Good APM Practices Get Results

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Good application performance management (APM) practices get good results. NetForecast has benchmarked enterprise APM best practices for the last four years and consistently found that high marks for best APM practices correlate very closely with fewer performance problems as well as faster problem discovery and resolution times. According to NetForecast's latest APM best practices benchmark survey, enterprises with APM best practice benchmark scores above six on a ten-point scale (with ten the best) ***experience 75 percent better results*** in critical areas than their counterparts with scores under five.

The NetForecast benchmark score results over the last four years of surveys fall along a classic bell-shaped distribution curve shown below. Forty percent of respondents are low scorers, 40 percent score high, and 20 percent fall into the middle of the range.

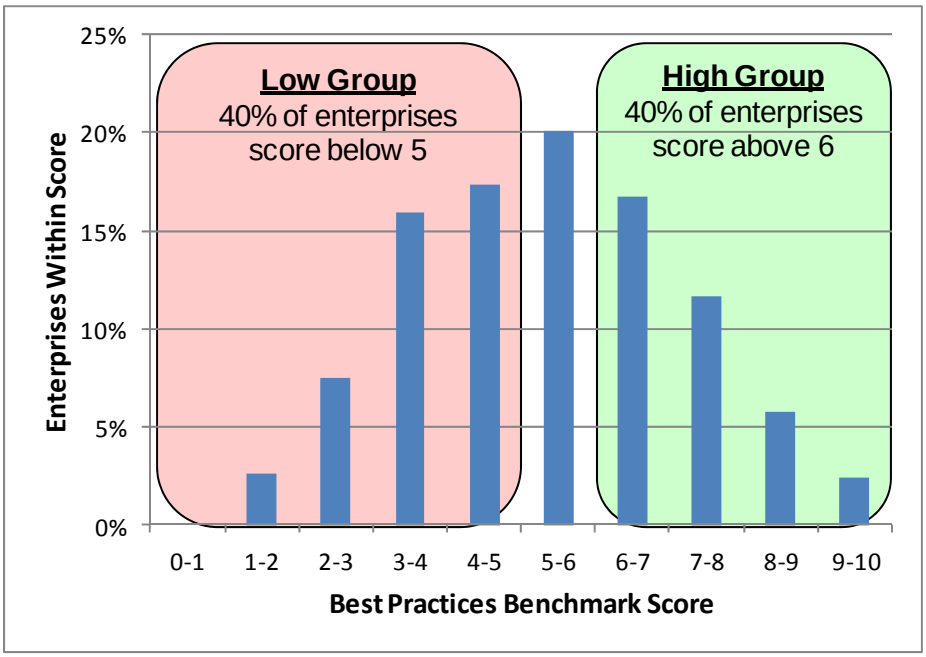

Figure 1. Overall Distribution of Benchmark Scores

To shed light on differences related to performance management practices, we examined outcomes for the low and high-scoring groups. We discovered that compared to their low-scoring counterparts, top-scoring enterprises:

- **Experience 75 percent fewer critical application problems,**
- **Are 75 percent more likely to learn about performance problems proactively rather than from user complaints, and**
- **Typically spend four hours resolving an application performance problem, compared to 16 hours for low scorers.**

The NetForecast survey results show that most high-performing enterprises use two or at most three performance management tools. When multiple tools are used, one tool generally is used to monitor infrastructure performance, and another to monitor application performance to provide a “stereoscopic” view of performance. In addition, survey results show that of the vendors most frequently used by top-performers, NetScout tops the list, followed by BMC, NetIQ, NetQoS, and Quest Software.

NetForecast Report 5107

Survey Background

In late 2010 NetForecast completed the most recent in a series of surveys that benchmark APM best practices and gather data about performance outcomes associated with benchmark scores. In all, NetForecast has applied its best practices benchmarking methodology to more than 1,000 enterprises over the past four years.

In the 2010 survey, 364 IT managers answered questions that enabled us to rate how well each enterprise performed the four basic APM best practices defined below. The IT managers also provided information about the performance results they experienced.

Overview of APM Best Practices

The NetForecast APM benchmarking survey looked at four best practices for managing application performance. The four practices constitute what we at NetForecast refer to as "ITIL-Lite for APM". They constitute a subset of full-blown ITIL best practices that apply directly to managing application performance. These four APM best practices are to *understand*, *measure*, and *communicate* about application performance—and to *link* application performance to the business. When well executed and integrated into the continuous improvement process illustrated below, our research over the past four years shows that these best practices get demonstrable results.

Figure 2. NetForecast's APM Best Practices

Understand: High-scoring enterprises understand performance by learning about applications and their requirements, users and their requirements, and their infrastructure environment. The most basic understanding comes from actually watching users as they interact with an application. It is also valuable to interview users about their experiences. We know many technologists who play key roles in delivering application services, yet never talk to users! Gathering information to understand your users and how the application actually works is essential for success. These findings must then be translated into technical parameters that can be measured.

Measure: High APM performers also measure technical parameters that influence application performance and user satisfaction. These parameters were identified in the understanding stage of the cycle. You can never have too much data. Granted, you may not use all of it—but you will have it to show changes. Performance management is about making incremental improvements. You should measure small improvements early, even if they seem modest. This gives you data to justify bigger changes that can lead to larger improvements. The bottom line is that for best results you must measure, measure, and measure some more.

Communicate: Communicating information is another essential APM best practice. This means showing people your measurements and explaining performance gains—or losses. Write your reports so non-geeks can understand them. You need to communicate technical data differently to non-technical audiences than to your tech-savvy peers. We know many skilled application performance managers who never show their reports to anyone. Like gnomes, they hoard data for their own use—and retain it only to cover their backsides should a decision backfire.

Link: Linking performance to business needs is the final essential APM best practice. Performance reports shared outside of IT should be grounded in what matters to the business. Is management eager to see huge compilations of availability and/or utilization numbers? Not! What executives want is information like revenue made or lost, the number of orders processed, patients treated, users positively or adversely affected, etc. The business metrics you choose must be relevant and important to your business, and must be associated with business goals. Linking captures how well an application's technical performance parameters supported your business goals.

Outcomes for High and Low-scoring Enterprises

Compared to low-scoring enterprises, enterprises in the high-scoring group have fewer application problems, they find the problems they do have faster, and they solve them faster as well. The NetForecast survey data summarized below shows that enterprises with good APM practices experience 75 percent fewer critical application problems, they are 75 percent more likely to learn about performance problems proactively from their IT departments rather than reactively from help desk calls, and they typically spend four hours resolving an application performance problem, compared to the 16 hours typically spent by their low-scoring counterparts.

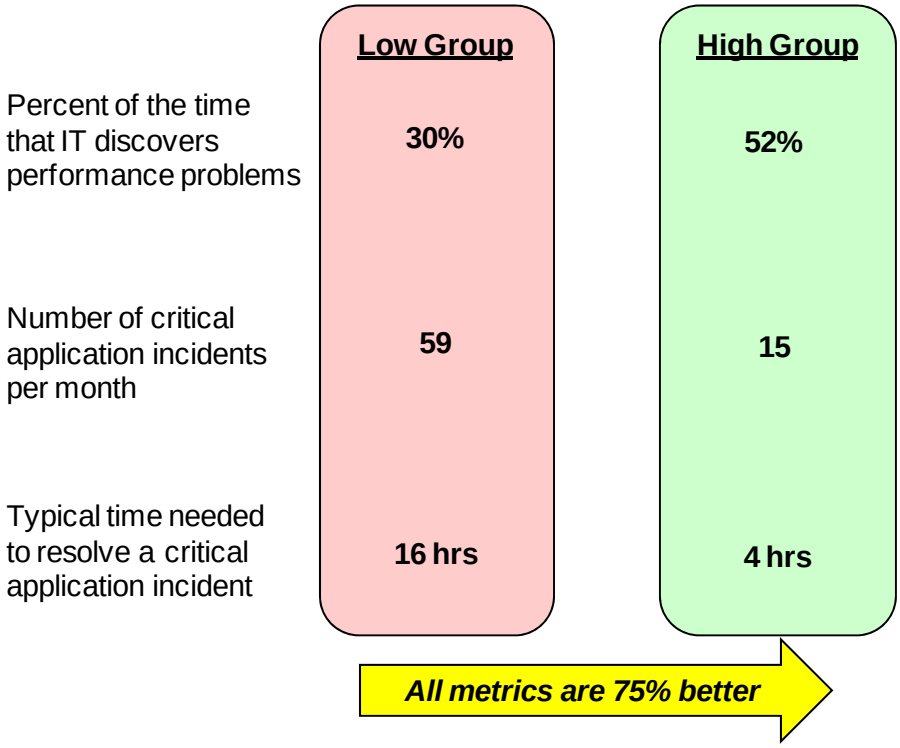

Figure 3. Performance Outcomes for High and Low-scoring Enterprises

Benefits from a Stereoscopic Performance View

While enterprises that do a good job of understanding, measuring, communicating and linking application performance to the business clearly experience better performance outcomes than those that don't, what tangible factors correlate with good outcomes? Several factors stand out. Enterprises with tools that give them both an application and an infrastructure view experience better outcomes than those with just a single view of one or the other, and enterprises with a toolkit that includes two to three vendors also have better outcomes. In addition, we found a correlation between outcomes and the vendors used.

Many enterprises are limited to a "monoscopic" view of only one aspect of performance—usually infrastructure performance. Based on our survey results, we can unequivocally say that those with a dual or stereoscopic view of both infrastructure and application performance achieve remarkably better performance results. Here's the data that shows why two views are better than one.

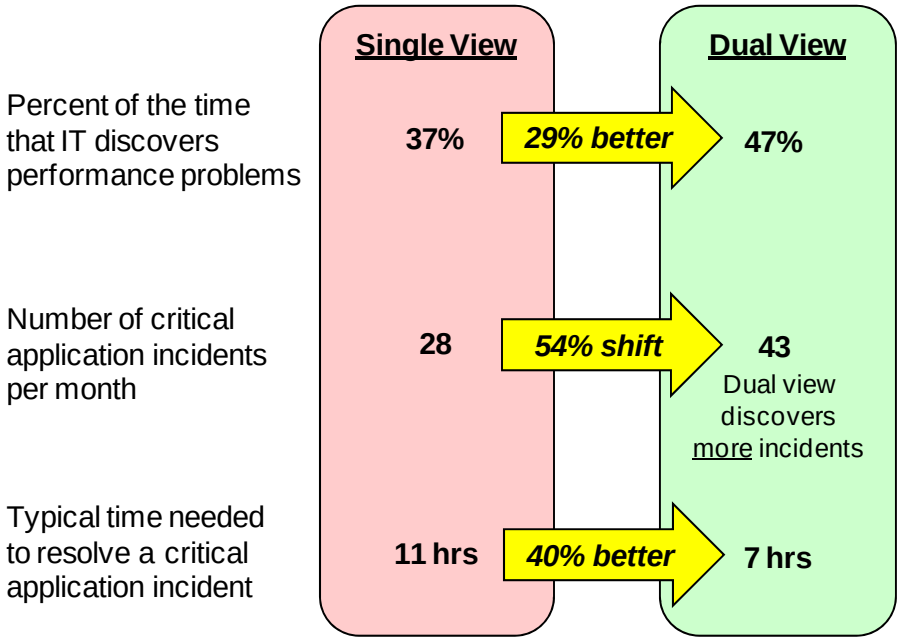

Figure 4. Benchmark Scores for Single and Dual Performance Views

Those enterprises with both infrastructure and application performance views resolved performance problems dramatically faster than their single-view-enabled counterparts. The typical time needed to resolve a critical application incident for those with a single view was a whopping 11 hours, while those with a dual view improved by 40 percent to seven hours.

The percent of performance problems discovered by IT rather than end users also increased for those with dual rather than single views of performance. Those watching both infrastructure and application performance discovered performance problems proactively 47 percent of the time rather than 37 percent of the time for those enterprises with a single view—a nearly 30 percent improvement. Not bad!

Nearly all of the single-view enterprises rely solely on infrastructure tools for their performance information. For most "monoscopic" enterprises, expanding to a dual view means adding application or end-user performance information to infrastructure information. Overall for the population we surveyed, the more holistic approach brings to

light 54 percent more performance incidents, and enables the detection of 43 critical application incidents per month on average, compared to 28 for those with a single view.

'The More the Merrier' Doesn't Apply to APM Tools

You may be itching to buy performance management tools from yet another vendor, but our survey shows that beyond a certain point adding tools doesn't necessarily mean a better outcome. Most high-performing enterprises use two or at most three vendors, while low-performing enterprises use one or two. The takeaway is that most enterprises need at least two and no more than three vendors to achieve good application performance results—and if you have stellar best practices, you can get by with a single vendor.

The figure below shows the correlation between the number of management vendors used and benchmark results. You can see that scores improve with the number of vendors deployed up to three, and among the very highest performing enterprises the vendor count dips. We postulate that the highest-performing enterprises get good results with fewer vendors because they have very effective APM processes (i.e., best practices) in place.

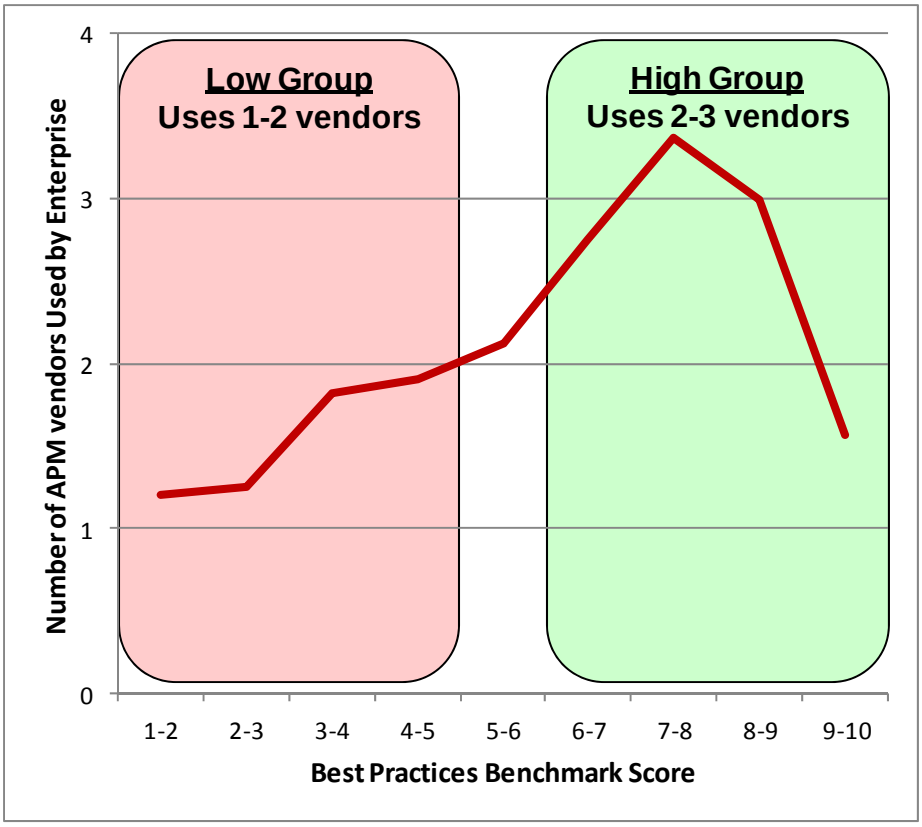

Figure 5. Benchmark Scores versus APM Vendor Count

The finding that using two vendors is associated with good APM outcomes dovetails with the finding described above—that a dual view encompassing infrastructure and application performance enables you to solve more problems faster. The number of vendors required to get the stereoscopic view, however, is evolving as vendors develop new and more comprehensive tools.

Results by Enterprise Characteristics

Very large enterprises have dramatically higher best practices scores than their smaller counterparts (see Figure 6). In a marked trend, until reaching a size threshold of about 40 thousand employees, the larger the enterprise the poorer the aggregate best practices scores. We believe this reflects the fact that the larger your enterprise, the more complex and difficult it is to manage networked application performance. Very large enterprises do well at least in part because they have the wherewithal and time to support efforts like full-blown ITIL, whereas other enterprises are often strapped for financial and human resources and find it difficult to focus proactively on managing application performance.

In our most recent survey, 54 percent of respondents were small enterprises with fewer than one thousand employees, 22 percent were medium-sized, with between one and 10 thousand employees, 12 percent were large with between 10 and 40 thousand employees, and 13 percent were very large, with more than 40 thousand employees.

The 2010 survey population was dominated by enterprises with internal (private) traffic flows. Only five percent of the enterprises had traffic that was solely public (Internet) facing. Overall 72 percent of the traffic mix across the population was private or internal traffic, while 28 percent was public facing.

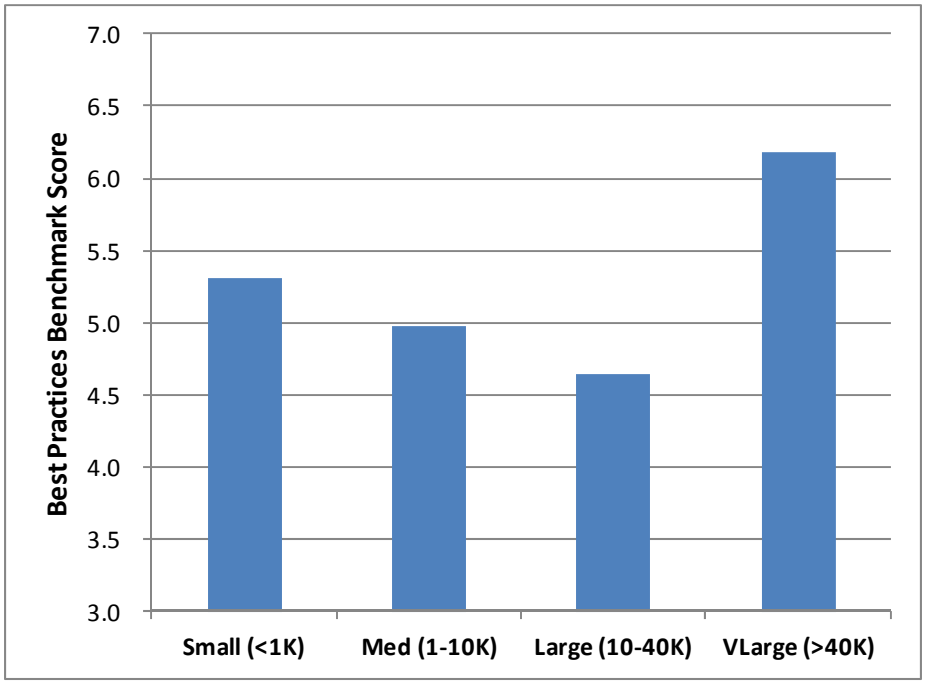

Figure 6. Aggregate Benchmark Scores by Enterprise Size

Figure 7 shows that enterprises of all sizes do better at understanding than they do at linking and communicating—and all enterprises fall short when it comes to best practices for measuring. Measuring application performance clearly stands out as an area that needs work.

The Figure 7 data shows that the larger the enterprise, the more difficult it is to manage all aspects of application performance, but by focusing people and process on APM, very

large enterprises can overcome these scaling challenges. Simply throwing tools at application performance management does not get needed results. Tools must be integrated into a disciplined and adequately-staffed APM process.

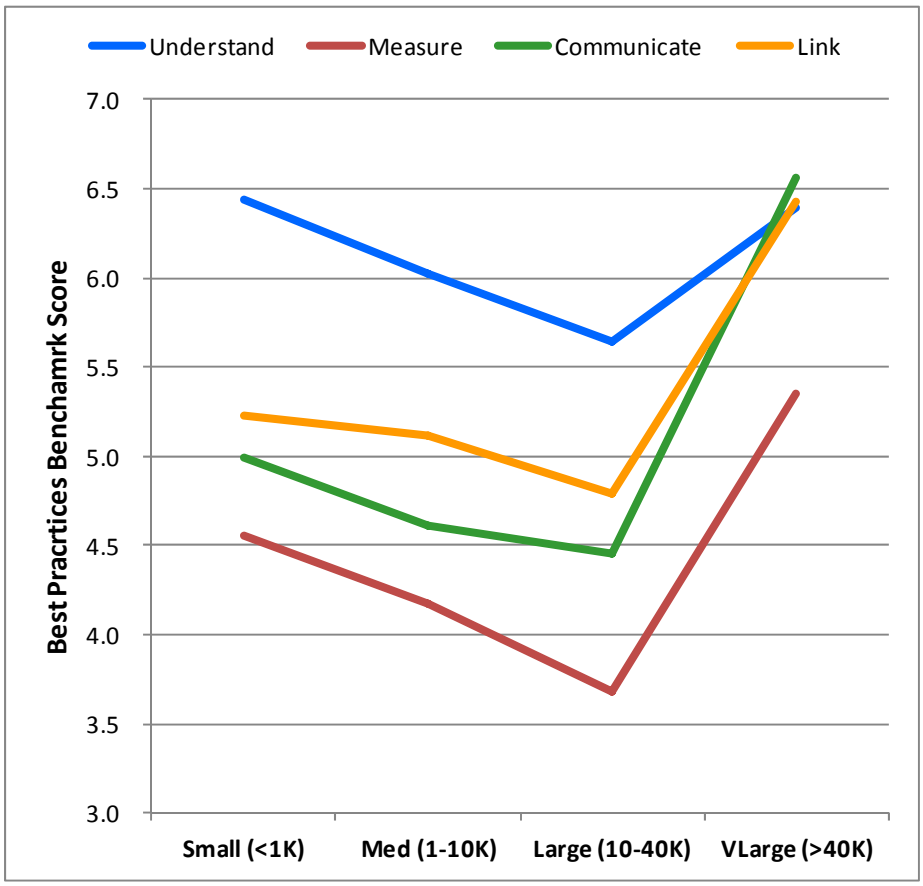

Figure 7. Benchmark Scores by Enterprise Size and Individual Best Practice

Results by Management Tool Vendor

So we can safely conclude that if you want excellent performance for your networked applications you should have two or three performance management tools, but are some vendors more closely linked to high-scoring enterprises than others? Here are some survey results the shed light on that question.

Our survey data shows that NetScout is the vendor most frequently used by top-performing enterprises. Seventy-one percent of enterprises in the high-performing group use NetScout's performance management products. The second most frequently cited vendor is BMC, which is used by 65 percent of the top group. NetIQ ranks third with 61 percent of top performers using its solutions, followed by NetQoS and Quest Software. Figure 8 shows a comprehensive list of vendors ranked by the percentage of top-performing enterprises that use them.

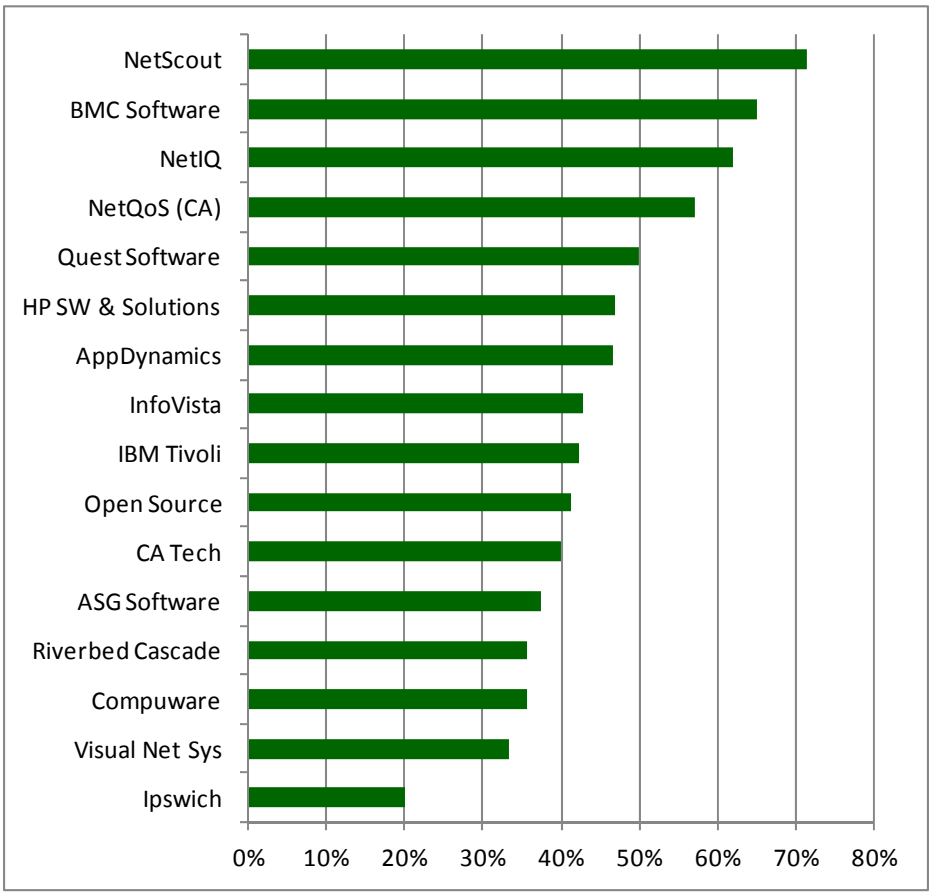

Figure 8. Probability of Vendor Use by Enterprises in High Group

Conclusions

If you do a good job of understanding, measuring, reporting on, and linking application performance to your business, our survey indicates that your application performance results will be much better than if you do not. We have several words of advice for those seeking the best possible application performance. Even though enterprises in the high group got there primarily through best practices, it is also important to factor in the management vendors they use to support those best practices.

Measuring public-facing and private-facing traffic requires different instrumentation, which has led to market bifurcation. Some enterprises with public-facing applications also need to manage their internal systems using private-facing tools, and often the public user experience depends on how well internal systems operate. A fast online banking application can deliver poor performance if account lookups in backend banking computers are slow.

There is a trend among vendors to add the application view to the infrastructure view. A holistic understanding the two sides of performance management can be easier to grasp when it is consolidated by one vendor rather than requiring you to stitch together views from two or more vendors. But beware, many of the new capabilities have been added through acquisition, and may still require you to cobble together an integrated view. Slapping a single company's brand on two independently developed tools does not by itself enhance enterprise productivity. Furthermore, some enterprises may be better served choosing a best-of-breed application tool rather than using a tool their infrastructure management vendor happened to get as a good deal from a mergers and acquisitions point of view. In short, if you want a single vendor, look for seamless integration of infrastructure and application/user performance data.

Best practices rule!

Good performance management builds on good tools--but no matter how great your tools, they are of limited value without good process. Four years of survey results clearly show that implementing best practices is more important than what tools you own. Best practices are what your staff does, and you can benefit from the best APM practices without using any tools at all. If you already have tools, when your team implements best practices you may learn how the tools should be used differently, upgraded, or replaced.

Rank how well you perform each of the four APM best practices. Determine how to improve the best practices you are not adequately supporting. Improvements may be minor, like improving communication to other parts of your organization. Or they may be major, like engaging business managers to hammer out what matters most to the business and how to measure it.

Finally, when shopping for a new APM tool, first document specific best practice improvement goals associated with its deployment. Otherwise you are just shopping for a cool new gadget with no idea how it will improve your bottom line. In the end, it should be all about the business.

About the Authors

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