OVHcloud empowers high-end cloud applications with AMD EPYC™ CPUs

Delivering flexible, high-performance platforms for cutting-edge workloads

AMD EPYC

PARTNER

OVHcloud

INDUSTRY

Global Hyperscale Cloud Provider

CHALLENGES

Enable unprecedented performance and price for innovative cloud workloads

SOLUTION

Deploy servers featuring AMD EPYC™ 7302, 7532, 7402, 7642 and 7H12 processors for the new Scale and High Grade platforms

RESULTS

OVHcloud is delivering very high-performance platforms while optimizing the total cost of ownership with servers featuring AMD EPYC processors

AMD TECHNOLOGY AT A GLANCE

OVHcloud SCALE-1:
AMD EPYC 7402 with 24 cores

OVHcloud SCALE-2:
AMD EPYC 7532 with 32 cores

OVHcloud SCALE-3:
AMD EPYC 7642 with 48 cores

OVHcloud HGR-HCI-4:
Dual EPYC 7302 with 32 cores

OVHcloud HGR-HCI-5:
Dual EPYC 7402 with 48 cores

OVHcloud HGR-HCI-6:
Dual EPYC 7532 with 64 cores

OVHcloud HGR-SDS-2:
EPYC 7402 with 24 cores

OVHcloud is a hyperscale cloud provider with big ambitions for its customers. The company's motto "Innovation for Freedom" represents a core emphasis on reducing total cost of ownership (TCO), in order to enable unprecedented performance and price for innovative cloud workloads. OVHcloud is constantly exploring how new server technology can help deliver on these goals, and this quest has already resulted in significant achievements.

"Even for our mainstream products, we are always on the lookout for improving TCO," explains Yaniv Fdida, VP of Bare Metal and Storage. "Using 1st Gen AMD EPYC processors helped this very effectively. In 2020, OVHcloud gained recognition as a leader in The Forrester Wave™: Hosted Private Cloud Services In Europe, Q2 2020." In addition, the company is in the top ten worldwide of cloud service providers according to IDC, alongside AWS, Azure, Google Cloud, and Alibaba Cloud. OVHcloud is the only European cloud service provider to be a world-class player in this report. Today, as more and more customers are looking to use emerging workloads like AI, the company has combined its expertise with technology partners such as AMD to strengthen its offering.

Transforming TCO with AMD EPYC CPUs

"We started a big transformation of all our infrastructure to address new capacity for our end customers," explains Yaniv. "One and a half years ago, we started to look at how we could address the high end and very high end. We'd heard from our customers that we were not positioned properly with our price-performance

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Yaniv Fdida, VP of Bare Metal and Storage, OVHcloud

ratio, which is our trademark. So we reworked everything from the technical stacks to engineering and the business model, to be able to address this market."

Around the time this process began, OVHcloud had just deployed thousands of servers based on 1st Gen AMD EPYC processors. "We introduced the 7371, the 7351P, and then we replaced an existing dual-socket platform with the 7451," says Yaniv. "All the feedback we received was that this was an excellent, stable, very high-performance platform. It was really answering customer needs, particularly the servers – ADVANCE and INFRASTRUCTURE – featuring the 16-core processors."

However, the higher-end markets OVHcloud was hoping to address next had more stringent requirements. "If you don't have the network capacity and the storage capacity as well as the performance, you cannot address AI," says Yaniv. "AI is not just about GPU. It's about the solution itself—storage, network and then at some point, there will be a GPU. All of these elements have to work together so that we can provide the best-of-breed of technology for our customers, but for the best cost-performance ratio."

OVHcloud was also concerned about how developing its high-end solutions might cause platform proliferation. All these requirements led inexorably towards the 2nd Gen AMD EPYC processor, which offered OVHcloud the ability to use the same platform for a complete portfolio of use-case scenarios. "An understandable product line is always the best for meeting the needs of our customers," explains Yaniv.

AMD

"Our customers have to find the most efficient and simple solutions, and that's the case with the OVHcloud portfolio featuring EPYC processors. You don't have 300 references that you need to struggle to understand. These processors have the best core thread ratio and frequency performance, and they bring the best TCO in the industry. AMD EPYC™ CPUs bring a really versatile, consistent and high-performing platform to enable the majority of the usages customers are looking for."

One AMD EPYC platform to rule every workload

Thanks to the processors' strong features, performance and platform uniformity, OVHcloud's AMD EPYC journey continued from 1st to 2nd Gen, starting with the 32-core 7352 CPU. "The 7532 is a good fit for a hyper-converged platform," says Yaniv. OVHcloud found that there was a CPU for every workload type it required. The company is now offering the 16-core AMD EPYC 7302 processor for HCI workloads as well, alongside the 24-core EPYC 7402 CPU for software-defined storage. The 48-core EPYC 7642 CPU is being deployed for compute-intensive tasks, with the 64-core EPYC 7H12 CPU undergoing qualification.

"EPYC is really a change maker because it's a really versatile platform," says Yaniv. "We have to rationalize our platforms. We cannot have 15 or 20 platforms to address 20 usages. We want to address 20 usages with five platforms. This is what EPYC can help us with. Our new Scale and High Grade platforms featuring AMD EPYC are so versatile and so high performing that we can address storage use cases, we can address compute use cases, we can address AI uses cases, and we can address VDI use cases. This is where the technology partnership is magic. It can enable all the use cases we can imagine."

In order to get the best possible performance and reliability from its servers, OVHcloud implemented water cooling back in 2003, which has resulted in a leading Power Usage Efficiency (PUE) range from 1.3 down to 1.09 while the industry average is touching 2.0. This is another attraction of AMD EPYC technology. "We are able to keep this ratio down, while still giving the best of breed and the best performance possible to our customers," says Yaniv.

An EPYC future for OVHcloud

Using 2nd Gen AMD EPYC processors, OVHcloud has been able to realize its goal of providing solutions for high-end workloads. "We're going to address AI, machine learning, deep learning, inference and training," says Yaniv. "We'll be able to empower big data analytics, where you need a lot of threads and a big surge capacity.

"Everything linked to virtualization can benefit [from AMD EPYC], including containerization, orchestration of workloads, fast computing, Kubernetes, Hyper-V, VMware, or OpenShift."

Yaniv Fdida, VP of Bare Metal and Storage, OVHcloud

This is where EPYC can really help. We can address this with high frequency and a lot of SSD and NVMe drives. AMD EPYC processors have a lot of cores and teraflops of calculation. Everything linked to virtualization can benefit, including containerization, orchestration of workloads, fast computing, Kubernetes, Hyper-V, VMware, or OpenShift."

"It gives peace of mind to use EPYC CPUs because we have a lot of constraints when we design a product," explains Ludovic Dargent, Product Manager Bare Metal, OVHcloud. "We have to propose the best price-performance ratio to comply to a use case. Many of the use cases now need high-performance storage, high-performance networking, etcetera. When I design a product on the EPYC CPU, it's not a problem because it has so many PCIe lanes. It's the only product on the market right now to be able to allow me to design this easily. It would be very complicated to design that kind of product without EPYC."

"OVHcloud has been recognized as a leader among the seven most significant players providing European Hosted Private Cloud according to The Forrester Wave™: Hosted Private Cloud Services In Europe, Q2 2020," says Yaniv. "But our vision is not finished. We are the leading European cloud provider, with global reach, and we aim to empower the ecosystem. EPYC helps us to move to the next level. The technology partnership is an accelerator of all the usages that we want to go to market with to help our customers. Our new range of products, Scale and High Grade, will empower our customers—answering innovative use cases and their requirements."

"We introduced EPYC everywhere in our portfolio, which was not the case a year and a half ago. We are always trying to innovate. We are always trying to push the limit of what we can do to help our customers. We are always looking at having even more performance from the same platform. With the 3rd Gen AMD EPYC, we'll be able to push further and further this design approach for our customers."

WANT TO LEARN HOW AMD EPYC™ PROCESSORS MIGHT WORK FOR YOU?

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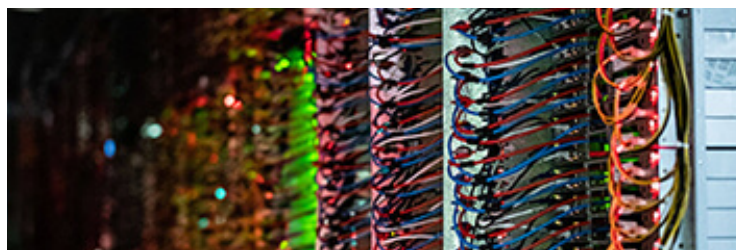
About OVHcloud

OVHcloud is a global player and the leading European cloud provider operating 400,000 servers within its own 31 data centres across 4 continents. For 20 years, the Group has been leveraging an integrated model that provides full control of our value chain, from designing our servers to managing our data centres through to orchestrating our fibre-optic network. This unique approach enables OVHcloud to cover, independently, the full spectrum of use cases for our 1.6 million customers across 140 countries. OVHcloud now offers customers latest-generation solutions that combine high performance, predictable pricing and full data sovereignty to support their unfettered growth. To learn more visit ovhcloud.com.

About AMD

For 50 years AMD has driven innovation in high-performance computing, graphics, and visualization technologies—the building blocks for gaming, immersive platforms, and the data center. Hundreds of millions of consumers, leading Fortune 500 businesses, and cutting-edge scientific research facilities around the world rely on AMD technology daily to improve how they live, work, and play. AMD employees around the world are focused on building great products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit amd.com/EPYC.

AMD + OVHcloud Case Study

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