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Six things you need to know about infrastructure performance management

Application-centric infrastructure performance management can transform the monitoring process; here are six “must know” tips to help IT teams get the most from it.



The hybrid data centre has arrived: enterprises worldwide are adopting a mixed approach to their IT infrastructures. In fact, Gartner analysts predict that by 2020, 90 per cent of organisations will adopt hybrid infrastructure management capabilities. Touted as enhancing agility and improving efficiency, combining the best of cloud, virtual and physical

architectures certainly has its advantages. But making sure each element performs and the entire infrastructure works as it should, often leaves IT teams facing escalating scale and complexity.

What's more, without careful management the shared, multi-tenant infrastructure and its mission-critical applications can be impacted by seemingly unrelated elements of the infrastructure: with poorly performing non-critical applications slowing down or even grinding to a halt some of the most crucial constituents. So, to ensure availability and performance at the lowest practical cost, IT teams need a new approach. For a full picture of what's happening in their data centre, those teams have to look beyond the traditional domain-specific performance monitoring solutions they have traditionally used. For example, application performance monitoring (APM) tools are a good indicator of application speed but they only give half the story – they have no understanding of the infrastructure. Domain-specific tools focus on the performance of the infrastructure's individual components, but have no context of the application and offer no correlation to determine the root cause of an issue. IT teams need visibility and analytics across application and infrastructure domains to proactively ensure optimum performance and to report this to the business in easy to understand reports. Application-centric infrastructure performance management (IPM) can transform the monitoring process; here are six “must know” tips to help IT teams get the most from it:

1. It must be application-centric

The true value of a smartphone comes from its applications and how they perform - the same is true for IT infrastructure. Every organisation has applications that are critical in day-to-day operations. But a poorly performing application can have knock-on effects across the entire infrastructure. To be effective, IPM needs to understand which applications are using the infrastructure at any specific moment, then monitor how they're performing while providing insight into the implications for the rest of the infrastructure. This helps to pinpoint the root cause of wider performance issues.

2. Machine data AND wire data gives the full picture

Simply monitoring machine performance data, from server logs for example, gives very limited insight into how the entire infrastructure is performing. IT teams need to examine these feeds AND what's traversing the wire for a truly holistic view – one that shows how every element of the infrastructure is behaving. Many solutions only provide either one or the other, so it's much more difficult to understand the causes of a poorly performing application and to spot the tell-tale signs that something's not working the way it should.

3. Drill down INTO the data centre infrastructure

To truly understand what is happening throughout the infrastructure IPM monitoring platforms should complement traditional application performance management (APM) tools. APM tools measure and monitor the application performance for the end user, but their reach is limited. They cannot look into the data centre infrastructure, and that's what's needed to make sure every element of the infrastructure is performing optimally. To fully understand the impact of each application on others, and to be able to identify issues before they turn into problems, the IT team needs tools that provide a complete view by monitoring down the stack – from not just out to the end points.

4. Take a vendor-independent approach

To gain full insight, IT teams need app-centric IPM tools that manage and provide information about the entire infrastructure, regardless of which vendors are deployed. It's true that many vendors provide their own tools – in fact a recent Gartner report stated that most organisations have five or more tools monitoring their IT infrastructure – but many of these tools are proprietary solutions, only able to measure a vendor's own technology in isolation. The ideal app-centric IPM solution needs to be able to monitor, measure and manage the infrastructure from a vendor-neutral standpoint.



5. Real-time is not real-time

Many vendors promise end-to-end monitoring in real-time, but often what's available is an average result taken over a number of minutes. This could cause problems. Consider this: a car is being driven at an average speed of 30mph. In reality, the car is not constantly travelling at 30mph, instead the speed is likely to vary, perhaps fluctuating between 40mph mixed with moments of not moving at all. The car's average speed is the kind of information provided by traditional monitoring solutions: by looking at average performance, they don't represent what's happening in the data centre at all times. Knowing that an application has stopped or slowed down even for a couple of seconds, could mean the IT team can deal with an issue before it has a real impact, instead of waiting for an outage that affects the whole organisation. Why would you want to measure in minutes in a millisecond world?

6. Don't underestimate the importance of performance

It's easy to focus on availability. Vendors boast their products offer at least five 9s uptime, and many application monitoring tools are concerned with availability too. But although being able to access applications is crucial, performance also makes a difference. It's not only about preventing outages. Even without a shutdown, if the infrastructure is not performing well, it affects applications, systems, employees and ultimately the service provided to customers. Take a website for example: studies show that the average attention span is eight seconds. If a website takes longer to load, the user gives up and moves on. A three millisecond delay in the data centre can mean up to a 30 second delay for the user once the data has travelled through all the infrastructure components. The website visitor left a long time ago.

A hybrid infrastructure has many benefits – but it can be a real headache if it's not properly managed. With the right monitoring tools in place, IT teams can make sure their applications are performing optimally and take control of their infrastructure.

By O'Donnell, S for ITProPortal

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