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Research Report

Aternity Workforce APM - the User is King

Introduction

In a world that combines physical, virtual, mobile, cloud, back-end systems, and front-end devices with a complex mix of applications and infrastructure components, the user is really the common thread. Today's users are becoming more sophisticated, have more choices, and as a result, have higher expectations with respect to application performance. Trades don't execute instantly. Money lost. A doctor can't quickly access patient records? A diagnosis may be missed. The sales forecasting app crashes during the weekly management meeting. Critical decisions are delayed. The workforce can't get into a vital productivity app on their desktops. Ten to 20 minutes of lost productivity for thousands of employees.

Not only that, the average user may have several devices including a desktop PC at work, a laptop at home, a tablet and a mobile phone. And on the other side of the coin, users may be accessing data in the cloud, traveling through various layers of infrastructure including databases, networks, storage and hypervisors - on-premise and off-premise. So what's the best way to determine how applications are performing?

There are a wide variety of approaches to application performance management (APM) that cater to a broad range of requirements. There are transaction monitoring tools that look at transactions as they traverse across infrastructure components. "Deep-dive" APM tools drill down into a problem to diagnose root cause. Many solutions provide analytics that can detect a problem before it occurs and provide a notification or alert, or in some cases provide an automated fix to the problem.

There are also a range of solutions that assess end-user experience. Synthetic monitoring tools include scripts that emulate users interacting with applications at predetermined time intervals to determine application performance and user experience but - don't actually look at what real users are doing. Network-based packet capture solutions are helpful to understand security and network management but can't determine actual screen render time for users. Javascript code can provide user experience data for web applications in on-premise data centers, but not for cloud-based or 3rd party applications out of your direct control. And physical and virtual device monitoring captures only system metrics and resource utilization but provides no visibility into actual end-user experience.

Many vendors provide a comprehensive solution that incorporates some or all of these approaches, while other vendors choose to focus on a particular area. Aternity Workforce APM falls in the latter category, focusing on monitoring *real end-user experience* rather than inferring what the user is seeing based on other related performance metrics. As such, it is a great complement to other kinds of monitoring tools because it looks specifically at how *end-users are actually experiencing applications.*

In this *Research Report,* we'll examine Aternity Workforce APM - how it works and what it does, and we'll review new features planned for Version 8. We'll also look at Aternity's Mobile APM suite of products.

Background
Traditional APM solutions don't look at application performance from the user's perspective. Instead, they take a "supply-side" approach from the vantage point of the data center, looking at transactions or a single application. This goes back to the roots of legacy APM solutions that, in many cases, degraded server performance to such an extent, they were only "turned on" to look a particular application *after* a problem was identified. As these tools evolved, they were deployed only on one or a few select "mission-critical" applications due to the integration and instrumentation that was required to maintain them.

In recent years, simpler, more economical solutions have entered the market. Quicker to deploy and available as-a-service (in some cases free for limited functionality), application owners were able to procure these solutions rather than working through IT. Multiple applications can be easily monitored across the application lifecycle, both in the development phase and in production. While these products may not be able to provide the depth of legacy APM solutions, they do offer some performance information on all applications very quickly. But the bulk of these solutions are still focused on the application, the transaction or the underlying resources.

Aternity
Aternity Inc., founded in 2005, is headquartered in Westborough, Massachusetts, with R&D based in Israel. Aternity solutions are used by Global 2000 companies in virtually every vertical market including Financial Services, Oil&Gas, Healthcare, Government, Manufacturing, Telco, Retail and Legal. Marquee customers include Anthem, Bank of America,Chase, Citibank, AT&T, BAE Systems, CVS, HCA Healthcare, Tenet, major law firms, and multiple federal agencies. Over two million endpoints on physical and virtual desktops, as well as enterprise mobile devices are running Aternity software, with deployments ranging from1K to 150K+ devices.

Aternity's target market is the global enterprise relying on "Next Generation End User Computing" to provide their workforce anytime, any-place access to a full range of applications, delivered on mobile, virtual and physical devices. By providing visibility into end-user experience issues across all devices and all applications, Aternity solutions enable enterprises to measure, manage, and improve the productivity of their technology dependent workforce. As a result of this unique vantage point, many enterprises that employ "data-center-focused" APM tools (Dynatrace, AppDynamics, etc.) also adopt Aternity Workforce APM. This strategy has been very successful- Aternity recently reported 40% year-over-year sales growth with roughly 60% of those sales coming from new customers, representing a 25 percent increase in the customer base. A 250 percent increase in sales to existing customers was also realized, comprising about 40 percent of new license sales.

According to Aternity, a major roll-out of up to 20,000 desktops up to 10 applications can be done in 45-60 days. The company provides professional services, but clients can do

most of the implementation themselves if they opt to. Available in both SaaS-delivered and on-premise, customers have flexibility and security. Aternity Mobile APM provides mobile APM for applications used by an enterprise's customers or their workforce. Aternity Workforce APM ensures the reliability of any business-critical application running on mobile, virtual and physical devices. A free 30-day product evaluation is also available.

Aternity Workforce APM – A Closer Look
Aternity Workforce APM takes every device across physical, virtual and mobile environments and turns it into a self-monitoring platform that is user –experience aware. By doing this, the solution provides accurate insight into what end-users see from whatever device they are using across an entire portfolio of applications - "any application, any device, any user." The solution enables you to define user interactions with applications in the context of a business workflow, to measure, manage, and improve workforce productivity. By collecting and correlating all the elements of user experience, a more accurate and comprehensive view of user experience is provided (See ***Figure 1***, below).

Figure 1- Aternity Workforce APM
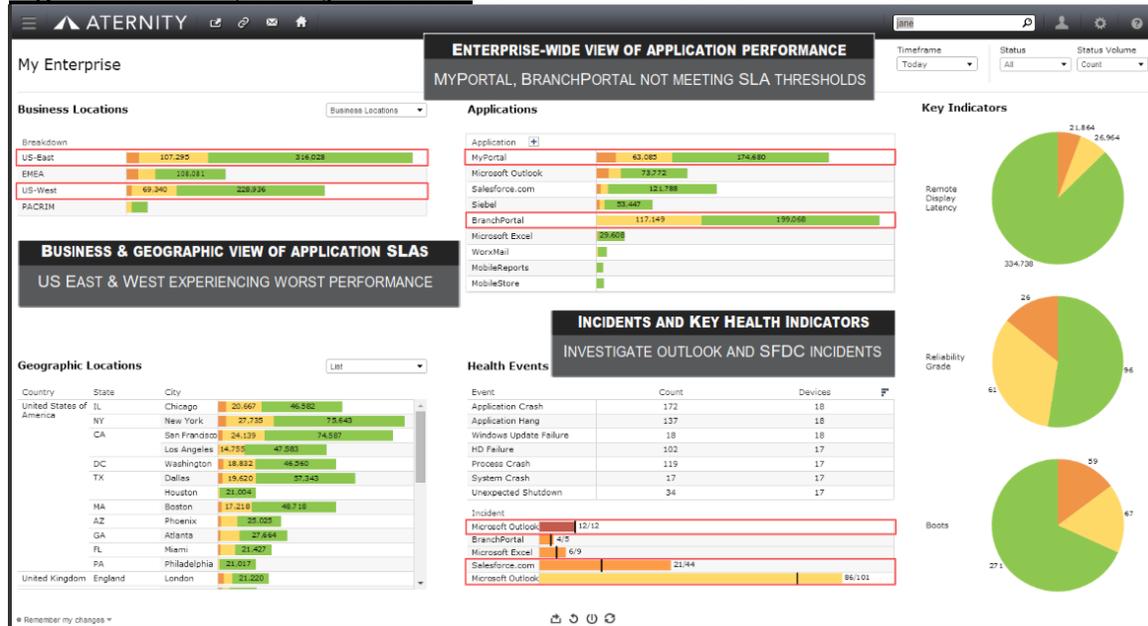
Source: Aternity, 2015

Aternity Workforce is designed to answer questions such as the following:
- Are our applications delivering the expected performance?
- Are we in compliance with our SLAs? Is our service provider in compliance with our SLAs?
- Has my recent upgrade improved user experience?
- How do I ensure reliable service in cloud environments?
- Why are our users in different locations experiencing different response times?
- Will a technology refresh improve performance in remote sites?
- How do we measure technology investments in terms of user productivity gains?
- How does user experience vary from application to application? Why?

- How do I show that my VDI implementation is successful?
- How do I show that my mobility initiative is delivering positive business results?

How it works
Applications are instrumented at the endpoint, providing detailed user and workflow capture of any endpoint application. Information collected includes things like location, subnet performance, department, desktop type, target server, software configuration and application method and hardware configuration.

The user is monitored through the application in the context of the business process by using the Aternity agent to capture user-defined business activities or processes, such as "logon," "order item" or "add new customer," for the specific application architecture. Using "signatures", every interaction the user is seeing is chained together as a sequence of events in a business process, looking at performance, latency and response time and assessing the impact. Business activities can be single step processes or complex, multi-step workflows.

One of the key strengths of Aternity Workforce APM is its ability to correlate user productivity metrics, application performance metrics (as experienced by the end user), and performance metrics of the mobile, virtual, or physical devices on which the workforce applications are used. Statistical models are developed for every business activity based on the user's contextual environment and baselines are automatically created through a self-learning process (typically takes only a couple days to establish a baseline). If a critical deviation is detected, a trouble ticket is automatically opened and/or an alert is generated. The issue is analyzed to determine who is impacted and how many are affected. Root-cause analysis (focused on the user-side not on Java or .Net code) is performed to identify the source of the problem.

Major Features Aternity Workforce APM 8.0
Enhancements planned for Aternity Workforce APM 8.0, due out in Q2 2015, focus in three general areas:

1. Expanding customer use cases- Aternity addresses use cases for application developers, IT Operations, line of business (LOB) managers, help desk and client services staff, desktop and application owners, VDI engineers, and others. Version 8 adds more use cases to this this list.
2. Providing faster time to value
3. Lowering the cost of ownership, operation, and administration.

Let's look at each of these new features in greater detail:

- Expanded Support for Enterprise Mobile App Developer Use Cases- A full range of Mobile APM use cases is available for developers of mobile enterprise apps, the IT Operations staff who supports them and the LOB managers who use them.

- New Dashboards for New Use Cases- Aternity's many existing use cases are expanded to include new dashboards to address use cases for Network Operations Center (NOC) personnel (See ***Figure 2***, next page), trouble- shooting user's complaints of poor service, and analysis of mobile data volumes. By providing additional use cases, potential problems can be identified more quickly and easily and fixed before they impact user experience.

Figure 2- NOC dashboard provides a high level view of application performance and incidents, with one-click access to incident impact analysis
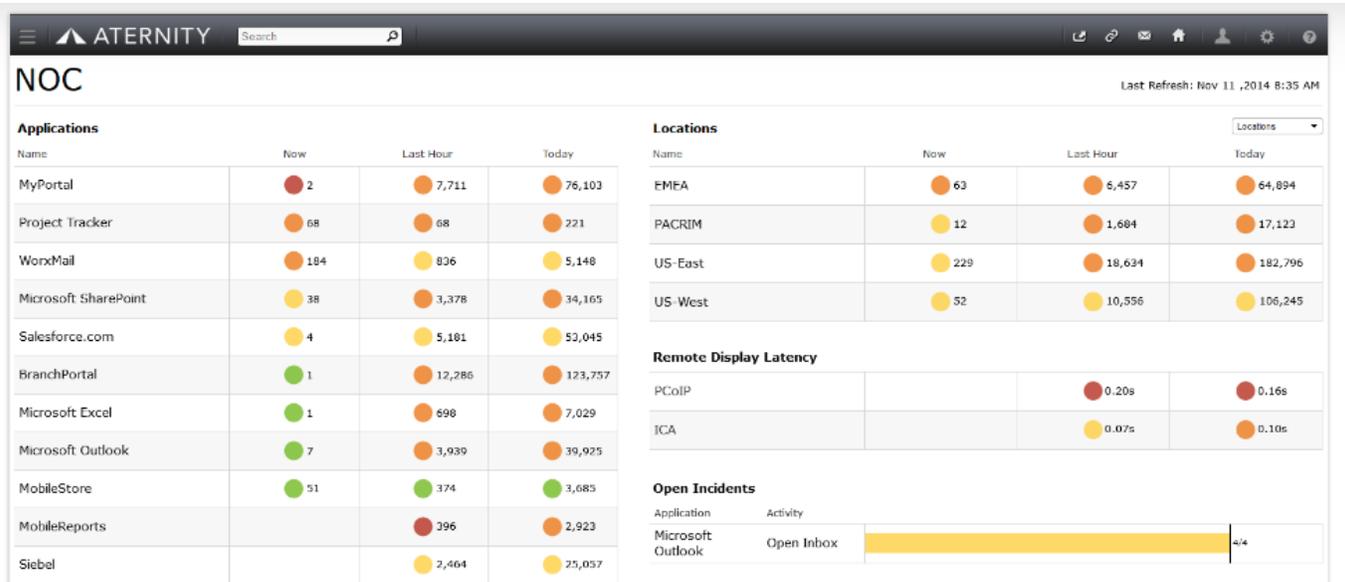
Source: Aternity, 2015

- Deeper Trouble Shooting Use Cases - Real-time performance analytics correlate user experience to application and device metrics so IT Operations can identify the cause as well as business impact of performance problems. Version 8.0 includes enhanced correlation between business activities and metrics such as device and process resources, and boot and health events. Dashboards present the additional metrics for enhanced, actionable reporting, enabling IT Operations to rapidly identify and compare performance of least impacted users to those most impacted.

- Aternity Mobile Wrapper - IT Operations, app store and mobile device management (MDM) administrators are able to instrument mobile apps for diagnostics and user interactions without requiring access to the code or an application developer, and with no loss of monitoring functionality (available at no cost to Aternity Workforce APM customers).

- Expanded Device Monitoring – The current version includes an extensive collection of default desktop monitors for issues such as Blue Screen of Death (BSOD), application crash, Windows update failures, etc. Version 8.0 expands on this set, with eleven new default desktop monitors that enhance customers' ability to

proactively identify and resolve desktop issues impacting end-user experience. The new monitors provide a deeper view into device performance issues, such as those related to printing, battery, memory, hard disk, and Network Interface Cards.

- Improved Dashboard Ease of Use –New dashboards use industry-standard Apdex (open standard index for benchmarking and reporting user satisfaction with application performance based on three zones of application responsiveness: satisfied, tolerating and frustrated) measures of user experience and provide enhanced navigation and drill-down support. Context-sensitive drilldowns tailored to use case scenarios speed the flow between management screens, and in Version 8.0, dashboards have improved load and refresh times.

- Web Page Monitoring - Business Activity Analytics define a user's interaction with an application in the context of business workflow. Version 8.0 enables enterprises to monitor business activities executed on web based applications out of the box, without building signatures, and analyze performance of those applications across the full range of Aternity dashboards.

- Improved Signature Development – A new recording tool and improved GUI makes it easier to create signatures. Version 8.0 also enhances the ability to create signatures for mobile apps, and includes out-of-box support for launch activities.

- Easier Administration location mapping, improved provisioning rules, and dashboards for system health and administration makes it easier for administrators to monitor performance and resource utilization in large enterprise deployments that are adding mobile and VDI.

Summary Observations

The APM market is continuously evolving to deal with new types of applications. The first tools were developed to monitor and diagnose the root-cause of problems in on-premise, mission-critical applications. Newer tools monitor and manage the performance of web-based applications. Accelerating growth in mobile has given rise to the mAPM market. Many of today's solutions include analytics for predictive proactive management, and legacy APM products have also been enhanced to include these kinds of capabilities.

These solutions arm application developers with the capabilities needed to rapidly resolve code-related application issues, an important element of any enterprise APM strategy. But today, businesses also need the ability to ensure workforce productivity by providing excellent application performance even when the application problem isn't code-related.

Aternity Workforce APM focuses on performance from the perspective of the end user's device, on the user's experience of *all applications across all devices*, with the goal of improving productivity of the technology-dependent workforce. Aternity augments developer-focused trouble-shooting use cases with use cases targeted to IT Operations and LOB Managers.

So while many large enterprise customers employ APM solutions from CA Technologies, IBM, AppDynamics, Dynatrace, New Relic and others, Aternity has been successful selling its solutions to work in conjunction with these products. As other vendors continue to improve and expand functionality to monitor and enhance application performance, Aternity's focus is specifically on user experience and its business impact -- which aligns with predicted market growth in mobile, VDI and the total number of devices each user relies on.

Aternity's experience, strong end-user oriented product set and innovation around ease-of-use and new use cases puts the company in a great position to sustain strong growth and attract new customers across a broad range of industries.

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