



## Success Brief

Predictive Enterprise

Intel® Xeon® Processor

Service Providers & Media

Service Delivery Infrastructure



“Intel® Xeon® processor L5420 not only meets Greatbit and CTC’s performance needs but also allows CTC, a telecommunications company with a massive service footprint, to enjoy greater energy efficiency while fulfilling its responsibilities as an environmentally-friendly corporate citizen.”

Zou Chang Gen  
Chief Technology Officer (CTO)  
Greatbit Software Co., Ltd.

# Delivering Broadband Internet Access The Green Way

**China Telecommunications Corporation boosts its service infrastructure with Intel® Xeon® processor L5420<sup>1</sup>**

In today's technology-dominated, fast-moving business environment, China Telecommunications Corporation (CTC) is one visionary company that knows how to leverage the latest advances in technology to not only power its mission-critical enterprise systems but also make an environmentally-friendly statement in the process.

In turning to Intel's industry-leading processor expertise, CTC has been preparing for a ramp-up of its business activities while honing its service delivery capabilities for energy-efficient performance across the board.

Having put in place these infrastructure improvements, CTC can now look forward to improved services that will serve not only to cater to the demanding needs of its growing customer base but also pave the way for a green revolution in broadband Internet services delivery across mainland China.

### Challenge

- As China's key telecommunications provider, CTC's business has grown by leaps and bounds over the past decade, prompting the Telco to continually review and maintain its broadband Internet access infrastructure for high performance computing as well as optimum service delivery.
- Rather than simply increase server footprints and add to its space and energy consumption costs, CTC also wanted to upgrade its IT systems to better address server, space utilization as well as green IT issues.

### Solution

- Under the expert advice of its service provider Greatbit Software Co., Ltd, CTC chose to deploy an Intel® Xeon® processor-based deployment to power its IP data analysis and management solution.
- The Telco also chose to work with technology vendors IBM\* as well as deploy Linux operating systems to replace its ageing IT infrastructure.
- As a result, State-of-the-art IBM BladeCenter HS21 servers running on quad-core Intel Xeon processors L5420 now form the backbone of CTC's new and improved IP data management system.

### Impact

- Post-deployment, CTC found that it could now attain a 5-10 percent\*\* performance improvement over its previous server setup.
- Additionally, Intel Xeon processors L5420 significantly features lower CPU utilization and processing wait time for the same calculation, displaying the potential for CTC to do more with less and satisfying its growing business needs for higher productivity and efficiency with reduced server footprint and energy consumption.
- The results of the deployment was so successful that now, pending price negotiations, both CTC and Greatbit are now preparing to complete further deployments with the latest and even more powerful Intel® Xeon® processor E5520.

## Intel® Xeon® processor technology's high performance-per-watt capabilities allows CTC to minimize energy consumption while slashing operating costs across the board.

According to Greatbit's CTO Zou Chang Gen, CTC's decision to deploy quad-core Intel® Xeon® processors L5420 in running its IP data analysis management system has been a long time coming.

"Greatbit has been working with CTC closely since 2006 and we can see that their business has grown significantly especially over the past three years, particularly in the area of broadband Internet access and Internet-related services. And as CTC's customer base grows, they've been actively looking for smarter solutions to meet their massive IP data analysis, management and administration demands," says Zou.

"Rather than just simply increase server numbers to demand and weigh down their bottom line with growing data centre space and energy consumption costs, CTC wanted a more efficient and forward-looking solution that will better suit their current and future needs," Zou adds.

In line with both companies' Predictive Enterprise strategy, Greatbit and CTC saw that the smarter solution to CTC's issues can be found in multi-core processor technology, which effectively houses multiple processors in one system, allowing computers to handle more tasks with higher efficiency while reducing energy and space consumption.

"In our tests, we found that Intel multi-core processor technology, specifically Intel® Xeon® processor technology, to be most suited for CTC's purposes based on its high performance-per-watt capabilities and effective price point," says Zou.

"Through Intel Xeon processor L5420, CTC would be able to reduce their server footprint, boost the processing performance of their IP data, management solution with lesser machines while at the same time reducing overall energy consumption and lowering their operational cost in the long run," he adds.

The benefits of the Intel Xeon processor L5420-enabled IP data analysis and management system proposed by Greatbit far outweighed the cons of their legacy server infrastructure, and despite the current economic downturn, CTC wasted no time with Greatbit as well as technology partners IBM\* and Intel in deploying its first batch of Intel Xeon processors L5420-based servers.

With the completion of its new 45nm, quad-core processor technology deployment, CTC now stands to enjoy these Predictive Enterprise technology advantages:

- Greater Efficiency Through Higher-end Server Refresh:

The unparalleled performance-per-watt advantages of Intel® Xeon® processor L5420 gives CTC the latitude to ramp up its business operations for higher productivity and efficiency.

- Data Intensive Computing:

CTC can also satisfy its current and future performance requirements for IP data analysis and management and more with an overall systemic performance boost.

- Efficiency, Environment and Performance:

Additionally, CTC further benefits from the energy-savings and space-savings afforded by Intel Xeon processors L5420-based blade server systems.

These improvements all work together to for CTC to maximize the usage of its current deployment for lower overall operating costs while enjoying comfortable performance gains.

And that is not all.

"This deployment has been so successful that we are now convinced that further usage of Intel technology will prove even more beneficial to CTC in terms of cost and environmental benefits," says Zou. To that end, we are now exploring the possibility of further deployment with the latest Intel® Xeon® processor E5520 so that CTC can enhance its ability to effectively future-proof its IT investments."

And as CTC continues to replace its legacy server infrastructure with Intel processor technology at effective price points, we are confident that we will be able to see even more benefits arise." Zou adds.



### Spotlight: China Telecommunications Corporation

- CTC is a massive state-owned telecom operator regulated under China's telecom industry reform scheme.
- As a principal telecom enterprise and the biggest basic telecom operator in China, CTC owns the largest global fixed-line telephone network that covers China's numerous the cities and towns as well as the rural areas.
- Member units of China Telecom include 31 provincial (municipal and autonomous regional) enterprises that provide telecom services nationwide.



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<sup>1</sup> 64-bit Intel® Xeon® processors with Intel® EM64T requires a computer system with a processor, chipset, BIOS, OS, device drivers and applications enabled for Intel EM64T. Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel EM64T-enabled OS, BIOS, device drivers and applications may not be available. Check with your vendor for more information. Performance will vary depending on the specific hardware and software you use. See most up to date benchmarks at <http://www.intel.com/products/benchmarks/server/index.htm> for detailed information.

\*Other names and brands may be the property of their respective owners.

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