Easing the Strain of Virtualised IT

Virtualisation is an innovative technology that has changed the way businesses work with IT. The virtualising of servers, networks, and storage is now highly commoditised, and businesses of all sizes have adopted it. By Arun Balachandran, Product Marketing Manager, ManageEngine.

Many enterprises have focussed on server virtualisation to increase the flexibility, efficiency, and cost-effectiveness of their data centres. These businesses are also leveraging server virtualisation as an important starting point on their journey to adopt cloud computing. Server virtualisation is thus moving beyond basic consolidation, and into a strategic enabling technology for organisations looking to move towards a cloud experience.

The Challenges of Managing Virtual Environments

Although server virtualisation offers plenty of benefits to businesses, it also introduces many new complexities from an IT management point of view. Due to the dynamic and complex nature of virtual environments, and their co-existence with physical and cloud components, IT administrators have to deal with a new set of challenges, including the following:

Complex Root Cause Analysis

When an organisation virtualises its server environment, it is basically adding a new layer of complexity to the whole system. This new layer can cause new problems, though, which can be hard to diagnose and troubleshoot. Organisations may struggle to find a link between physical and virtual machines (VMs), and the resources available to sustain key business applications. Additionally, applications may keep moving from one host to another based on the load, which can complicate keeping track of these applications.

Capacity Planning Critical

Due to the dynamic and complex nature of virtual environments, there are increased chances of IT teams under-provisioning resources. In such scenarios, the performance of business-critical applications and services could be affected by the resource shortage. The reverse effect is also possible; IT teams might designate more resources than necessary for certain services, thereby impacting overall operational efficiency. Hence, post virtualisation, businesses need to plan capacity effectively to ensure optimal performance of their applications.

No Clarity in Transaction Flow

Transactions move critical data and information from one part of the IT infrastructure to another, and they typically span multiple subsystems such as database, storage, and more. With virtualisation, a whole new level of abstraction is introduced to the system. As a result, many organisations tend to lose visibility into the transaction flow needed to run their business services.

This blind spot impairs their ability to effectively manage the availability and health of critical web applications. When there is an interruption, the IT teams may not be able to pinpoint the exact root cause, and could end up spending hours trying to isolate the problem.

Increased Impact of Server Hardware Failures

When a physical server fails while running multiple VMs, all the workloads on that server will be affected. When the server consolidation level increases, more workloads will be assigned to each server, and thus be impacted by further server failures.

There are some monitoring tools that help to dynamically provision VMs based on workloads. Workloads can be spun down when not in use. On certain occasions, they can be even shunted out to a public cloud, if they are not critical. This will allow the mission-critical workloads to stay available, in-house physical resources. Finally, it is better to opt for monitoring solutions that support multiple virtual platforms, such as VMware, Microsoft Hyper-V, and Citrix, rather than choosing a mix of management tools. A single monitoring solution cuts the complexity of virtualisation monitoring and management.

By re-inventing their monitoring strategies in a holistic manner, enterprise IT departments can be confident that their services meet their business goals.

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