

NETWORK MONITORING IN THE PRIVATE CLOUD

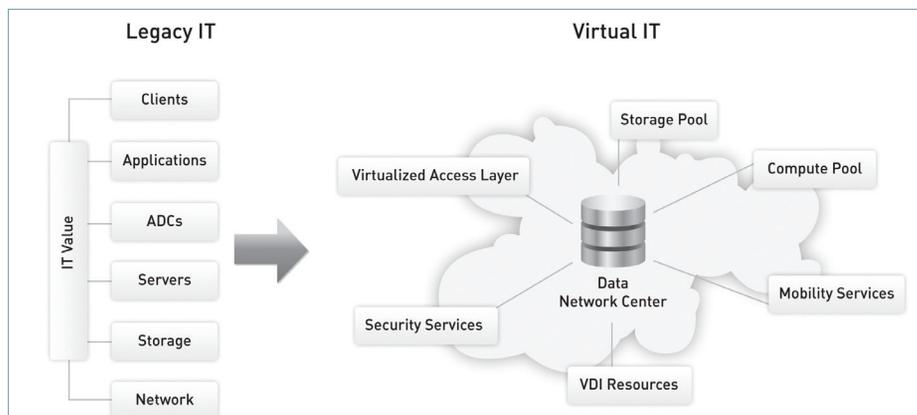
PAESSLER AG FOUNDER DIRK PAESSLER SETS OUT THE CASE FOR THE PRIVATE CLOUD AND THE ROLE OF NETWORK MONITORING

Cloud computing enables an IT department to achieve a consolidated IT environment which effectively scales up or down according to fluctuations in demand, capitalising on available resources. This not only offers cost savings, but it can also improve performance and flexibility. However there are a number of decisions to make before implementing a cloud solution, and choosing between a public and a private cloud is the first one.

The public cloud presents a number of challenges for an IT department. Data security and the fear of yielding control of the systems are significant issues. The user must be able to rely on their provider to guarantee access and maintain data security.

As an alternative a private cloud is the ideal choice for a network administrator who is looking for more system control. It can be monitored more accurately and directly than a service in the public cloud because all services and resources reside in defined systems that are only accessible to the user and are protected from external access. Also, unlike in many public clouds, the quality criteria for performance and availability in a private cloud can be customised, and compliance to these criteria can be monitored to ensure that they are achieved.

A private cloud puts the responsibility of monitoring the network firmly back with the IT department and creates familiarity and confidence. A private cloud will only function smoothly if a fast, highly reliable network connects everything. The network must also satisfy the requirements of transmission speed



and stability because even minor losses in transmission speed can lead to unacceptable performance.

GETTING STARTED

Before making the move to a private cloud, an IT department must consider the performance demands of individual applications and cyclic fluctuations. Long-term analysis trends and peak loads can be obtained via extensive network monitoring, and resource availability can be planned according to demand.

MONITORING FUNDAMENTALS IN THE PRIVATE CLOUD

For comprehensive private cloud monitoring, it is important to monitor the network from a user and server perspective. From a user perspective, network monitoring needs to take place from outside the server to ensure that all functions are permanently available. Ideally, it should also be run outside the related computing centre. It is vital that all locations are reliable and a failover cluster guarantees continuous monitoring.

When monitoring the virtual servers operating in the private cloud, there are a number of things that need to be addressed from a server perspective. These include checking if the internal data replication and load balancers work, how high the CPU usage and memory consumption is, whether email and DNS servers function flawlessly, and if there is sufficient storage space available.

Monitoring software must be running on the server, or your monitoring tool must offer the

ability to monitor the server using remote probes, and you should monitor the following parameters: CPU and memory usage, network traffic, hard drive access, free disc space and read/write times during disc access, low-level system parameters and the web server's http response time.

Critical processes, such as SQL or Web servers, are often monitored individually, in particular for CPU and memory usage. The firewall (bandwidth use, CPU) can also be monitored. If one of these measured variables lies outside a defined range (e.g. CPU usage over 95% for more than two minutes), the monitoring solution must notify an administrator.

A private cloud has many benefits and allows the network administrator far more control than a public cloud can offer. However, like any other cloud it wholly relies on the efficiency and dependability of the IT infrastructure. A network monitoring solution should therefore be implemented to monitor all services, with long-term planning based on extensive monitoring data that is used to ensure that capacity overloads are systematically avoided. **NC**



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