CASE STUDY

Intel® Xeon® processor L5640

Enterprise Server
Automation and Cost Savings in the Cloud

Scaling beyond the enterprise

Outscale launches cloud-based services for ISVs using Cisco Unified Computing System* and Intel® Xeon® processor L5640

Outscale is a recently-formed provider of software-as-a-service (SaaS) and low-latency infrastructure-as-a-service (IaaS) over the cloud. The company was formed by industry experts Laurent Seror and David Gillard, who each have over 13 years of experience in Web hosting. They both founded Agarik, a critical Web hoster, which was bought by hardware giant Bull in 2006. The French duo wanted to use their experience to enable customers to reinvent their business models and take advantage of service flexibility, high performance, and reduced total cost of ownership (TCO) and carbon footprints provided by cloud-based services. Determined to find the best technology for Outscale, they chose Cisco Unified Computing System powered by the Intel® Xeon® processor L5640.

"We were targeting performance, cost, and carbon footprint. All these criteria came together in the Cisco Unified Computing System and the Intel® Xeon® processor L5640."

Laurent Seror, CEO Outscale

CHALLENGES

- **Start-up technology:** Outscale needed to find a cloud technology platform that would provide its customers with low network latency and high performance
- **Aiming high:** It set itself the goal of developing the most integrated, flexible and high-performing solution possible
- **Lower costs:** It also wanted to deliver lower TCO and reduced carbon footprint as well as cost-effective virtualization ratios

SOLUTIONS

- **Extensive research:** After analyzing all available hardware, the company chose the Cisco Unified Computing System and the Intel Xeon processor L5640
- **Potent combination:** The Intel Xeon processor, Cisco hardware and 10GbE server adapter deliver extremely low latency, high performance-per-watt, high virtualization ratios and reliability

IMPACT

- **Performance boost:** The Intel Xeon processor L5640 provides a 20 percent performance increase compared to competitors' products[1]
- **Strategic investment:** Dassault Systèmes, a major player in 3D and product lifecycle management (PLM) products, underscored the value of the Outscale platform by making a strategic investment in the company
- **A cloud first:** The Dassault Systèmes investment leads to computer-aided design (CAD) and PLM software being made available for the first time ever over the cloud

Building foundations

When Laurent Seror and David Gillard decided to use their extensive experience providing Internet services to launch a new company, they were seeking to exploit what they call the "IT industrial revolution" or, as it's more commonly known, cloud computing.

In short, they aimed to deliver high-end, world class cloud services. The benefits of cloud computing – service flexibility, lower TCO, high performance, and reduced carbon footprint – are so compelling that an increasing number of companies are seeking to adopt cloud services.

Laurent Seror says: "The levels of complexity involved in cloud integration demand experienced people to help companies take advantage of this revolution. Outscale delivers this expertise."

Outscale's objective was to provide a SaaS platform specifically for independent software vendors (ISVs) so they could deploy their applications in SaaS mode. It also sought to bolster this offering with an IaaS offering so companies that need instant, powerful, and reliable world-wide resources could gain these benefits through Outscale's own cloud software developed in-house.

David Gillard said: "Our approach is unique in that we tie together SaaS and IaaS over the cloud. We each have over 13 years of experience in Web hosting, so we have a good idea of what is required for a cloud platform. We were determined to find the best solution that would reduce TCO for our customers."

Strong performance-per-watt reduces total cost of ownership

Extremely low latency

Following a thorough analysis of all available hardware, Outscale chose the Cisco Unified Computing System powered by the Intel Xeon processor L5640.

The Cisco Unified Computing System is also an Intel® Cloud Builder reference architecture which, at general level, means it is designed to enable easy cloud deployment. Intel and Cisco have worked together to deliver extremely high application performance on this platform.

The Cisco/Intel hardware combination also provides a centralized way to manage and provision hardware, which reduced TCO. From a network perspective, the 10GbE server adapter convergence with Fibre Channel over Ethernet (FCoE) and Cisco Palo* cards enables Outscale to successfully address one of the major issues of cloud computing.

Seror explains: "Virtualization is the central technology in cloud services. With 10GbE server adapter and I/O consolidation enabled by FCoE, we can over-commit bandwidth to absorb peaks in data traffic without slowing down the cloud."

In short, the combination of the Cisco Unified Computing System powered by the Intel Xeon processor L5640 and 10GbE server adapter provides an extremely low latency, which is essential for Outscale customer applications.

The Intel Xeon processor L5640 also delivers a high performance-per-watt ratio, which was equally important for Outscale. Gillard said: "A strong performance-per-watt ratio has a considerable influence on our business model."

Alpha and beta

Outscale launched a private alpha cloud in July 2011, a private beta version in September and a public beta is due in November. The platform has over 100 servers so far and 1,000 virtual machines have been deployed at peak times with about 100 users.

The potential of the Outscale cloud service has been seized upon by Dassault Systèmes, which has made a strategic investment in Outscale. This is a significant move in that it takes cloud-based services beyond enterprise software and into computer-aided design (CAD) and product lifecycle management (PLM) software.

Dassault Systèmes is a major player in 3D and PLM products and its investment in Outscale is designed to strengthen and grow its business by reducing costs and administration. Its customers can benefit from 3D modeling simulation and virtual prototyping technology without having to add IT infrastructure or make long-term volume commitments to software.

In other words, they can take advantage of CAD and PLM software as and when they need it without having to make CAPEX outlays. This is notable move for Dassault Systèmes because, for the first time, the entire stack of PLM software, and not just core PLM functionality, is being brought to the cloud thanks to Outscale's platform.

The decision to use the Cisco Unified Computing System and Intel Xeon processor L5640 was also informed by the benefits it delivers compared to previous-generation processors and competitors' products. These benefits were influential in helping Dassault Systèmes make its investment in Outscale.

Gillard said, "If we compare to older-generation processors at the same frequency, we gain a 10 to 15 percent increase[1] on our application performance. Compared to competitors' processors we gain a 20 percent increase at the same frequency. With the lower power consumption, we also gain a 10 to 15 percent reduction on power costs and carbon reduction."

Powerfully green

Gillard continued, "It's also compatible with our green technology policy. IT has a huge carbon footprint and, by enabling ISVs to deploy applications over the cloud, reduces their costs. In turn, this makes them more competitive and reduces their carbon footprint too."

Going forward, Outscale is also planning to take advantage of security technologies, Intel® AES New Instructions (Intel® AES-NI)[2] and Intel® Trusted Execution Technology (Intel® TXT) embedded in the Intel Xeon processor L5640. Intel AES-NI is widely used across the software ecosystem to protect network traffic, personal data, and corporate IT infrastructure. Intel TXT[3] provides a high level of trust and control over computer systems by creating separate execution environments and is designed to defend against software-based attacks aimed at stealing sensitive information.

To summarize, Seror said: "Our customers are ISVs, so we wanted to use technologies that provide the best experience for enterprise resource planning (ERP) or ERP-like applications that ISVs would be offering. We were targeting performance, cost, and carbon footprint. All these criteria came together in the Cisco Unified Computing System and the Intel Xeon processor L5640."

Spotlight on Outscale

Outscale is a start up software-as-a-service and infrastructure-as-a-service provider. Founded by Laurent Seror and David Gillard, long-serving veterans in the Web hosting industry, the company provides independent software vendors (ISVs) with both public and private cloud platforms. In turn, ISVs use the platform to provide their software to end customers over the cloud so they can benefit from the flexibility and performance and lower TCO and carbon footprints that cloud-based services provide.

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[1] Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Intel may make changes to specifications, product descriptions, and plans at any time, without notice.

[2] AES-NI is a set of instructions that consolidates mathematical operations used in the Advanced Encryption Standard (AES) algorithm. Enabling AES-NI requires a computer system with an AES-NI-enabled processor as well as non-Intel software to execute the instructions in the correct sequence. AES-NI is available on Intel® Core™ i5-600 Desktop Processor Series, Intel® Core™ i7-600 Mobile Processor Series, and Intel® Core™ i5-500 Mobile Processor Series. For further availability of AES-NI enabled processors or systems, check with your reseller or system manufacturer. For more information, see http://softwarecommunity.intel.com/isn/downloads/intelavx/AES-Instructions-Set_WP.pdf.

[3] No computer system can provide absolute security under all conditions. Intel Trusted Execution Technology (TXT) is a security technology that requires for operation a computer system with Intel® Virtualization Technology, an Intel Trusted Execution Technology-enabled Intel processor, chipset, BIOS, Authenticated Code Modules, and an Intel or other Intel® Trusted Execution Technology compatible measured virtual machine monitor. In addition, Intel Trusted Execution Technology requires the system to contain a TPM v1.2 as defined by the Trusted Computing Group and specific software for some uses. See http://www.intel.com/ for more information.

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