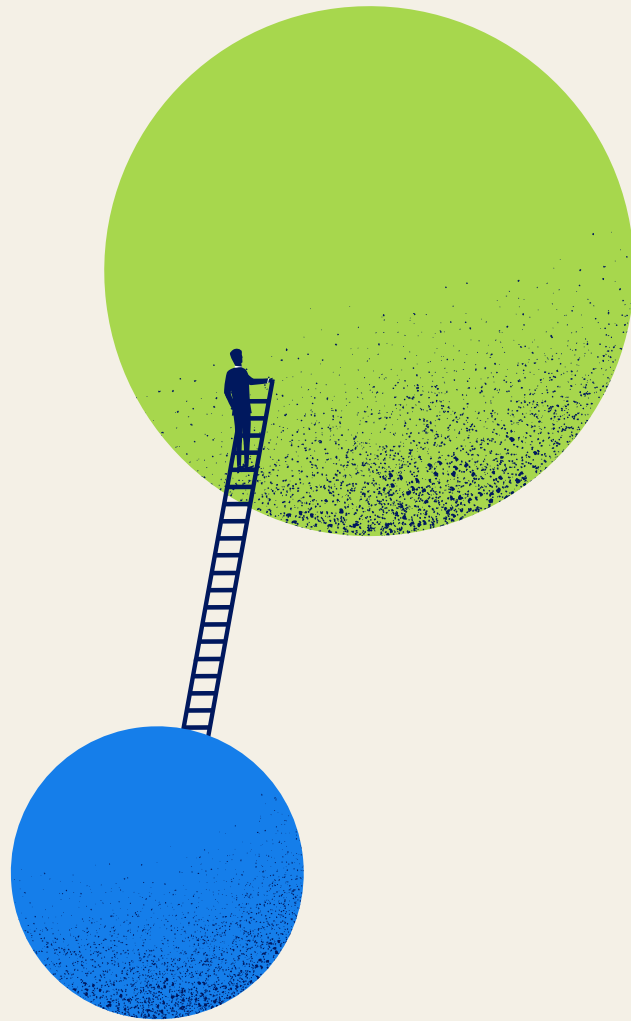


Bare Metal

The Backbone of Emerging Technology



White Paper by



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INTRODUCTION

In the fast-changing world of technology, bare metal servers have emerged as a critical foundation for various emerging technologies. Despite the buzz surrounding public cloud solutions, with spending **estimated to hit \$219 billion by 2027**, the unique benefits of bare metal servers make them an indispensable choice for many organizations. As companies navigate the complexities of the cloud, bare metal stands out for its performance, flexibility, and cost-efficiency.

Bare metal will remain a vital component of the cloud landscape. Despite the compelling benefits that can come with public cloud, bare metal—or a combination of the two—often stands out as the most appropriate option. Here's why:

THE CHALLENGE OF CLOUD MIGRATION

Initially, the public cloud seemed like the go-to solution for organizations looking to move their workloads off-premises. However, many have realized their existing applications were not designed for the public cloud environment—leading them to need a system more amenable to their organization's changing needs. This misalignment often led to the necessity of refactoring applications—a time-consuming and costly process that still did not deliver optimized workloads for their cloud needs. Consequently, organizations have begun exploring alternative solutions, including a return to on-premises setups or the adoption of bare metal servers from cloud providers that meet the specific needs of their IT.

Deploy bare metal servers
in minutes, not months.

Bare metal servers
typically outperform
virtualized offerings.

BENEFITS OF BARE METAL

Bare metal servers offered by cloud providers offer several advantages over on-premise or colocation solutions. Rapid deployment is a significant benefit, as bare metal servers can usually be deployed in minutes, unlike traditional on-premises setups. Deploying traditional on-premises servers can take months to plan and execute due to the challenges of finding the right location, planning a center's capacity, and determining power requirements and installations. In these traditional setups, the business remains responsible for managing operational expenses and up-time. The quick deployment afforded by bare metal servers in the cloud enables businesses to focus on their core operations rather than wasting time on inefficient infrastructure management. Using bare metal servers can also allow users to better respond to fluctuations in business as bare metal cloud can be deployed during peak periods and returned to the cloud provider when not needed, optimizing costs.

Customization and control are other key advantages, with bare metal servers providing unparalleled options, including BIOS-level access, high IOPS disks, and GPUs. This level of control allows organizations to tailor their servers to meet the specific needs of their applications, emphasizing how a one-size-fits-all approach remains elusive for many organizations.

In terms of performance and reliability, dedicated hardware resources mean that bare metal servers typically outperform virtualized offerings. They run continuously without the need for regular reboots and offer higher security through full control over server configuration, and they can be organized into specific clusters to support high-demand applications.

Cost efficiency is another notable—and important—benefit to IT teams. Bare metal servers deliver better value by offering cost savings through hardware optimization and allowing organizations to move from a CAPEX to an OPEX model. Additionally, for organizations dealing with sensitive data or strict regulatory requirements, bare metal servers provide a secure environment by isolating workloads on dedicated hardware not shared by others, ensuring higher compliance (bare metal servers still need to be certified by organizations like HIPPA or PCI DSS to be “compliant”) and enhancing data protection.

Bare metal servers provide essential infrastructure to support emerging technologies.

USE CASES FOR BARE METAL

Bare metal servers are versatile and support a wide range of use cases, making them essential for various emerging technologies. Historical workloads such as web hosting, SaaS, PaaS, and game hosting benefit from the performance and security of bare metal servers, which offer dedicated hardware for hosting customer workloads, further emphasizing increased cost savings and enhanced security measures. Demanding workloads like hyperconverged infrastructure, grid computing, large data storage, and 3D rendering require robust performance from bare metal servers. These applications benefit from the servers' ability to handle intensive workloads with high security. Innovative workloads, including emerging technologies like AI, databases, and media transcoding, demand powerful servers with massive storage, fast processing, and superior I/O capabilities. Bare metal servers provide the necessary infrastructure to support these innovative workloads, enabling businesses to push the limits of their hardware that best benefit their respective organization.

They deliver a blend of performance, customization, security, and cost efficiency that virtualized instances can't match.

THE FUTURE OF BARE METAL

As the demand for high-performance computing continues to grow, bare metal servers are evolving to meet the needs of emerging technologies. The increasing popularity of GPUs, especially for AI and machine learning applications, highlights the importance of scalable and cost-effective solutions. Bare metal servers with lower-end GPUs, like the L40S, offer a structured approach for organizations to grow their capabilities. As their needs expand, they can transition to public cloud instances with higher-end GPUs, providing flexibility and scalability.

Bare metal servers are far from obsolete in the age of the cloud. They offer a unique combination of performance, customization, security, and cost efficiency that is unmatched by virtualized instances. For organizations looking to harness the power of emerging technologies, bare metal servers provide the backbone necessary to drive innovation and success while supporting the next generation of applications and workloads.

OVHcloud US is a subsidiary of OVHcloud, a global player and Europe's leading cloud provider operating more than 450,000 servers within 43 data centers across four continents. For over 20 years, the company has relied on an integrated model that provides complete control of its value chain, from the design of its servers to the construction and management of its data centers, including the orchestration of its fiber-optic network. This unique approach allows it to independently cover all the uses of its 1.6 million customers in more than 140 countries. OVHcloud now offers latest generation solutions combining performance, price predictability, and total sovereignty over their data to support their growth in complete freedom.

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