



Success Brief

Intel® Xeon® processor
5500 series

Telecommunications

TANDBERG

“We were so impressed by the initial results of our evaluations that we made a decision to delay the launch of the TANDBERG Compliance Appliance* until after the launch of the Intel® Xeon® processor 5500 series.”

Simon Downey,
global product manager,
TANDBERG

Future proof compliance

Intel® Xeon® processor 5500 series provides TANDBERG with optimal performance, reliability and scalability to run its Compliance Appliance* content recording and compliance device

Company	Leading global provider of telepresence, high-definition video conferencing and mobile video products and services
Product evaluated	Intel® Xeon® processor 5500 series
Challenge	Find a technology platform with sufficient throughput, reliability and scalability to support a new video conferencing content recording and compliance device, named the Compliance Appliance*
Results	Compliance Appliance shows a 2x performance increase running on the Intel Xeon processor 5500 series, compared to the previous-generation Intel® Xeon® processor 5400 series. Greater energy efficiency and virtualisation capabilities also help reduce costs and footprint in the data centre
Impact	Provides customers with a fully compliant video conferencing recording solution ahead of forthcoming legislation, with no inconvenience to call participants and for minimal cost
Next steps	TANDBERG is now running a new series of evaluation tests and is working to further optimise the performance of the Compliance Appliance by utilising Intel® Turbo Boost Technology and Intel® Hyperthreading Technology

Challenge

TANDBERG is the leading global provider of telepresence, high-definition video conferencing and mobile video products and services with dual headquarters in New York and Norway. It designs, develops and markets systems and software for video, voice and data for customers in more than 90 countries worldwide.

The company works closely with industry leaders such as Intel to provide the highest performing solutions to its customers. Its long-standing relationship with Intel enables it to rapidly adopt the latest processing technology to bring to market innovative solutions that meet customers’ business needs.

A few years ago, TANDBERG received a request from a major bank to record its multipoint video conferences. The bank was using ‘virtual rooms’ on its TANDBERG High Definition Voice and Video Bridge to allow its traders worldwide to communicate. When the Compliance Officer at the Bank became aware of this, he was keen for the calls to be recorded as sensitive information was being discussed.

In response, TANDBERG began the development of a content recording and compliance device for video conferencing, spurred on by potential regulatory requirements in the near future. The FSA in the UK, for example, is already indicating that the recording of video conference calls is highly desirable. However, this process is complex and requires reliable and high performing technology.

Deployment

If for any reason the recording of a call for compliance purposes should stop, the participants need to halt the call and dial in again. To keep this inconvenience to an absolute minimum, TANDBERG needed to find a highly reliable technology platform for its new content recording and compliance device.

Once a video conference call has been recorded, it then needs to be transcoded offline into a format suitable for storage. It is important that this process takes place in real-time since any backlog of calls waiting to be transcoded could become an issue from an auditing perspective.

Real-time transcoding is particularly important for customers conducting high volumes of conferencing calls. However, it is a computing intensive process. High processor throughput is also required so that the recording does not have a negative impact on the quality of the call.

Together with Intel, TANDBERG set about finding a suitable platform. Initially, Intel software engineers met with the TANDBERG research and development team to discuss the new recording and compliance product, its operation and key technology requirements.

At that time, Intel was in the final stages of refining its latest server processor technology – the Intel® Xeon® processor 5500 series, based on the next-generation Intel® microarchitecture, codenamed Nehalem EP. TANDBERG was keen to further investigate its advanced capabilities.

Intel engineers returned several months later to help TANDBERG run a series of evaluation tests, running its new device – the Compliance Appliance* – on an Intel white box powered by the Intel Xeon processor 5500 series, running on a Linux* operating system.

Results

For the performance-critical portions of its core IP, TANDBERG found that the Intel Xeon® processor 5500 series outperformed the Intel® Xeon® processor 5400 series with the same clock speed by a factor of up to two without any software optimisation.

This performance increase draws largely on the fact that the Compliance Appliance utilises all eight of the Intel Xeon processor 5500 series cores – on a two-way server, that is two cores for recording and 14 cores for transcoding. Thanks to this improved efficiency, recording is subject to a mere 15 millisecond delay (200 milliseconds is still considered to be acceptable) and transcoding takes place in almost real-time.

The higher throughput and greater energy efficiency of the Intel Xeon processor 5500 series also means that the Compliance Appliance can run sufficiently on one physical rack server, helping to reduce energy consumption and data centre footprint for its customers. However, high scalability means that it is also easy for customers to add new users as and when required.

Advanced virtualisation capabilities of the Intel Xeon processor 5500 series will make it easier in the future for customers with multiple deployments to consolidate server hardware in their data centre. For example, they can use virtualisation software to run multiple, virtual Compliance Appliances from just one physical server.

Impact

Running on the Intel® Xeon® processor 5500 series, the TANDBERG Compliance Appliance* ensures the high reliability, performance and scalability customers need for massive recording capability.

High throughput means that videoconference participants remain unaware that the call is being recorded, since no performance degradation occurs. Hardware reliability means that call disruption is kept to an absolute minimum.

Customers are also able to reduce storage costs as a direct consequence of the performance of the Intel Xeon processor 5500 series. For example, if a company records 300 hours of videoconferencing calls a day at 768 kbps and they are then transcoded down to 192 kbps (the default rate of the Compliance Appliance) they require just 20.25 GB of storage per day, rather than 81 GB of storage per day without transcoding. Since internal chargeback for storage is roughly USD 20 (EUR 14.45) per GB per annum, this can result in cost savings of up to USD 315,900 (EUR 248,140) over a 12-month period.

By adopting the Compliance Appliance now – before official legislation comes into force – customers can assure that they are ahead of the technology curve and the competition. The solution is also flexible enough to cope with cross-border legislation. Customers can place boxes wherever is most convenient on the network. For example, standards in Japan insist that files must be stored within national boundaries.

TANDBERG benefits from being able to offer a high value solution to high value customers, opening up new streams of revenue, and placing it ahead of its competition.



This was sufficient to persuade TANDBERG to delay the launch of its Compliance Appliance until after the launch of the Intel Xeon processor 5500 series. Utilising the latest technology would also mean that the Compliance Appliance would be future proofed for several years.

Future

At the launch of the Compliance Appliance, several customers have already placed orders that are waiting to be shipped. These are largely multi-national organisations in the financial sector, traditionally early technology adopters.

Together with Intel software engineers, TANDBERG is now running a new series of evaluation tests on the shipped Intel Xeon processor 5500 series platform, and is working to further optimise the Compliance Appliance software. Specifically it is looking to harness the benefits of Intel® Turbo Boost Technology and Intel® Hyperthreading Technology, which it expects will increase performance even further.

Find a business solution that is right for your company. Contact your Intel representative or visit the Intel® Business/Enterprise Web site at <http://www.intel.com/business/>

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Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM) and, for some uses, certain platform software enabled for it. Functionality, performance or other benefits will vary depending on hardware and software configurations and may require a BIOS update. Software applications may not be compatible with all operating systems. Please check with your application vendor.

Hyper-Threading Technology requires a computer system with a processor supporting HT Technology and an HT Technology-enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. For more information including details on which processors support HT Technology, see here: <http://www.intel.com/info/hyperthreading>

"Intel® Turbo Boost Technology requires a Platform with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software and overall system configuration. Check with your platform manufacturer on whether your system delivers Intel Turbo Boost Technology. For more information, see <http://www.intel.com/technology/turboboost>."

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