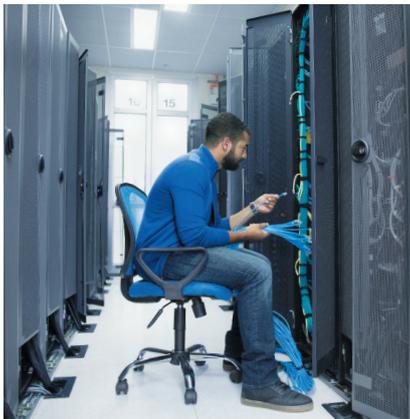


Building enterprise-level cloud solutions with Outscale

Intel® technology powers high-performance cloud solutions to meet demands for technical computing and business analytics



With many years experience of Web hosting behind them, Outscale's founders believe that the future of computing is cloud-based. Having identified a gap in the way cloud services are provided, they developed a clear and long-term business plan to provide high-performance, always-on, and predictable cloud services to organizations with high computational demands. Working closely with Intel and other hardware vendors, Outscale continues to grow its business and push the boundaries of cloud computing.

Challenges

- **Predictive cloud computing.** Outscale wanted to build a premium cloud computing service for business customers demanding seamless access to high levels of computational power and storage capability
- **Performance and reliability.** The company needed to power its Tier III+ data centers with technology that offers exceptionally high levels of performance while maximizing energy efficiencies
- **Platform for innovation.** Outscale looked for technology providers that would enable it to fulfill its eight-year roadmap and continue to drive the possibilities of cloud computing

Solutions

- **Standardize on Intel.** Outscale deployed Cisco Unified Computing System* servers powered by the Intel® Xeon® processor E5-2660 v2 product family
- **Extend storage capabilities.** Outscale extended storage capabilities with the Intel® Solid-State Drive Data Center S3700 Series, which manage persistent storage in addition to its NetApp* EF540 and FAS8060A flash arrays
- **Storage-defined networks.** Outscale also adopted the Intel® Data Plane Development Kit (Intel® DPDK) to facilitate the development of its software-defined network (SDN)

Impact

- **Growing customer base.** In four years, Outscale has built an international business providing private, public, and hybrid cloud services to clients worldwide
- **International presence.** Data centers in France and the USA are soon to be joined by facilities in Tokyo and Hong Kong
- **Facing the future.** Outscale has developed a model that gives it plenty of scope to grow and expand, based on well-defined roadmaps for Intel® technologies



"The decision to build our business on Intel® architecture was not just about the capabilities of one product. It was also because it opens up a whole ecosystem of data center and cloud solutions that will help us develop and enhance our service to customers."

*Laurent Seror,
Founder and President,
Outscale*

Taking cloud computing to the next level

Outscale is a company with a very clear view of its own future and that of the wider IT industry. "It's the cloud," says founder and president Laurent Seror. "Everything will be on the cloud. Anything else is simply not feasible. Our goals are to provide a premium, enterprise-level infrastructure as a service (IaaS), and to serve businesses that are not prepared to compromise on any aspect of their IT performance."

With more than 13 years of Web hosting experience under his belt, Seror founded Outscale with his partner David Gillard in 2010 to provide a consistent cloud computing solution to customers worldwide. The French duo wanted to use their years in the industry to help customers benefit from the service flexibility, high performance, and reduced total cost of ownership offered by IaaS – and to encourage them to rethink their business models in the process.

A high-performance computing environment

Outscale's cloud solution is targeted primarily at organizations in the fields of computer-aided design (CAD) and product lifecycle management (PLM). The Outscale cloud enables these organizations to benefit from 3D modeling and virtual prototyping software without adding to their IT infrastructure or making long-term commitments to software.

"There was little to be gained from offering a commodity cloud solution," explains Seror. "Instead, we chose to position ourselves on performance and to give our customers highly predictable, always-available service. We decided to build our business by offering best-of-breed technologies to customers who want immediate and seamless access to high levels of computational power and storage."

From the outset, the company deployed Cisco Unified Computing System servers powered



Building a cloud computing infrastructure that meets performance demands now and in the future

by Intel® processors in its Tier III+ data centers in France, the USA, and Asia. Initially, its high-performance cloud computing infrastructure was powered by the Intel Xeon processor L5640 product family. More recently, the company has adopted the Intel Xeon processor E5-2660 v2 product family in two- and four-socket configurations.

An energy-efficient future

Outscale's founders chose to adopt Intel® architecture primarily because of its processing performance. Seror says: "Intel has been very involved in our business from the beginning. It understands exactly what we are trying to achieve, and the fundamental role of the cloud for the future of computing. The Intel Xeon processor in particular, with its in-memory databases and real-time analytics, offered the high-performance capabilities for business processing and technical computing we needed. Based on our own research, we were confident that we had the right high-end enterprise products and the best CPUs available."

Outscale now has 500 servers in production, with a total of 1,000 processors and 8,000 physical cores. Its development and integration platforms are built on 100 additional servers, bringing the total number of cores to 10,000. Outscale plans to double its capacity to 20,000 physical cores by the end of the year.

With such a server-intensive infrastructure, performance was not the only consideration. The Intel Xeon processor E5 family consume less power and is more energy efficient than previous server processors. Seror believes that this too is a critical feature in current and future computing: "Energy efficiency is a critical factor when so many machines are involved. If cloud computing is the future, then we need energy efficient hardware to get there. We need to consume less energy while achieving greater computational power."

Getting more from cloud architecture

Outscale's customers make intense demands on its cloud service. To ensure that the company can keep meeting these demands, it is extending the performance and storage capabilities of its servers. It has adopted Intel DPDK, which supports the development of an SDN. Intel DPDK is a set of software libraries that can improve packet processing performance by a factor of 10 and achieve more than 80 Mpps throughput on a single Intel Xeon processor.

Outscale has also started to use the Intel Solid-State Drive Data Center S3700 Series to manage persistent storage in its NetApp EF540 and FAS 8060A flash arrays. Again, adopting Intel SSDs is intended to extend the longevity of its storage capabilities providing greater flexibility and control of its cloud network infrastructure.

Seror explains: "If anything validates our belief that cloud computing is the future, then it is the arrival of big data. The data center has to offer more performance, more storage, and more computational and analytical power. It's not efficient to simply multiply the number of CPUs. We need to extend our capabilities through virtualized networks like SDNs and smart use of SSDs."

"The decision to build our business on Intel architecture was not just about the capabilities of one product," Seror continued. "It was also because it opens up a whole ecosystem of data center and cloud solutions that will help us develop and enhance our service to customers."

Building the cloud of the future

Outscale has established its data center infrastructure to serve a very demanding customer base. The combination of high-performance computing and secure file sharing and storage has proved attractive to more and more clients as the company continues to grow. Plans are in place to open additional data centers in Tokyo

Customer spotlight

Founded in 2010, Outscale has subsequently launched more than one million virtual machines, helping it to fulfill its ambitions of providing the French and worldwide marketplace with a consistent and innovative cloud computing solution. The company has built a fully automated infrastructure, managed by TINA OS*, that supports its public, private, dedicated, and hybrid cloud solutions, and big data clusters from data centers in the USA, Europe and Asia.

and Hong Kong to provide greater support to its global customers.

Seror attributes the company's success to its relentless focus on its customers and delivering the high-end cloud service that they demand. "From the beginning, we set out only to implement what we believe to be the best available technology from the best hardware vendors. That decision has paid off. We can offer great cloud performance, while benefiting from reduced power consumption. We are confident that we are working with companies that will enable us to go beyond today's limits and build the cloud services of the future. It's a very exciting place to be."

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