs while still meeting expectations.

It is true that most performance management tools have the ability to export performance data to various OLAP tools for very sophisticated analysis. While this functionality is very useful for in-depth analysis, the drawbacks are that it is very time consuming and requires either an in-house team of systems analysts or reliance on outside services. This method can be highly beneficial for long term strategic planning, however, when the meter is running on the downtime clock, performance issues are in need of concise, targeted reports that provide sufficient information to resolve the problem fast.

Respondents indicate that interpreting performance data was somewhat difficult (62%). Twenty two percent (22%) noted it was very difficult while only (16%) responded that it was not difficult. Periodic Newport Group business user interviews also mirror this finding. Individuals who work with performance tools regularly convey that resulting data and stock reports are not meeting their needs to easily pinpoint problem areas. Based on this research, it seems that tool vendors need to improve in this area since (47%) of respondents answered yes when asked if there have been instances where performance data was not sufficient to help resolve a problem.

## THE BOTTOM LINE

Companies are struggling to deliver higher levels of service to their business users. As a result, there is an increasing demand for tools that can provide meaningful performance level metrics to aid organizations in maximizing the performance of current systems. In order to correlate and assess the value of high performance systems to the business, tools must be employed to provide those metrics over time. The heavy reliance on business-critical applications, especially those associated with E-Business underscore the need for organizations to initiate a strategic plan to proactively address the performance of their applications and systems. Performance management tools give IT a foundation from which to continuously understand the level of service being provided by their computing environment. The intended deliverable from these tools is meaningful metrics and information useful in pinpointing and resolving issues and tracking performance history. Such forward reaching strategies for reliable, consistent performance will empower organizations with the information necessary to control and drive performance, instead of being driven by performance problems.



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### ***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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