Check Point
SOFTWARE TECHNOLOGIES LTD

SECURE YOUR EVERYTHING™

MAKING THE JUMP TO
HYPERSCALE NETWORK SECURITY

The most cost-effective approach to addressing
the demands of today's cyber security world

Introduction: What is hyperscale?

Hyperscale is the ability of an architecture to scale appropriately as increased demand is added to the system. This involves the ability to seamlessly provision and add more resources to the system that make up a larger distributed computing environment. Hyperscale is necessary to build a robust and scalable distributed system. In other words, it is the tight integration of storage, compute, and virtualization layers of an infrastructure into a single solution architecture.

There are many reasons why an organization might adopt Hyperscale computing. Hyperscale may offer the best, or only way to realize a specific business goal like providing cloud computing services. Generally, though, Hyperscale solutions deliver the most cost-effective approach to addressing a demanding set of requirements. For example, a big data analytics project might be most economically addressed through the scale and computing density available in Hyperscale. Rapid deployment and automated management capabilities make scaling out simple and hassle free for businesses of all sizes. By tightly integrating networking and compute resources in a software-defined system, you can fully utilize all hardware resources available to you. By orchestrating your resources in an innovative way, you get much more from what you already have.

However, before we can understand the present and future of Hyperscale Network Security, let's take a quick look into the past.

Traditional approaches to hyperscale networks

A traditional Network Security solution includes static security power. Static security power can be limited by its compute capacity, which needs to be managed individually and oftentimes manually. This is a very time consuming process. To help alleviate the stress, there are some architectures that have been put into place.

The most common approach to achieving Hyperscalability has been the DIY, or "do it yourself" approach. This IT approach is a mix-up of technologies that uses a virtualization hypervisor layered on top. The steps needed in order to create this cluster are straightforward: install hypervisors on several servers acting as hosts and add a storage area network (SAN) or network attached storage (NAS). The great thing about this type of DIY architecture at the time was that it offered a great deal of flexibility in being able to choose your hardware and software from multiple vendor solutions. The only downside, as it being a multi-vendor solution, was the complexity of managing such a solution or having the security expertise to get it implemented. Moreover, we have not even mentioned maintaining the support for these disparate solutions within this type of architecture.

One of the main disadvantages of using NAS is having a single point of failure. In a world where extreme scalability, uptime and resiliency are required, this is an absolute no. SAN on the other hand, while it can be scalable and operates at relative fast speeds, is extremely expensive. This approach to achieving Hyperscalability is out of reach for businesses of all sizes.

Another misstep in the do-it-yourself architecture of Hyperscalability is relying on an ability to share a common storage system. Unfortunately, this leaves us with a single point of failure for the entire infrastructure. Another big no no. Distributing all the storage processing and redundancy across different nodes may seem viable and allows us to scale out our storage systems, but ultimately this technology adds additional cost and complexity to the solution as a whole.

The inflection point

Hyperscalability is in high demand and Hyperscale systems are being increasingly adopted across IT departments. The cyber security industry has a big interest in wanting to build private clouds and emulate the flexibility of having such a system. The actual turning point for Hyperscale architecture was the ability to combine all components needed to simply plug and play and create virtual machines on the fly. This was made possible when hypervisor entered the game. Ultimately, we want the benefits of the cloud, without the cloud. Besides the flexibility a Hyperscale network security solution brings, it also dramatically boosts performance while saving you money.

On top of that, you have incredibly short deployment times and cloud-level resiliency. As we saw previously, a traditional system is based on buying multiple components from multiple vendors and could take months to configure and install. Whereas with a Hyperscale network solution, it can be implemented in weeks and sometimes even in days. Since everything is orchestrated as one unified system, all of the complexity that comes with managing and protecting a data center is removed.

Key benefits with a hyperscale network security solution
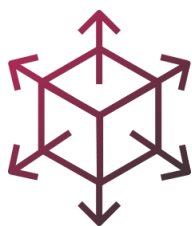
Hyperscalability

Scale up existing gateways of any size on-demand, supporting over 50x their original throughput, within minutes. It gives seamless expansion to Hyperscale security, while protecting organizations' existing investments.

Operational Supremacy and Simplicity

Managed intuitively with a dedicated device, which controls all of an organization's gateways as one unified security system, minimizing management overhead. The simplicity of the solution is in its ability to deploy gateways fast and have automated management capabilities through a single pane of glass management. Scaling out is as simple as adding more cluster nodes.
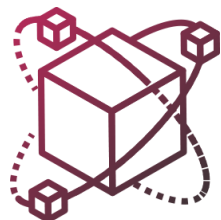
Cloud level resiliency and cost efficiency

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Conclusion: A solution for all businesses

Whether you're starting out small, or your enterprise is established, hyperscale network security can protect current and future investments. Start with your existing security implementation, no matter how small, and scale protection according to your changing business needs.

To learn about hyperscale network security, visit:

checkpoint.com/products/maestro-hyperscale-network-security

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