Application Performance Management
Solution Partners: NETSCOUT, OPNET

Application performance management, or APM, refers to the discipline within **systems management** that focuses on monitoring and managing the performance and service availability of software applications. APM is now a key I.T. discipline because maintaining the performance and availability of applications is the primary service an IT department provides to the enterprise. APM involves the use of related IT tools to detect, diagnose, remedy and report application's performance to ensure that it meets or exceeds end-users' and businesses' expectations. Application performance relates to how fast transactions are completed on behalf of, or information is delivered to the end user by the application via a particular network, application and/or web services infrastructure.

Methods for Measuring Performance

There are two main methods by which applications performance is assessed for production applications.

- *The first is measuring the resources used by the application*. This method has been in use since computers have been used for business applications, and is still in use.
- *The second is measuring the response time of applications from the perspective of the end user*.

Application performance management is related to end-user experience management and real user management, in that, measuring the experience of real users in the use of an application in production is considered by many as being the most valid method of assessing the performance of an application in production.

Platforms

The use of application performance management is common for web applications written to JEE and Microsoft .NET platforms. All of the leading systems management vendors have JEE and .NET APM products in their portfolios. These APM for JEE and .NET based applications have the advantage of being able to measure response time from the perspective of the web server, and being able to provide root cause analysis for the likely causes of performance issues within the applications code executing in the JEE or .NET environment. Many of these products also have connectors that monitor the transaction flow from the business logic layer of the application to the database server, or to external interfaces like web services. Some of these vendors also have HTTP appliances in their product line that can decode transaction specific response times at the web server layer.

Current Issues

The difficult issues in APM currently revolve around two trends in the IT industry. The first is that for many enterprises, only a small fraction of their business critical applications are web based and written to JEE or .NET. For these enterprises who may have business critical applications like SAP that use "fat" Win32 clients, their APM need can only be met by engaging with vendors offering deep End User Experience monitoring for a specific set of enterprise applications. The second issue is that many applications systems are being

virtualized, which has the effect of breaking the validity of time based performance metrics gathered within the guest OS where the application is running. This requires a totally new approach to APM tuned to the requirements of virtualized systems.

While there are a number of established vendors in the APM space, such as IBM and CA, as well as larger players like Microsoft and Oracle looking to grow in the market through strategic acquisitions, a number of other vendors have won credible awards with new, innovative approaches to the problem. Such vendors are **NETSCOUT, OPNET, INFOVISTA, etc.**

Five Functional Dimensions of APM

According to Gartner research, Application Performance Management includes 5 distinct functional dimensions;

- End-user experience monitoring
- Application runtime architecture discovery and modeling
- User-defined transaction profiling (Also called Business Transaction Management)
- Application component deep-dive monitoring
- Application data analytics

APM Solutions

To enable comprehensive APM in an IT environment, **Proxynet Communications** understands the pains of clients and has been in partnership with solution vendors like **NETSCOUT** & **OPNET** which have a proven track record in delivering pioneering APM capabilities for many years. Proxynet Communications in Partnership with **NETSCOUT** have deployed one of the largest, most successful enterprise APM infrastructures for **MTN Nigeria**. By implementing these comprehensive APM solutions, IT organizations can attain the following high-impact benefits:

- Detect the experience of real application users live, and alert on SLA violations.
- Learn and develop historical performance of an application to detect or confirm degradation in user experience.
- Rapidly speed up troubleshooting and solution deployment.
- Eliminate "finger-pointing" among teams, promoting cooperative approaches to solving problems.
- Detect early warnings signs of application performance problems and take preventive action.
- Recognize the relationship among applications and infrastructure components.
- Make informed decisions about infrastructure improvements related to application performance
- Reduce the risk of delay or failure by verifying application readiness prior to deployment