



# Addressing the top worries of monitoring SaaS applications

**SaaS solutions still require monitoring and management to be business solutions.**

By Dan Kusnetzky, Distinguished Analyst

## EXECUTIVE SUMMARY

Software as a Service (SaaS) offerings, such as Salesforce.com, Office365, Microsoft Dynamics or Athena Health, hold out the promise of both being the replacement for enterprise applications and the platform for future development. Moving in that direction is the goal of organizations seeking to reduce their overall cost of doing business and to increase their level of agility when dealing with the rapidly changing market.

The move towards SaaS offerings is not without its challenges, however. Since the infrastructure (systems, operating systems, applications, databases, storage and networks) is controlled by the service provider, the organization's IT staff often find it much more difficult to monitor these workloads, isolate what factors are causing performance problems, and documenting the root cause analysis so that the provider's staff will quickly act and resolve the problems.

This indicates a need for intelligent, cloud-focused tools to monitor and gather operational data, analyze that data and provide the needed evidence for the provider's support team.

## SOFTWARE AS A SERVICE

Software as a Service (SaaS) is a hot topic in the IT industry today. The concept is simple. Companies subscribe to an online service that provides a complete workload or series of applications and pay for that service as they use it. This is very much like purchasing and using utilities, such as electricity or telephone.

All of the systems, operating systems, databases, storage, and networking components reside in the provider's data center and are owned by the service provider. The provider's staff provides development, operations and facilities management for that workload.

Subscribers access this service using a compatible Web Browser or client application from wherever they are in the world using their favorite smartphone, tablet computer, laptop computer or PC.

## THE CONCEPT IS EXPANDING AND BECOMING UBIQUITOUS

Some of the most sophisticated SaaS suppliers have expanded their offerings to include a complete platform for development and execution so that subscribers can add their own custom reports, applications and databases to the business solution provided by the service provider.

This approach is neither new nor scary. Nearly all users of smartphones and tablet computers are already heavy users of SaaS applications, such as Email, maps, retail applications or online storage.

SaaS offerings, such as Salesforce.com, Office365, Microsoft Dynamics or Athena Health hold out the hope of simply and easily addressing many corporate

Document #20141031

The Kusnetzky Group © 2014

The Kusnetzky Group is an independent supplier of marketing and research services to suppliers end user organizations and Suppliers. Suppliers of hardware, software and virtualization technology are among those organizations. This document was sponsored by AppNeta. The opinions presented in this document are based upon Kusnetzky Group's research, personal experiences and actual use of technology regardless of whether this document or the supporting research were sponsored by one or more of the Kusnetzky Group's clients. This document may not be copied in whole or in part without the written permission of the Kusnetzky Group.

needs. The goal most companies have for subscribing to SaaS services is to have access to full-featured, flexible applications without also having to pay for and support real estate, systems, software, power, networking and storage equipment. Furthermore, since the service provider maintains the environment, subscribers hope to reduce or eliminate completely the cost of facilities management, security, development and operational staff.

#### ORGANIZATIONS ARE STILL RESPONSIBLE FOR MONITORING AND MANAGEMENT

Organizations, however, are not relieved of the responsibility to manage and monitor their applications. In fact, monitoring everything is still a requirement of the customer. It is wise for SaaS subscribers to monitor application performance, application delivery, use of storage, use of networks both in their own data center and what they can see of operations in the SaaS supplier's data center.

#### MANAGEMENT AND MONITORING TOOLS MUST GROW UP TO MANAGE SAAS

The challenge SaaS Subscribers often face is that they're using older management tools that were designed to monitor and manage on-premise systems not systems in a supplier's data center in some other geography or on the other side of the world. These older tools were designed to present the world of a single type of system, operating system, database, application or other silo. Getting a holistic view of both an organization's own IT infrastructure, as well as that operated by a SaaS supplier can be quite difficult.

If applications and their components are "running in the cloud," they are really executing on physical or virtual systems. They are using real storage and are accessing real networks. The key difference is that all of the necessary equipment and staff are housed in the supplier's data center rather than being on-premise in the customers data center.

#### CLOUD SERVICE SUPPLIERS CAN MAKE MONITORING DIFFICULT

Since customers are not allowed to see or manage much of the internal infrastructure in the service supplier's data center, it can be quite challenging for a subscriber's IT staff to accurately understand or quantify operational data for SaaS applications.

So, if a SaaS application demonstrates erratic or poor performance, it can be quite difficult for the subscriber's IT staff to recognize what the root cause is or fix it. At best, IT must gather what data is available, analyze that data and present it to the SaaS supplier's help desk staff.

#### MANY ORGANIZATIONS ARE SHARING THE SAME RESOURCES

Part of the problem is that physical resources, such as systems, networking and storage are being **shared** by all of the users of that SaaS application. The service provider has an obligation to protect the security and privacy of its customers. This means that those sharing resources are not aware of that fact and can't see what others are doing that could impact performance or reliability.

Performance or availability issues might actually be caused by what other organizations are doing or have done.

Since this level of operational data is not shared with SaaS subscribers, it is difficult to impossible for a subscriber's IT staff to learn more about what's happening.

#### WHAT CAN SUBSCRIBERS DO IF PERFORMANCE DOESN'T LIVE UP TO EXPECTATIONS?

If something fails or breaks IT staff are forced to search for what's happening using tools that don't provide a holistic view of what's happening on of the systems, software, storage and networking that make up a business solution. Using these tools, they try to locate the problem if they can.

## FINDING THE PROBLEM IS ONLY THE FIRST CHALLENGE

Once the IT staff has developed an understanding of the problem, they then face the challenge of informing the SaaS supplier's help desk staff of what they've observed, their analysis and what they think should be done.

The IT staff needs to be able to collect compelling evidence of the problem to be able to be persuasive and encourage the SaaS supplier's helpdesk staff to act at all much less to act quickly. This means that they must be constantly gathering operational and performance data in preparation for a performance problem or failure. They must be in a position to quickly analyze that data and be able to **demonstrate** that the problem or failure can be attributed to the SaaS application not to something done by the subscriber's end users or customers. Only then will they be able to get timely assistance from the SaaS supplier.

After all, the SaaS supplier's helpdesk and support staff are likely to presume that their product is doing what is expected of it and that any observed problems are very likely to be due to something the customer's staff has done.

## WHAT DO BUSINESSES REALLY NEED?

If we step back for a moment to consider what an ideal solution, a solution that balances the organization's needs for both reduced costs and a responsive, reliable set of IT solutions, we see the following:

- The organization requires the ability to monitor SaaS applications such as Salesforce.com, Microsoft Dynamics, Microsoft Office 365, Athena Health, Netsuite and others.
- The organization must have the ability to monitor the entire platform offered by the cloud service provider along with systems the organization has already deployed.
- Subscribers really need the ability to understand on a moment-by-moment basis if the SaaS application is really working. This means being able to tell if the SaaS solution is working from everywhere, for all client device types and on all of the required networks. If it isn't, they need to quickly be able to learn what the real problem is.

This set of requirements means that the ideal monitoring tool would offer the following features:

- Ability to track transactions to learn if they are executed quickly, completely and reliably.
- Ability to track application workflow so that performance anomalies can be discovered before they turn into business problems, failures or lost business. This should also make it possible to see what application component or components are contributing to the observed performance anomaly.
- The ability to analyze network traffic to learn the reason for performance anomalies is, of course a must
- Ability to understand network route and performance is also a requirement because a performance anomaly could be localized in a specific region or on a specific supplier's network infrastructure.

In summary, a subscriber's IT staff simply must have the tools necessary to rapidly detect performance anomalies, find the root cause and persuade SaaS technology suppliers to address the anomalies before they become problems.

## HOLDING APPNETA'S TECHNOLOGY UP TO THE IDEAL

AppNeta offers the following set of tools that, used together, address the requirements listed above.

- **TraceView** — This tool provides code-level, deep request tracing for 90 days of operational data from all major development platforms including, Java, Microsoft's .NET, Ruby, Python and PHP. Performance issues at any layer in the software stack can be seen quickly.

- **AppView** — This tool executes applications using synthetic data to monitor the actual end user experience with those applications. This allows IT staff members to monitor third party and SaaS applications in the same way that in-house, on-premise applications are monitored. Transaction details are collected making analysis straightforward. This allows IT staff to learn when an off-premise application appears to be working, but has really failed.
- **FlowView** — This is an application-aware network traffic analysis tool. This tool understands third-party and SaaS application internal protocols and can dissect a flow of communication, understand normal communication flows and make it possible to identify problems at a very granular level.
- **PathView** — This tool provides intelligent network monitoring making it easy to monitor the complete network, from end users' client systems all the way back to the data center, without interrupting applications or placing undue load on clients, servers or the network.

IT staff members find that AppNeta's tools provide both the needed data and intelligent analysis to bring both on-premise and off-premise applications under management control. Performance issues can be clearly documented making it much easier to get the appropriate level of technical support from service providers' helpdesk personnel. These tools allow IT staff to pull back the covers and see what is really happening underneath.

#### HELPING THE IT PLANNER

AppNeta's tools have an additional, and very useful, function. IT planners can observe how resources are being consumed, how the use is growing or declining and provide usage data that makes it possible for an IT planner to make more intelligent and useful plans for future resource utilization. Subscriber organizations are less likely to get expensive surprises in their SaaS solution bills.

#### S U M M A R Y

Although SaaS solutions appear to offer a simple way to extend an organizations ability to inexpensively use enterprise-grade, full-featured applications without also having to purchase or lease real estate, purchase systems, license software and hire and maintain development, operational and facilities management staff, the use of these applications can still cause challenges. Organizations still must monitor and manage SaaS workloads to make sure they are effective business tools.

Tools, such as those offered by AppNeta, are a must when organizations take the step of migrating some or all of their workloads into the cloud.

AppNeta would be happy to arrange a demonstration, provide more data or explain what their products do. Please visit <http://appneta.com/saas-apps> to schedule a demonstration, obtain papers describing how the products work, or learn more about how customers are using the products.