

The APM Paper

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Application Performance Management

An overview of the marketplace

A look at the trends

A perspective of the future



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Summary White Paper

Introduction

APM Advisors recently profiled the Application Performance Management marketplace, which led to the development a paper that provides a perspective on the current state of the industry and what factors are shaping its direction. Therefore the paper has value to a broad audience, including enterprises of any size, private and public investors and naturally the companies who make up the industry, or have ambitions of entering it.

The goal was to take a look at the breadth of the marketplace, rather than to dig into the details of each category / product / company. As buyers of APM solutions the goal is to provide a high level of service to users, with a focus on business applications. The other focus is to maximize the investments in infrastructure (networks, servers, applications and personnel), by minimizing the impact of non-critical or non-business usage. With that as a foundation an IT organization needs to prioritize it's spending in APM solutions that achieve their cost performance goals.

The key elements of a comprehensive APM solution are:
Information - Resolution - Control

The results of the research led to the development of nine solution categories for APM product offerings. Within those nine categories the solutions provided either deliver 'active' or 'passive' APM services. For any organization the key services of a comprehensive APM solution include a means to develop *information*, *resolve* problems and effect *control*. There are currently too many products providing limited APM services, so a consolidation of functionality will improve 'cost-to-value' of APM solutions. APMA believes that the future of APM will be based on seeing APM *instrumented* in products as a part of infrastructure. This will be the platform for true 'end-to-end' APM services and establish a cost-to-value structure that drives marketplace acceptance.

The future of APM solutions will be based on
Instrumenting the Infrastructure

As an industry a foundation for understanding and delivering APM solutions has to be based on the fact that networks and applications make systems. A system is architected and *instrumented* to provide responsive performance to the users and cost efficiency to the business. Today's APM solutions are in the early cycle of evolution in delivering system value, but the foundations are there and the course is clear.

This paper looks at the 'trees', but it's all about the forest!

APM Solution Categories

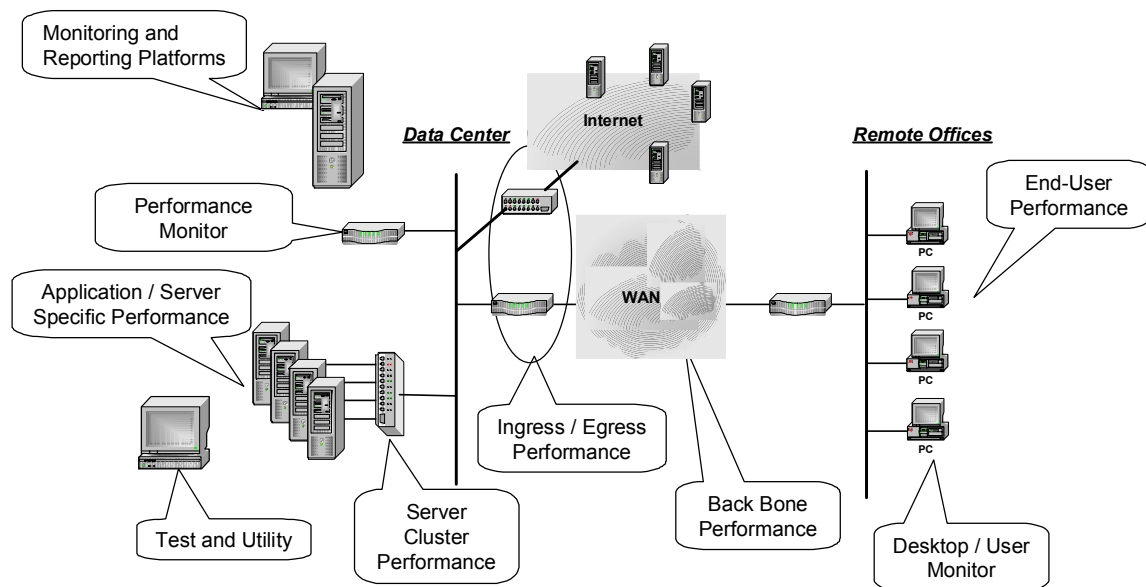
Application Performance Management (APM) as a goal is an important one, but the challenge of implementing APM within any system is significant. No longer do all of an organizations applications reside within the walls of the data center and even if they do, a single transaction may involve several platforms.

The APM goal established by many organizations is to align application performance with the value of them within the business. Therefore, APM solutions need to incorporate a true 'end-to-end' capability, for all the applications that flow within an organization. However, the current state of the industry leaves the ability to effectively manage all application services within an organization from 'end-to-end' out of reach.

There are no end-to-end APM solutions!

Since organizations will need to apply more than one solution to achieve their goals, it dictates, that the scope of APM includes all product and service offerings. Furthermore, within many organizations there are several business critical applications, some within and some outside of the firewall.

APM Advisors has taken a look at about 100 companies offering application performance solutions and began the task of categorizing them. The following diagram provides a visual perspective on the results of that effort, which associates product solutions within the area they function.



Application Performance Management Solution Categories

As outlined earlier there are nine categories of solutions from a number of companies and even more products to cover. Rather than provide detailed information on each product, we believe the value of the research was better tailored at the state of the industry, the trends and the end goals.

As outlined earlier, there are three fundamental elements to establishing an APM system solution. (*Information, Resolution and Control*) That is much easier to say than do for many reasons. A key aspect of the challenge is that the environment that any organization is attempting to stabilize is constantly changing. Therefore an APM solution needs to be as adaptive as the environment it is attempting to provide stabilization for.

Active or Passive

Overall most vendors agreed with APMA on whether or not their products were Active or Passive. The exception to this comes from companies offering products that perform simulated transactions or performed task such as restarting services or rebooting servers. Their position is that they are actively doing something and therefore provide an active service. However, with that analogy any product is active since it is polling, gathering, processing, etc. , We listened but in the end decided that we were right in the first place.

Passive Problems

The primary problem with Passive products is that they provide a significant amount of information, but they don't do anything about it. Many of the vendors contend that they provide guidance on resolving a problem, but in our discussions with them, some didn't seem to understand that their was a system out there with many other applications contending for resources or other performance impediments that they had no visibility into.

What is CYA APM?

For the most part passive *information* products are typically purchased within a specific operational discipline within the organization. This is quite often done because they aren't satisfied with the information provided by another group, or they are in a 'defensive mode'. In a defensive mode, the group is attempting to demonstrate that performance problems within the system aren't caused within their area of responsibility. At APMA we call this CYA APM.

So the good news for vendors of *information* is that 'information still sells' and sells well within the 'silos' of operational responsibility in many organizations.

Active Problems

Overall, APMA believes that companies with only Passive solutions will be behind the APM curve, as the Active products mature and gain acceptance. However, the maturity issue is a real one for now. The Active products provide 'point solutions' for many of the problems that they address. While if you read the marketing material, they provide true 'end-to-end' solutions. However, they don't!

The larger challenge for the vendors of active products is that they are a component within a system of what will become an APM system solution. For any larger sized environment, there is or will be one product from each Active category. Trouble is that they each bring a unique policy engine for defining guidelines of *control* and naturally, their own reporting platform.

Since the types of knobs and the definition of those knobs differs between each solution, it makes it quite difficult to set consistent policy across an entire system. Secondly, active products are taking action based on their perspective of the situation. While with a broader perspective (information from other passive or active solutions) the system value of that control would increase.

Information, Resolution and Control

Information

This is the most basic and initial step for an IT organization should achieve. It's quite basic, that at the business level and within the various IT disciplines, an organization needs to understand it's networked application environment. What is running on the infrastructure, what are the baseline or current operational characteristics, who is using it and what are the associated cost.

Resolution

Regardless how well the system is designed and managed, there will be events that have an impact on application performance. Additionally, changes within the system, such as the introduction of new applications, user population growth, etc., will have a direct impact on performance levels. Being able to quickly identify those conditions, isolate the cause and restore stability are important capabilities to have ready to initiate.

**APM Solutions Need to Include *Control*
The Alternative is Increased Cost**

Control

In order to achieve the APM goal of aligning the business of IT, an organization needs to have the means to control the variables in their environment that require alignment. The breadth of *control* options is perhaps the most powerful aspect of APM and is also the segment of the industry in the most flux. With the ability to *control* everything from the application to the behavior of a user, the power of APM controls are just beginning to develop.

Establishing and leveraging *control* mechanisms is the holy grail of APM, since the alternative for not having controls is increased cost.

The real challenge for any organization is making sure that the information being gathered is meaningful to the business, the ability to react is instrumented and the methods of *control* are appropriate. The common feedback from IT organizations is that they have more information than they need, but they lack the means to structure that information with the context of the business it serves. In respect to isolating anomalies, given enough time and money, any problem can be resolved, but the key is to have an infrastructure instrumented for facilitating efficiency in resolving those problems.

Trends in APM

The industry has gone through the initial phase of early adopters and initial offerings. With the lessons learned by both vendors and users, the second phase of offerings and a broader market for products has emerged.

While the need for true 'end-to-end' is still the core requirement of the buyer, the solutions lack both the architectural capabilities and operational insight to deliver it. However, this doesn't mean that there haven't been some important advances that provide the foundation for delivering meaningful value.

WHAT'S EXCITING?

IT'S the INSTRUMENTING of APM into INFRASTRUCTURE!

The trends that are shaping the marketplace include consolidation of functionality and the initial steps toward *instrumenting* APM services. The consolidation of functionality is basically occurring within the APM Solution Categories identified by APMA, but there are some interesting exceptions to that model.

Naturally, those exceptions are occurring with adjacent solution categories and the results are quite interesting. It's difficult to state that there is a trend developing within *instrumentation*, rather there is a trend toward *instrumenting* APM.

It is *instrumentation* of APM functionality that will drive innovation and deliver APM as part of infrastructure rather than as a product overlay.

With the foundation of the APM Categories in place it will become quite clear why the categories are structured the way they are as we delve into the trends. For the most part the trends in the various categories are in line with the needs of the marketplace. There is also quite a bit of room for innovation and leadership which will be outlined within the various categories and more clearly defined in the APM Outlook later in this document.

In looking at the trends there are reference to several companies and their solutions. APMA has used these solutions as examples of companies who are driving change in the industry, by improving the 'cost-to-value'. In many cases we identified companies that don't have as much name recognition as some of the larger or better-funded companies. However, their approaches to providing *information, resolution or control* make them companies worth review.

Furthermore it will become clear that there is a significant amount of coverage in the Ingress/Egress section of the paper, which is due to the fact that this group incorporates the most APM *control* functions. These companies have the most time in the marketplace and it is quite easy to see how trends within this category will be replicated in other categories as well. Furthermore, the APMA 'hot button' of *instrumentation* is best represented in this section, with early examples also showing up in the 'active' portion of the Server/Application and End-User Performance categories.

Summary

A very wise consultant once said, “*We’re just reinventing the wheel.*” During the late 70’s and 80’s, IBM’s System Network Architecture, went through all the same evolutions to develop a system environment we are working through today. If you were around then, it’s pretty easy to align the developments in IP systems with those that occurred some 25 years ago.

The challenge for the industry and therefore their customers is that the new protocol structures (IP and his friends) don’t lend themselves to disciplines that enable *information, resolution and control*. In fact they are the antithesis of the very foundation of an APM system solution. Therefore the new wheel takes quite of bit of innovation and discipline.

The DEN (Directory Enabled Network) initiative had its heart in the right place, but took a product approach, rather than address architectural issues. Since that ‘train wreck’ there hasn’t been the energy or leadership to pick-up the pieces and start over. Now to just to grind some salt on the wound, there is NSIS (Next Steps in Signaling) that ‘reuses where appropriate RSVP’.

From a technical perspective a decent Session Layer would solve a significant number of the *information, resolution and control* issues needed to deliver APM results. However, don’t hold your breath.

The APM Paper takes a good look at the reality of the industry and delivers a picture of where we are today, what trends are developing and if the ‘wheel’ is being built, what’s next. As with any industry there will be a significant amount of attrition over the next two years, which will be painful for some, but just part of the process.

The niche information companies will feel a significant amount of the pain, since CYA APM only goes so far. However, the companies who have the ability to control application performance will prevail in the real battles for survival, success and eventually supremacy. Because again, without *control* the only option is added cost and IT organizations are done hoping that money alone will solve the performance problem.

Every IT organization needs to have an APM strategy as a template for what types of products they are going to buy now and how they are going to begin to *instrument the infrastructure*. The industry needs to be a better partner in enabling the strategy and provide the foundations for *instrumenting* the value of their solution.

Without a wheel, we’ll never get this ‘thing’ on the road and we really need this ‘thing’ on the road!

About APMA

APMA was recently founded by R. 'Lynn' Nye Jr., who is returning to consulting after spending 5 years at Centrisoft, which he founded in '98. Prior to Centrisoft, he had founded NetResults, which was a consulting company focused on assisting growth companies develop product and business strategies targeting enterprise network opportunities. During his 5 years at NetResults, Lynn wrote over 100 articles and columns (Enterprise System Journal, Communications Week and others) and spoke extensively on networking issues worldwide. His prior experiences include product management and marketing at Sync Research, as well as network engineering at First Interstate Bank of Oregon.

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