



Success Brief

Intel® Atom™ Processor
N270 and Mobile Intel®
945GSE Express Chipset

Cross Sector Solutions

Thin Clients



Creating Opportunities out of Crisis to Meet Higher Demands

Intel and Centerm Build Industry-leading Thin Client Solutions

Overview

In the face of rapidly growing business, the enterprise information architecture, which helps the growth, also faces increasing technical risks and challenges. More and more users begin to focus on the security and manageability of the enterprise IT environment. While improving the IT systems, they are also challenged by how to protect enterprise application data and tackle the increasing complexity of IT architecture. To better cope with the challenges, more and more customers are choosing thin client solutions that are oriented at industry users and delivers high security and manageability.

"Fujian Centerm Information Co., Ltd, in close collaboration with Intel a key partner of Intel in thin client and other embedded applications, has been customizing integrated thin client solutions for industry users for over a decade," and registering the largest sales in the Chinese market for 9 consecutive years. With high security, reliability, centralized management and support for cross-platform operations, the thin client solutions jointly developed by Intel and Centerm have been received well among users and have been applied in a wide range of industries and sectors including finance (banking), tax, customs, army, education, etc.

Challenge

- **Higher performance and business upgrade** To reduce the pressure on server computing, more and more customers require higher computing performance of thin client to meet the evolving business needs.
- **Higher ROI of IT system** While upgrading IT systems, CIOs have to meet higher business demand as well as paying more attention to reducing procurement cost, management cost and operating cost.
- **Smaller size and lower power to satisfy more application demands** To address their business needs at any time anywhere, customers of some industries require thin clients to have lower power and smaller sizes for installation and use in more locations.

Solution

Targeting customer demands of different industries and through discussions, Centerm worked with Intel to launch the solution based on Intel® Atom™ processor N270 and Mobile Intel® 945GSE Express Chipset.

- **Intel® Atom™ Processor N270** Features high performance and low power, with 1.6GHz core speed and only 2.5 watts thermal design power (TDP). The processor supports Hyper-Threading (HT) Technology, provides high performance-per-watt efficiency, and has increased system responsiveness in multi-tasking environments. The total TDP of the platform that consists of Intel Atom processor N270 and Mobile Intel 945GSE Express chipset consumes 8-11 watts, while the thin client designed by Centerm based on this platform consumes only 25 watts.
-



- **Mobile Intel® 945GSE Express Chipset** Adopts an integrated 32-bit 3D graphics engine, supports dual independent display at graphics core speeds up to 166 MHz, and graphics interfaces such as single-channel SDVO, VGA, dual-channel LVDS and analog TV-out. The chipset also provides flexible I/O functions such as PCI, SATA and SPI, as well as LAN Connect Interface (LCI) that enables flexible network solutions such as 10/100 Mb/s Ethernet and 10/100 Mb/s Ethernet with LAN manageability.

Advantages

During the trials and promotions, the three thin clients developed by Centerm based on the Intel Atom processor N270 and Mobile Intel 945GSE Express chipset received attention and recognition from customers of various industries including finance, railway, power, education and telecom.

- The thin clients based on the Intel Atom processor platform reduce system power consumption while improving computing performance; besides energy efficiency, they can lower the operating cost of IT systems.
- The no-fan design on these terminals reduces the chance of failure caused by fan error, while ensuring a quiet and reliable office environment by eliminating the noise caused by prolonged use of the fan.

Find a business solution that is right for your company. Contact your Intel Representative or visit the Intel Embedded Web site at:

www.intel.com/go/embedded

or visit the embedded industry solutions-specific sites at:

<http://www.intel.com/design/embedded/solutions>

www.intel.com/go/infotainment

Creating Opportunities out of Crisis to Meet Higher Demands

"I don't think the global financial crisis will have negative impact on the thin client market. Instead, it represents an opportunity for Centerm – an opportunity to help customers find new business growth points." said Huang Gang, Marketing Director of Centerm, who is confident about the market in 2009. "In the financial industry, for example, due to pressure of the financial crisis, savings services alone can no longer meet growing enterprise demands, and banks need to promote new services such as financing to customers. Therefore, higher graphic processing capability and the dual-display thin client are required to support the business growth. This means a great business opportunity for Centerm."

In addition, the maintenance and management costs of the thin client are greatly reduced due to convenient management, controllability, low operating & maintenance cost, the ability to work under wide temperature ranges and severe environments, as well as the personalized management tools that Centerm provides for different industry customers.

Cost reduction will help enterprises survive the crisis, but what concerns CIOs more is how to find opportunities in the crisis. Providing end users with ubiquitous, human-oriented services besides maintaining stable business growth will bring new business opportunities to service industries (like finance, railway and telecom). Based on a small package, low power and other features of Intel® Atom™ processor, Centerm has developed the 16cmX12cm motherboard that can provide customers portable all-in-one and thin client solutions for more extensive use. Moreover, the higher local computing capability of thin clients relieves the pressure of business upgrades on the server, and upgraded security performance promises business growth for the customer.

Both Intel and Centerm believe that the thin client has developed from simple character operations to graphic display and computing. In the future, the thin client will no longer be a simple display terminal but will combine functions of a multimedia player and a graphic processing terminal to reduce the pressure of business growth on the server system. To adapt to this trend, Intel must design processors of higher-performance suitable for the embedded market; meanwhile, thin clients adopting X86 architecture compatible with the server architecture will further enhance the overall system performance and reduce the cost for management and system upgrades.

Intel and Centerm will further enhance technical innovation and collaboration to provide better solutions to customers, to help them grow their businesses and create new growth opportunities out of the crisis.

