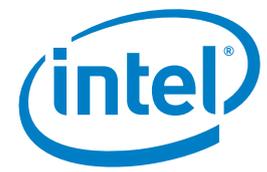


CASE STUDY

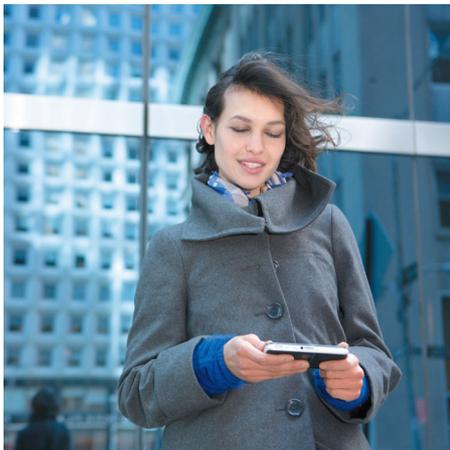
Intel® Atom™ processor
Intel® Core™ i7 processor
Intel® Core™ i7 vPro™ processor
Intel® Solid-State Drive



Revolutionizing the retail sector

Intel embedded processors and chipsets help DigiPoS maintain competitive advantage

DigiPoS brings retailers electronic point of sale (EPOS) solutions that are crucial to their success. Through this, DigiPoS has established a clear reputation for quality, value, and high-performance systems that deliver exactly what retailers need. For the last 12 years, DigiPoS has based these systems exclusively on Embedded Intel® Architecture Processors.



CHALLENGES

- **Maximizing investment:** DigiPoS wanted to deliver unique retail solutions that help customers maximize their investments and DigiPoS maintain its competitive advantage
- **Reliable roadmap:** To achieve this, it needed to establish a close working relationship with a company that could offer a predictable roadmap of high-performance embedded processor technology

SOLUTIONS

- **Exclusively Intel:** DigiPoS has run its in-store systems exclusively on embedded Intel architecture processors for the last 12 years
- **Broad portfolio:** DigiPoS's products run on a variety of technologies from Intel, including the Intel® Atom™ processor, Intel® Core™ i7 processor, Intel® Q67 Express Chipset, and Intel® Solid-State Drive (Intel® SSD)

IMPACT

- **Continuous innovation:** Intel embedded technology has enabled DigiPoS to introduce high-performing and reliable EPOS systems to the retail market segment consistently for more than a decade
- **Competitive advantage:** DigiPoS is now the third largest EPOS provider across Europe, the Middle East and Africa (EMEA) and one of the top five across the rest of the globe



"DigiPoS invests a huge amount of money in research and development based on the Intel embedded processor and chipset roadmap. Any last-minute deviations are extremely costly for us, but we can rely on Intel. Unfortunately, we haven't always had this experience with other vendors."

Phil Parry, Group Technical Director, DigiPoS

A revolutionary in-store system

Traditionally, retailers upgrade their EPOS solutions once every five to seven years, completely replacing their previous hardware. Often, they must close stores to complete this overhaul, which can result in loss of revenue as well as reputation.

To help retailers maximize their investments, DigiPoS devised a unique retail technology solution based on embedded Intel architecture processors. Launched in 2004, this system, known as the DigiPoS Retail Blade*, was the world's first EPOS client to use blade technology. It enables retailers to swap only the parts of the solution they need to upgrade, making complete replacement a thing of the past.

The retailer can easily remove the motherboard and hard drive for maintenance or upgrading to the latest performance blade. This enables retailers to introduce the latest high-performance technology while maintaining configurations and installations. They can extend the lives of their EPOS investments to more than 10 years.

This simple service design also decreases downtime and reduces the time and costs associated with maintenance. A blade can connect and power a huge range of devices, making it easy for retailers to trial new technologies such as in-store screens.

Intel embedded processor and chipset roadmap offers DigiPoS the predictability it needs

“Intel technology has enabled us to create a unique offering for our customers, which helps them lower the TCO of their EPoS solutions while delivering a whole raft of additional benefits.”

Phil Parry, Group Technical Director, DigiPoS

Why Embedded Intel® Architecture Processors?

Phil Parry, group technical director at DigiPoS, explains: “DigiPoS invests a huge amount of money in research and development based on the Intel embedded processor and chipset roadmap. Any last-minute deviations are extremely costly for us, but we can rely on Intel. Unfortunately, we haven’t always had this experience with other vendors. History shows that only Intel offers us the stability and predictability we need.”

He continues: “Also, Intel is the most reliable and best-performing technology in the marketplace. It also adds credibility when speaking with existing and potential customers. Intel technology is synonymous with quality; whereas competitors’ products are sometimes viewed as a low-price alternative. Most importantly, however, Intel technology has enabled us to create a unique offering for our customers, which enables them to lower the total cost of ownership (TCO) of their EPoS solutions while delivering a whole raft of additional benefits.”

A quantum leap forward

At the end of 2009, DigiPoS launched the Quantum Blade*, offering all the benefits of the Retail Blade but with greater energy efficiency. Parry explains: “The Quantum Blade embedded platform uses the latest Intel Atom processor technology, Intel chipset, and network card. It is 60 percent more energy-efficient than our previous Retail Blade system, saving retailers up to USD 57 (GBP 35) per system per year while offering a 30 percent performance increase.”

The Quantum Blade also runs on an Intel SSD. Unlike traditional magnetic media drives (e.g., spinning hard disk drives), Intel SSDs have no moving parts. This is why SSD advocates claim they are much more reliable. They also lower the TCO and enable productivity increases while improving overall system responsiveness. Intel SSDs also consume much less power than a traditional HDD, translating into a cooler, quieter platform.

As with its other products, DigiPoS relied on Intel embedded reference designs for best practices in developing the Quantum Blade. Parry explains: “The granular detail of Intel embedded reference designs, including the thermal design guide, gives us all we need to know to build intelligent, high-performance, and energy-efficient solutions.”

Ultra-reliable and energy-efficient

Recognizing the varying needs of retailers, DigiPoS was eager to introduce an ultra-reliable and compact EPoS system for retailers wanting to optimize counter and surrounding space. The DigiPoS Retail Core* offers fully capable plug-and-play systems with optimum performance and low maintenance.

Built using the ultra-low-voltage (ULV) Intel® Atom™ processor D510, the Retail Core generates minimal heat so it does not need a fan for cooling. Instead, heat is dissipated through two solid aluminum blocks which conduct heat away from the processor to the aluminum casing. DigiPoS designed this casing based on the Intel embedded reference design.

Fans are often the single largest point of weakness, so by having no fan, or any moving parts, DigiPoS was able to create an extremely

reliable system. The mean time between failures for a typical Retail Blade is 40,000-60,000 hours. For the Retail Core, this is somewhere in the region of 300,000 hours, equating to 11 years. It would not have been possible to achieve this without ULV Intel Atom processors.

The Retail Core comprises one completely sealed unit. Rather than being designed for maintenance and upgrade, like the Retail Blade and Quantum Blade, the Retail Core is designed to last. For this reason, it's ideally suited to remote retail outlets where maintenance is difficult. Intel's ULV processor also makes it the EPoS system of choice for retailers with a strategic direction to reduce carbon emissions.

The Retail Core uses 15 watts for the whole system unit, which is just 25 percent of the power used by a low-wattage light bulb. Retailers with large installations can reduce their power consumption significantly, saving costs and the environment. Moreover, these energy benefits do not compromise performance. The new DigiPoS Retail Core running on the ULV Intel Atom processor D510 offers 400 to 500 percent greater performance than the original DigiPoS Retail Core running on the Intel® Celeron® M processor.

The ultimate in flexibility

The DigiPoS Dynamic Blade* combines the maintainability of the Retail Blade and Quantum Blade with ultra-reliability. This touch-screen system has the motherboard and hard drive built into the screen itself. A full processor and hard drive swap-out takes less than 10 seconds, minimizing maintenance

and upgrade costs while reducing downtime. The fanless design also results in an ultra-reliable system. All this is made possible by the latest Intel Atom processor with two cores.

The Dynamic Blade is the most flexible in-store system in the marketplace. It can be pole-, wall- or desk-mounted, allowing retailers to place the system exactly where it can be of optimum use for the business and maximize value, productivity, and revenue. The low-voltage Intel Atom processor means that the Dynamic Blade also offers significant energy consumption benefits, enabling retailers to cut their energy bills by up to 80 percent.

Taking EPoS to the next level

DigiPoS is currently working on the design of its next-generation Quantum Blade based on the Intel Core i7 vPro processor and the Intel Q67 Express chipset. It brings retailers ground-breaking remote management capability through Intel® Active Management Technology (Intel® AMT)², helping them to lower the TCO of their EPoS environments.

Intel AMT provides remote management and maintenance capabilities that let retailers query, fix, and protect networked embedded devices even when they're powered off, not responding, or have software issues. Intel® vPro™ technology helps perform remote asset tracking and checks the presence of management agents virtually any time. The technology lets users turn devices on and off remotely to reduce energy consumption during non-peak operating times.

"Thanks to the range of Intel processors designed for embedded systems, we have been able to build up a selection of Retail Blade

"The mean time between failures for a typical retail blade is 40,000 to 60,000 hours. For the Retail Core*, this is somewhere in the region of 300,000 hours, equating to 11 years. It would not have been possible to achieve this without ultra-low-voltage Intel® Atom™ processors."

Phil Parry, Group Technical Director, DigiPoS

systems with a product to suit each section of our global customer base," says Parry. "Whether their need is reliability, cost-effectiveness, or the very highest performance, we have a system that suits their needs. This is incredibly important, as it's not economically viable for us to design a different system for each market segment."

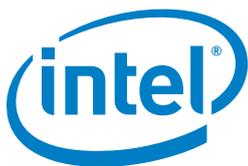
Bringing diagnostics to the retail space

DigiPoS is also working on a suite of diagnostic management software with embedded Intel AMT features. For the first time, retailers will be able to proactively track the failure of peripherals like printers and cash drawers. According to Parry, peripherals are the weakest point of in-store retail systems and the top cause of downtime.

"Intel AMT enables predictive analytics, which means retailers will be able to identify weak spots in the retail system and proactively track and resolve potential failures before they become problems, especially failures associated with peripherals. We haven't seen any other solution in the marketplace that offers this kind of capability, and it would not be possible without Intel technology," explains Parry.

"By basing our research and development exclusively on Intel technology, we have been able to consistently introduce innovative, high-performing, and reliable EPoS systems to the retail market segment for more than a decade. This has enabled us to build up a loyal, global customer base and establish ourselves as the third largest EPoS provider across EMEA and one of the top five across the rest of the world."

Find a solution that is right for your organization. Contact your Intel representative or visit the Reference Room at www.intel.com/references and www.intel.com/go/ic



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² Intel® vPro™ technology includes powerful Intel® Active Management Technology (Intel® AMT). Intel AMT requires the computer system to have an Intel® AMT-enabled chipset, network hardware, and software, as well as connection with a power source and a corporate network. Setup requires configuration by the purchaser and may require scripting with the management console or further integration into existing security frameworks to enable certain functionality. It may also require modifications or implementation of new business processes. With regard to laptops, Intel AMT may not be available or certain capabilities may be limited over a host OS-based virtual private network or when connecting wirelessly, on battery power, sleeping, hibernating, or powered off. For more information, see <http://www.intel.com/technology/platform-technology/intel-amt/>.

*Other names and brands may be claimed as the property of others.

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Spotlight on DigiPoS

DigiPoS has been at the forefront of EPoS design and manufacturing since it was established in 1994, developing award-winning hardware, software, and professional services. DigiPoS is a leader in system design and the integration of software applications and hardware solutions. Its global customer base includes some of the largest names in retail including Armani, Burberry, GAME, Harrods, Harvey Nichols, Next and Selfridges.

For more information, visit:

www.digipos.co.uk