

The Magazine for Global Advantechers and Partners

Spring 2012 No.10

Intelligent Cities in the Cloud

Limited Resources but Unlimited Resourcefulness

Moving Towards A New Generation of Hospital

Tips and Tricks for Reducing Industrial Computer Noise

IPCs are often located outdoors but application diversity has brought more IPCs indoors. And because many indoor application environments are more sensitive to noise, Advantech introduced a series of quiet solutions to meet precisely these needs.



Industrial Cloud Services

Connecting Intelligent Devices to the Cloud



Embedded Box PC MI/O Extension

Industrial Display

Single Board Computer

Computer On Module

Advantech has designed a unique industrial cloud service for embedded applications. The service includes SUSIAccess for intelligent remote management of devices, and CloudBuilder with on-demand software service to help system integrators streamline and simplify building and deploying their own industrial clouds.



Enabling an Intelligent Planet

Advantech Headquarter

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Viewpoint

Intelligent Cities in the Cloud

Turning an ordinary city into an intelligent city involves aggregation of all the individual systems that make up the real infrastructure under the wireless umbrella of a cloud-based infrastructure. How to enhance a city's competiveness and help it grow and evolve to the benefit of all its citizens is a challenge that can be helped by the smart use of cloud-based systems.

Starting from 2007, Google and IBM joined forces to promote cloud computing, and over five years this concept quickly spread to the rest of the world. This profound IT transformation has been encouraged by the wide adoption and popularity of smart phones and mobile Internet devices. In 2011, global smart phone shipments approached 500 million handsets, while our connected lifestyles pushed the development of various cloud-based services, which in turn triggered greater business opportunities.

At present, cloud-based applications and services in the public domain are growing exponentially due to the huge popularity of mobile computing devices including smart phones and tablets. In future, according to industry research, we will also see large scale applications become available in the private enterprise cloud. Private enterprises are the economic drivers and foundation for urban development, but many cannot afford to build their own private clouds due to limited resources and technology skills, but with the trend towards ever intelligent cities, establishing private enterprise clouds is becoming imperative for growth and opportunity.

Advantech believes that cloud computing is an irrevocable trend that requires a comprehensive approach that would allow enterprises to build their own cloud systems easier and faster. Using internal professional teams to build private enterprise clouds would be the way to go for companies with limited

UTC-520 (21.5")

 40mm thickness with aluminum extrusion design Support landscape and portrait screen mode Side groove design for flexible peripheral device attachment including camera, smart card reader, RFID reader, barcode reader, magnetic stripe card reader and bluetooth Projective capacitive touch screen available (optional)

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Enabling an Intelligent Planet

Advantech Ubiquitous Touch Computer and Infotainment Terminal: An Innovative way to Interactive with the Environment

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- Slim design optimize space utilization and shorten the time of installation and assembly.
- Easy to integrate peripherals and multimedia/interactive contents for diversified hospitality. self-service, promotional usage in different scenarios: broadcasting system, internet access, video conference, electronic payment etc
- Best investment to enhance user satisfaction, further brand equity and maximize business profits.



HIT-W121 (11.6")

- Intel® Atom™ D510 1 6 GHz processor Customizable hot keys on the
- front Optional: VOIP phone / RFID / CCD / Wi-Fi / TV tuner / smart

www.advantech.com

card reade Light weight: 2.3 kg



front Optional: barcode reader / RFID / CCD / Wi-Fi / TV tuner /



- Intel[®] Atom[™] D525 1 8 GHz processor Intel[®] Core[™] i7 processor · Customizable hot keys on the front Options: smart card reader / BEID /
- CCD / Wi-Fi / TV tuner / VOIP phone / remote control / MSR / barcode reader

UTC-515 (15.6") Intel[®] Atom[™] processor D510/D525 (Fanless). Processor





resources. Of course, those teams would need to have reasonably high technical capabilities and vertical industry experience to design specialist applications and services for their own cloud system. An important feature of all cloud-based systems are intelligent management functions for equipment and devices. Whether it is installation, maintenance, or updates, the process must be quick and simple. With cloud systems, users can install and download applications, utilities and data via a few simple clicks and they can easily configure their equipment to remotely update with automatic notifications. System builders can also provide hosting services to ease end-users management effort.

For example, signage administrators used to send staff to regularly check digital signage equipment located in public places but now such equipment can be remotely controlled over the network. Also, public institutions could authorize some of their management tasks such as traffic intersection monitoring to system builders and service providers so as to optimize resources and achieve the most efficient operation.

Public and private cloud-based systems will empower the intelligent cities of the future, and industrial clouds are the final piece of the puzzle that will make it happen. Based on joint efforts from all parties, construction and development has reached a certain level of automation. Cloud systems and services will not only be instrumental in integrating all the individual parts that make up the whole infrastructure, they will enable more diverse smarter functionality, helping us all benefit and prosper in the intelligent city.

Vice President of Advantech EmbCore Group Miller Chang

Sustainable Value-driven Synergy in the Healthcare Sector in India



In specific vertical markets, choosing the right local partner in the right sector with a thorough understanding of the business can make or break a project. In this article, Mr. Umesh Ghai from Allarch Healthcare, and Gavin Lee, Advantech's Inter-Continental Account Manager, talk about how a strategic and focused partnership is helping bring solutions to India's booming healthcare market. Showcasing products, responding quickly to changes in the industry, and sharing intelligence and information through continuous two-way communications; Advantech's focused channel partnership pays off in the long run.

Written by Richard Ponce; Pictures from Allarch Healthcare Interview with Umesh Ghai, Allarch and Gavin Lee, Advantech Intercon Sales

There is a new paradigm in healthcare. Hospitals and clinics around the world are seeking digital technologies to improve the patient/doctor experience. New technologies increase efficiency, improve diagnoses, provide a platform for better patient counseling, increase accuracy, reduce stress, and give healthcare providers more time to spend with patients and their families. India is responding to huge demand in the medical services sector fueled by the size of its population, and a growing talent pool of healthcare providers. Some estimates place growth of the \$70 billion-plus industry at over 20% for the year, and technology is playing a vital role in helping keep up with demand. The market is complex, with plans to place 6,000 ambulances in service, to reduce backlogs, and respond to the growing upper and middle-classes; to supply solutions to both a high density urban environment and a regional environment, with demand for quick response from providers over long distances. The challenges faced in the market require new strategies which is where Allarch Healthcare, in collaboration with Advantech, leads the drive to provide innovative and sustainable technologies to the both public and private sectors.

Sustainable Value Fuels Growth in Healthcare

Mr. Umesh Ghai of Allarch Healthcare sums up the role his organization plays, in partnership with Advantech, in delivering to the Indian medical sector. "Advantech and Allarch Healthcare establish sustainable valuedriven synergy for our healthcare customers in these most challenging times. Advantech's innovation-driven solution strategy, leveraging Allarch's unique domain driven, workflow-enabling product positioning, facilitates the journey healthcare providers undertake on the way to a digital world that improves efficiency and patient experiences." Mr. Ghai is in a position to know. Allarch Healthcare grew from the medical construction field when it became apparent there was a need to deliver niche, innovative technologies and solutions to meet the demand in the healthcare ecosystem. Advantech, a long time leader in providing industrial-grade, medicallycertified equipment for digital healthcare, was able to take advantage of Allarch's unique domain experience and knowledge of local market conditions. The synergy of this union creates a value proposition for healthcare suppliers throughout the country, which is leading the way to the delivery of innovative, world-class digital healthcare solutions. Mr. Ghai expects continued high growth in the sector for at least the next 15 years, both in public and private facilities. Allarch has over 10 years experience in the industry, and this year teamed up with Advantech to showcase solutions at two major events; India's Hospital Infrastructure show, and an EMS-themed show where point-of-care and computerized nursing cart solutions were on display. These mobile technologies boost efficiency and free up time for doctors and staff to spend more time with patients. Providing education in the field to healthcare leaders about what the technology enables is the key to its successful adoption.

The Benefits of Focused Channel Partnership

There has been a shift in channel management Advantech's focused channel partnership gets intelligence collected by Allarch Healthcare into the channel for guick methodology that allows for projects to be scaled up, delivered on time, with a minimum of trouble, and a planning, implementation, and post-operational support. maximum of ongoing support and service. Advantech terms Mr. Ghai added that Advantech's proactive approach and quick-to-market changes are keys to Allarch's this shift a "Focused Channel Partnership." In essence, it starts with the understanding that each market and each responsiveness in the field. Gavin Lee said, "Without a vertical industry has specific needs best attended by local doubt, we are on the right track to co-work with worldexperience, and backed by global alliance, manufacture, wide partners using the MI and FCP approach. We are and ongoing support. Advantech's Gavin Lee explained, effectively mobilizing the right resources with the right "Using Marketing Intelligence, we carefully select the partners in the right markets." A clear and mutually right sector, partner and business opportunity, and beneficial cooperation model, combined with the hard work that's what allows us to engage and execute key projects of both the Advantech and Allarch teams, are responsible more efficiently. Focused Channel Partnerships build on for moving projects from the concept stage to reality. this principle by allowing our partners to focus on doing The success of Advantech's focused channel partnership what they do best. The result is a higher closing rate and with Allarch India helps bring about patient-centered a win-win scenario for everyone." Such is the case with healthcare solutions in a quickly growing market. This is the Allarch Healthcare partnership. Mr. Lee explained a win-win situation for Advantech, for Allarch, and more that Allarch understands the intricacies and subtleties importantly for the patients and caregivers who derive the of the rapidly growing and constantly changing medical benefit of safe, efficient and error free digital healthcare care industry in India. They provide a technical anchor insolutions. The results of this on-going collaboration can country that combined with Advantech's wide-range of literally be life saving. ■

technical capabilities, its experience, and its global reach, creates a synergy to propel projects forward. Mr. Ghai explained that digital healthcare is still new to the local market. Allarch Healthcare is able to provide local product demos that illustrate increases in patient accuracy and efficiency, while emphasizing key product features like the importance of medically-certified systems which operate quietly and reduce risks of dust and bacterial infection by virtue of easy-to-clean surfaces and fanless designs.

Clear, Two-way Communications and Information Sharing

Both Mr. Lee and Mr. Ghai stressed that a key success factor of the partnership is the facility it creates for open communications. The process goes like this: Allarch regularly displays and demonstrates end-to-end digital healthcare solutions to big healthcare providers in country; they are able to collect feedback and actively listen to customers to respond to changes in market needs: Advantech and Allarch engage in ongoing dialog and Advantech, using its engineering knowledge and manufacturing capabilities is able to respond quickly with specific products. The key is careful and frequent communications to help define controls, customization needs and identify changes early on in a project cycle, and so on. Results are achieved by back-and-forth communications, engineering discussions, testing in healthcare facilities, and quick turnaround throughout Advantech's manufacturing chain; getting the right product to the field. For the end-customer this means they get exactly what they need, when they need it. Market demand is efficiently translated into tangible solutions.

A Convenient Way to Sell Products

Digital Signage Makes the Perfect Selling Platform

Written by M.D Wang; Pictures from Advantech & TPG Interview with Qianyuan Dong, Advantech Intelligent Services Sales Engineer

their message and improve efficiency of store operations, one world-renowned firm has adopted Advantech's digital signage solutions as a tool to boost efficiency, keep in touch with each of its stores, and effortlessly drive product sales.



ne world-renowned firm was quoted as saying, "Without the Chinese market, the company is not a true multinational." And with this, the directsales company began to establish a presence in China. In 1995, the company began opening branches, and has been continually expanding its base throughout the country. By 2012, the scale of the company has grown to over 280 stores with the highest membership base in Asia.



Breaking Time and Space Constraints with **Digital Signage**

Advantech Intelligent Services, Sales Engineer, Qianyuan Dong, who is responsible for the client, said that the company set up several stores to sell its products in China. Management of information was initially easy to control and deliver, but with rapid expansion, such a traditional information model had become largely inadequate. In order to overcome time and space constraints, the company intended to use advanced IT technology to build a completely new digital system.

Qianyuan Dong said, "We have had some brilliant results in the retail sector over the past few years." Indeed, after a detailed search and analysis, the company in China selected Advantech over other options. In 2009, Advantech provided the first digital signage system to the company to be used as a message announcement system targeted at staff in the stores.

The company seldom has an opportunity to gather staff together, due to the locations being widely spread throughout the country. In the past, when there was a need to release a message company-wide, announcements such as an executive speech or educational training video would be recorded at the headquarters office on DVD and distributed to each shop.

Although delivering the message via video is more effective than a telephone conversation or a meeting,

one limitation to this approach is the lack of timeliness. Secondly, a DVD is a one-way message delivery mechanism, and there is no way for headquarters to know for sure if a particular store has watched the presentation or not.

Advantech's digital signage solution quickly solved manager could immediately change content as needed. the company's problems. Qianyuan Dong pointed out that Furthermore, Advantech's signage system helped improve Advantech provided its DSA-3010 controller together with a staff efficiency throughout the 280 store chain. partner's software to create a total solution comprised of a digital signage station and a back-end management system. **Higher Stability and Perfect Services Win** Through the network, dynamic updates and feedback **Customer Trust** can be delivered in real-time. And, the announcement Advantech's digital signage systems have become status can be controlled for each shop by the head office. important tools for the company's operation. The systems Currently, more than half of the stores have already are stable and Advantech provides a 3-year warranty installed the Advantech system, and more stores are to the company via local branch and dealer offices to coming online each day. ensure follow-up maintenance, services and component replacement is quick and complete.

Advantech's System Makes Work Easier Qianyuan Dong said that a benefit to the customer In addition to the message announcement system, is that sales staff can effectively support new product another system which is targeted to members can display introductions to the stores using a combination of image customer rewards and other information. Prior to the new and text. At the same time, administration is more efficient. system, the company set up award showcases in each and e-services enhance the company's corporate image. shop, but was unable to display all the rewards due to The customer's evaluation of Advantech's digital signage limited store space and multiple categories. Also, keeping solution received high marks. Based on its successful implementation and the customer's favorable comments, the reward system up-to-date and posted in the store was inefficient and time consuming, which increased workload Advantech will continue to provide this world-class, and caused headaches for staff. Advantech designed direct-sales company with the best in services and solid the new system with 2 or 3 LCD screens, depending on support.

store size. A large monitor was used to display current promotional programs via a carousel slideshow, and a smaller monitor was used to show customer prizes and exchange information about the award program. The store

Limited Resources, But Unlimited Resourcefulness

Everlight Electronics Co., Ltd. has consistently worked toward a greener future and regards this as its company mission. In addition to providing and promoting energy-saving LED products, Everlight chose Advantech's Facilities Reservation System to efficiently make the most of its enterprise resources and to meet its environmental protection goals.

Written by Sharlene Yu; Photography by Lucida Lu Interview with Biddy Tsai, Chief of Human Resources & General Affairs Division, Everlight Electronics Co., Ltd.

hen Roger's car drove up to the front of Everlight's headquarters, the security guard confirmed his identity through a computer, clicked "Arrival" on the screen, and then guided him to park in the basement parking area. Actually, Roger already knew where he should park because Everlight' s system had sent an email notification when Roger made his appointment.

As Roger entered the building, a 42-inch vertical digital signage display in the lobby automatically switched from the usual Everlight ad and flashed a welcome message for Roger. Back in the office, Everlight staff received a system notice for a visitor arrival and were ready to meet with Roger in the reception hall.

Internet Reservations Take on a Human Touch

This true story represents an important advance in resource management. The Chief of General Affairs Division of Everlight Electronics, Biddy Tsai, said that Everlight's headquarters can accommodate approximately 700 employees and provides 48 meeting rooms and 50 parking spaces, but there are still shortages of those facilities during peak



periods. In order to resolve this problem, Everlight planned to implement a Facilities Reservation System to manage conference rooms and parking spaces, as well as to improve resource management efficiency.

In addition to the advance booking function, the reservation system also provides for a security check and visitor notification so that the security guard and reception operator can verify each visitor's identity via computer, and the company staff receives an arrival notice via email. As a result, the new system replaces the traditional method of using extension phones to check and inform.

Electronic Application Improves Efficiency

For the Facilities Reservation System, the whole process is done in one go, and that is possible because Advantech

designed a dedicated software program for Everlight and combined it with their Intelligent Touch Computer - UTC-W101 and Digital Signage Station - DSS-7142.

Biddy Tsai said, "General Affairs Division used to print out the meeting

room schedule daily so employees could check out and use conference rooms, but such a manual method neither updated in real-time nor conserved paper and manpower. Now we have Advantech's reservation system; it is not just environmentally sound but also improves our management performance".

With the new system, each Everlight conference room is equipped with a 10-inch UTC-W101 embedded in the wall next to the door; it offers details such as meeting time, topic, owner, extension, check-in/check-out time, and other information. When staff click the "Check-In" option on the Tablet PC, an "Occupied" message is transmitted to the system and the status of the meeting room is made clear to all employees. In the meantime, General Affairs Division can fully manage meeting room usage as well as reviewing utilization rates via system reports.

10 MyAdvantech



Eco-friendly Application Provides Attentive Service

UTC-W101 not only integrates a PC with an LCD panel but also provides touch control access to the computer, plus its elegant appearance is welcomed by the Everlight staff. Biddy Tsai pointed out that this All-in-One computer eliminates the need to set the host, and the cabling arrangements are more streamlined. Its thickness is perfect for wall-mounted applications, and the touch access method saves paper as well. With its low-power function, this touch computer can go into shutdown mode when not in use. All of these features are in line with Everlight's company philosophy to pursue a green lifestyle.

It is worth mentioning that the 42-inch interactive signage kiosk station is 190 cm high. After long research, Advantech designed in the most optimal dimensions to meet the ergonomic requirements with the best visual angle. Biddy Tsai said: "In the past, whenever there were important guests visiting we would make a welcome poster using A3 cardboard. Since we now have the DSS-7142, this job is done by the computer; moreover, with text, photographs and images, the content has become more colorful". According to the Everlight staff, VIP guests have

Jovful





also made favorable comments about this advanced application.

In addition to offering conference room and parking space reservations, the system also provides a wireless internet access function for visitors. As long as the visitor registration is active, a Wi-Fi account number is available. Additionally, digital signage kiosks are not only able to broadcast multimedia ads and welcome screens but also display useful employee information such as welfare activities, attractive highlights, cultural events, or other relevant events. Biddy Tsai said that Everlight will make full use of these hardware and software facilities to manage company resources toward achieving environmental protection and energy savings goals, as well as promoting similar e-applications in all Everlight locations.



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WLAN & Bluetooth



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 Advanced Safety with AV-input and G-sensor One connector & cable to pair with TREK-303H



TREK-510 ARM-based, In-Vehicle **Computing Box**

- STMicroelectronics RISC/WinCE-based
- Automotive grade working temperature range (-30 ~ 70°C) and SAE J1113, SAE J1455, ISO7637 & E-mark regulations

Excellent 100

- CAN Bus (J1939), multi-COM ports, isolated DI/Os, Audio, USB host & client, SD slot
- GPS with AGPS, and GPRS/ CDMA/ HSDPA
- One connector & cable to pair with TREK-303L

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Moving Toward a Next Generation Hospital

Building Intelligent Wards with Bedside Service

In order to provide better services for patients, Landseed Hospital created a warm environment with Patient Infotainment Terminals in its wards, becoming one step closer to the concept of delivering complete patient-centered care.

Written by Jill Lai; Photography by Huai Interview with Shih-Tien Hsu, Senior Vice President of Landseed Hospital



🖌 o into the prestigious ward at Landseed Hospital and medical procedures, and patients can access in-room entertainment and information, giving them peace-of-mind you might have the illusion that you've just walked into an upmarket business hotel. What's missing and helping them relax and make a speedy recovery. are the telltale hospital smells and sounds. With an access "Hospital bedside services have become the latest trend control card, you can enter a private space to rest and relax. in global medical institutions," said Shih-Tien Hsu, Senior The spacious design includes a sofa, high-quality beds, and Vice President of Landseed Hospital. Using this concept, convenient cooking areas to help provide home comforts a hospital can convert to using electronic medical records to patients. By using 42-inch TVs and patient infotainment (EMR), as well as enhance doctor-patient relationships and terminals in the wards, physicians can easily explain quality of medical services.



Interactive Platform for Patient-centered Care

Shih-Tien Hsu further explained that as the medical center for Taoyuan International Airport, Landseed Hospital is often required to take care of foreign tourists. This, and rising standards of living motivate hospital authorities to provide better medical services. They specially designed an entire floor for use as private wards when the building was constructed. The new rooms with their bedside systems provide a comfortable space and professional care; locals call it the "international" ward.

However, Shih-Tien Hsu admitted that the original rooms were designed by the hospital alone and were not so convenient to use. For example, the monitor served both as a TV and for doctor-patient communications. The hospital's original system had multiple passwords which resulted in lower usage rates by the patients. Landseed ultimately evaluated other approaches and applications.

Shih-Tien Hsu said that during their assessment, they decided to use Advantech because the quality of their hardware and software products were so much better than other products on the market. Today, the hospital has 24 single wards outfitted with Advantech's HIT-W181 touchscreen healthcare terminals. The hospital hopes that the new system, which operates more smoothly than the original, will provide more functions and lead to better doctor-patient relationships.

Safety was another important reason Advantech products were chosen. Shih-Tien Hsu said, "Any system in hospital must take into account patient safety. Landseed has

Joyful eLifestyle

long used bar code equipment to manage the medication process from prescription by the physician, to dispensing by the pharmacist, and delivery by the nurse. Advantech products support both bar code and RFID functions, which is in line with our principle of drug safety monitoring."

In the past, the hospital used to offer a fact sheet about patient medication, but with the bedside service system patients can see the drug safety information online, increasing efficiency, as well as being paperless.

Shih-Tien Hsu pointed out that Advantech's solution has already provided many valuable features. And, more options for Landseed are in the works: an online hospital guide, ward information, and self-service patient rights and obligations. As a result of this automation, medical staff have more time to pay attention to the quality of medical services. Lanseed plans to capitalize on the diversity of functions capable with their new bedside system through a combination of hardware, software, and the creation of a patient-centered interactive platform.

The Key to Success is Communication and Listening

"Good communication is essential for successful projects," saidShih-Tien Hsu. He said that the initial implementation with HIT-W181 did face challenges as the hospital building construction had already been underway for several years, and the terminals had to be integrated into the building's hotel-style design. This resulted in more complex deployment, but throughout the roll out, Advantech worked patiently with each department, carefully explaining how to use the system to hospital staff.

A highly interactive system is an important function for Landseed. Shih-Tien Hsu pointed out that in the past, whatever patients needed, whether medication, examination, or anything else, they had to wait for information and this had been an undue cause of stress. Shih-Tien Hsu's solution was to provide an exclusive calendar for each patient. Every day, as patients wake up, they can check their own schedule with the bedside service to precisely understand what is happening with their medical procedures. The system also allows patients to get test results in the shortest time. Advantech's HIT-W181 cost-effectively delivers HD quality output with a 16:9 aspect ratio on an 18.5" full-flat touchscreen, meeting Landseed's specifications as well as their budget.

Professional Team Solves Problems

Shih-Tien Hsu said that Advantech always does its best offering continuous improvements to meet Landseed's needs. For example, the bedside system adopted a cantilevered design to facilitate movement. "I thought that sick children wouldn't have enough strength to move the unit on a standard bracket. Since we addressed this question, Advantech began looking for another bracket to support the bedside application, said Shih-Tien Hsu. He praised Advantech's service attitude and executive abilities.

With the evolution of medical science and IT technology, medical applications have increased the need to integrate digital products. Shih-Tien Hsu pointed out that Landseed Hospital is taking positive strides in becoming an e-Hospital, and the bedside system is just one part of the process. In the future, Landseed will look to Advantech for inspiration, and work closely with them to achieve more great results in medical applications.

Advantech provides a comprehensive range of embedded platforms with Intel[®] Atom[™] processors at the core of low power products. The new platforms use Intel's 32nm fabrication process, and the clock speed of the DDR3 memory has risen to up to 1066MHz to boost performance. These low-power platforms provide energy-efficient and environmentally responsible solutions, and serve applications targeted at handheld devices, POS, kiosks, medicine, and factory automation.

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MI/O-Ultra Extension SBC • Intel® Atom™ Processor N2600/D2700 +NM10, Kit TDP: 5-12W • Ultra small size fanless design

AIMB-214 Mini-ITX Industrial • Intel® Atom™ Process • NM10; Kit TDP: 5-1: • Up to 4GB DDR3 133

SOM-6765

COM-Express Compact Module • Intel[®] Atom[™] Processor N2600/D2700 + NM10

Intel[®] Atom[™] Processor N2600/D2700 + NM10
Up to 4GB DDR3 memory support
COM 2.0, Type 2

MIO-5250

MI/O-Compact Extension SBC • Intel® Atom™ Processor N2600/D2700 + NM10, Kit TDP: 5-12W • iManager intelligent self-management tool

ARK-2120

Fanless Box PC • Intel[®] Atom[™] Processor D2700/N2600 + NM10 • Supports up to 6 x USB, 6 x COM, and 3 x GbE • Supports i-Panel link interface with ITM series panel

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Cloud Computing— **The Final Piece of** the Intelligent City Puzzle

Thanks to advanced IT and automation technologies, the systems that make our city work are increasingly becoming intelligent. Over the years, by gradual interconnection of disparate systems and through the implementation of cloud-based services and networked devices, the vision of an intelligent city has become a reality. The convergence and evolution of intelligent systems has transformed urban areas with intelligent automated systems and devices communicating through the medium of the cloud.

Written by M.D Wang; Pictures from Advantech & TPG Interview with Miller Chang, Vice President of Advantech EmbCore Group

ccording to the Vice President of Advantech EmbCore Group, Miller Chang, "There are **1** many definitions for an Intelligent City; from collective intelligence of a city's population, to artificially intelligent environments where embedded information and communication technologies disappear into the physical objects and the surroundings in which we live, travel and work. Whatever the definition, the cloud will be the final key that unlocks this vision of the intelligent city."

With the rapid expansion of industrial automation applications, many vertical industries have adopted automation as the way forward to grow their businesses. Traditional automation equipment has limits, but with cloud-based systems, communications cover a much greater area and intelligence can be embedded into the physical environment. This means machines and devices throughout the city can identify and communicate with other machines and devices, as well as the city's population–enabling the intelligent city to evolve and grow over time.

Examples of an Intelligent City

Advantech's "Enabling an Intelligent Planet" mission matches precisely with the concept of an intelligent city. For example, Digital Signage displays in department stores have to display a multitude of products and manage precise content for each vendor on each floor. And it may be practical, due to the distance of each device, to tailor individual content for each vendor to each display. But, this is simply not practical in other scenarios such as in train stations, banks, or chain stores. Replacing content manually one-by-one will be drawn out and time-consuming. By managing geographically dispersed equipment via cloud services, and by integrating the hardware and software services, these devices can be managed remotely from the backend, delivering regularly updated content from the cloud. This represents a breakthrough in time management constraints but also allows greater control over all terminals, giving constant feedback on their status and maintaining reliable operation.

Automation Cloud Goes Mainstream

Cloud computing is becoming mainstream in the automation industry. All automation products not only must have a certain amount of networking features, but they also need to include features that take advantage of cloud-based services. In terms of advantages, Miller Chang believes that it is in the reduced cost of system management. Service providers will host services for multiple companies; sharing complex infrastructure is costefficient and customers pay only for what they actually use.

In addition to a substantial decline in the cost of system management, the industrial cloud can initiate new types of business strategy, benefits include:

Fast: The most basic cloud services work out of the box, cloud computing allows businesses to skip certain procurement and capital expenditure phases.

Up-to-date: Most providers constantly update their software offering, adding new features as they become available.

Scalable: With cloud hosting, businesses can grow quickly because cloud systems are built to cope with sharp increases in workload.

Mobile: Cloud services are designed to be used from a distance, so if the workforce is mobile, employees will have access to most systems on the g0.

We are already used to applications with intelligence built in, but the cloud adds much more to the city economy and its evolution by making possible more connections between devices and people.

Building the **Intelligent City** with Advantech's Three Strategies

Advantech has been involved in the development of strategic vertical applications for a long time and has amassed a tremendous amount of experience in the field. As trends in operating models for an intelligent city develop, Advantech is poised to be a key player in the new generation of technologies.

Written by M.D Wang; Pictures from Advantech & TPG Interview with Miller Chang, Vice President of Advantech EmbCore Group

ccording to an IDC survey, there will be 25 billion smart devices and intelligent systems in operation around the world by 2020, creating a nextgeneration prototype for the intelligent city.

Steps Toward Intelligent City Technologies

"The goal of the intelligent city is consistent with Advantech's vision of the Intelligent Planet," stated Miller Chang, Vice President of Advantech's Embedded Computing Group. He also pointed out that applications currently on the market for smart devices are only the tip of the iceberg; there is a huge potential yet to be developed below the surface. Eventually, these devices will connect with larger systems to form the "intellectualization" of the city.

From factory automation provider to the vertical application integrator, Advantech, since its establishment, has made continual advances in the industry. Now it is focusing on the next level, delivering technologies to the entire city and even the entire planet, as a leading pioneer of intelligent city solutions.

As for how to commence in bringing smart services to this ideal city, Advantech has set as its objective a staged approach to delivering intelligent solutions for urban operations. Miller Chang indicated that industrial cloudcomputing solutions are an essential part of the intelligent city concept. "The various institutions such as stations, stores, hospitals, and other public places have implemented their own IT systems with automation equipment to maintain current city operations. Once industrial cloud services are part of their systems, all devices can be linked together and control will be much easier."

Three Strategies to Build Smart Operations

Advantech has developed three strategies for industrial cloud computing. The first one is the use of industryspecific equipment. Miller stated that industrial equipment needs better levels of customization and stability. Since the industrial cloud relates to business operations, it cannot be satisfied by consumer-grade products. But, different areas have their own specifications and designs so it is not easy to completely fit their special needs with a single solution. In this regard, Advantech already has considerable experience and achievements, and has built a solid reputation after many years of hard work.

Intelligent management is Advantech's second strategy. Automated IT equipment is not like consumer IT products, and it won't necessarily be set up in easy-to-maintain office environments. Some devices may be set up with very long distances between them (like road monitoring), or be placed at difficult to reach heights (like wind turbines), or even be located in high risk areas (like nuclear reactors). These applications need a simple interface to connect to the cloud network and remote control to manage their distributed equipment in order to be intelligently controlled. Miller Chang pointed out that each embedded hardware platform must have an exclusive ID to make it uniquely recognizable and the product needs to provide a sensing function so that it can regularly report its status to back-end management systems.

The third strategy Advantech is pursuing is in embedded software services. First, via system update functions similar to the Microsoft® Windows Update Service that automatically informs users via the internet when there is a new version available and lets them decide when to update software based on their needs. Second, the creation of an on-demand service similar to Apple's iPhone App Store, which will allow Advantech to offer a variety of different applications for users to buy and install apps, utilities and drivers on demand.

BIOS

The City Already Has an Intelligent Prototype

A 20

Industrial

Cloud

At present Advantech has accomplished several goals in cloud-computing services for the intelligent city and Miller Chang cited two cases.

In one museum, Advantech has built a digital signage display to present exhibition messages, and a digital surveillance system to monitor visitors in crowded galleries to make the museum safer. Additionally, Advantech designed the system to allow staff to manage operations through a remote host, setting up boot times, adjusting screen brightness, and keeping track of operational status.

The second case is a road monitoring system designed for police use which was a difficult control application to implement due to the long-distances involved. The system included many cameras, and to review and maintain their operation was costly. So, the authorities asked Advantech to design a remote control management system for their surveillance cameras.

Accomplishing the Future Vision Step-by-Step

Miller Chang emphasized that the two cases mentioned are not typical projects for Advantech, but they reveal the incompleteness of the industrial cloud. Due to the lack of network management capabilities, most enterprises need an external hosting solution when building their private clouds to professionally manage their systems. Advantech's solutions impart management knowledge of cloud products and services to system integrators, allowing them to manage their customers' cloud-computing systems. As a result, new opportunities are created for system integrators, and customer needs are solved at the same time.

Advantech has developed a phased approach to industrial cloud-computing systems as well. Miller indicated that Advantech will promote products that are cloud-enabled, and provide open access platforms to allow third-party suppliers to add their own software as well as establish cloud data centers. This will allow application development in different industries and assist smaller vendors in developing their clients. Advantech is committed to support these applications and technologies in order to achieve the ideal vision of the intelligent city.

Enjoy Tranquil Moments with Quiet Industrial Computers

Annoying Noises: Tips and Tricks for Reducing Industrial Computer Noise

Written by Angus Yu, Thermal Manager, Advantech Networking and Communications Group Pictures from Advantech I f one makes long-term observations of end-user demands across a number of products, one can see a similar evolution. At first, consumers seek only to possess a product, then they demand performance; once the technology has matured to a certain level, they begin to pay attention to the details. The IT industry is a perfect example. When the PC first came out, promotion was the primary goal; after the PC became popular, its specifications and performance quickly began to improve. Now that PC technology has matured, vendors focus on low power consumption, noise reduction, etc. In particular, noise reduction has become the recent design focus for IT products. Industrial computers are following the same trend.

A Series of Quiet Solutions Meets Diverse Needs

In the past, industrial computers were placed in manufacturing sites or outdoors, in environments fairly tolerant of noise. However, as the applications of industrial computers have become more and more diverse, these computers are also being used in indoor placements, in environments more sensitive to noise, such as network communications and POS. Accordingly, Advantech has recently introduced a series of quiet, industrial system solutions.

Human perception is subjective, and the effect sound has on each individual is also subjective. Each person's sensitivity and tolerance to noise is different. In general, the primary method of measuring acoustic level in the past was based on the sound pressure level, and test requirements were defined in ISO 7779. In the early years, acoustic level was an important factor in product quality in general. The main reason that only the sound pressure level was measured is because the measuring equipment required is relatively simple. Thus, when the development of measurement equipment was not as convenient as compared to the present, basing acoustic level on the sound pressure level was popular.

In the past ten to twenty years, computer manufacturers have been using sound power level, based on ISO 3744, to assess acoustic level. Sound power level measurement is based on the overall power as the standard; this parameter is less susceptible to changes in the environment. For this same reason, sound power level is gradually replacing sound pressure level in measurement methods.

The recent emphasis on ergonomics has increasingly stressed the distinction between sound and noise. Often times, even though sound pressure level or sound power level measurements are normal, the sounds are still harsh and unpleasant. This is mainly due to the aforementioned subjective factors of the human senses. These factors are downplayed in both measurement methods. Because of these subjective demands, the sound quality standard was developed. Sound quality regulates the noise level for different frequencies to reduce the pure tone impact, and better meet users' needs.

A Small Device for Big Applications

Restricting Noise Levels to 35dBA via ISO 7779

Using the ISO 7779 Standard: Limiting Noise Level to as Low as 35 dBA[1]

ISO 7779 is the test specification Advantech is currently using. Since industrial computer products are mostly placed in server rooms and outside, people are less directly affected, and noise can be neglected to a certain extent. Also, the ISO 7779 standard is simple, making it easily understood and accepted by clients. The ISO 7779 standard can be measured for two user conditions: either operator or bystander. The former refers to the sound level felt by the operator during equipment operation; the latter refers to the sound level a bystander (such as a pedestrian viewing digital signage) would hear. Advantech's products are mainly designed from the bystanders point of view. System idle noise level is controlled at 35 dBA[1].

Acceptable acoustic levels do change according to time and location. In general, the acceptable sound level is 40 dBA in a library, approximately 70 dBA during the day at a noisy office, and 80 dBA and above outdoors. Thus, a system emitting noise at 35 dBA is in most circumstances more than acceptable, and can be ignored.

Resolving Noise Issues via Rotational Speed Adjustment

The main function of cooling fans in computer systems is to provide sufficient airflow for heat dissipation. When a system is powered on, the fan runs at a fixed speed and generates a certain amount of noise depending on several

factors. In order to reduce this noise, Advantech developed a Smart Fan utility that adjusts its operating speed to meet the system's cooling requirements.

Based on the ISO 7779 standard for measurement of airborne noise emitted by information technology and telecommunications equipment, there are two ways to control CPU temperature with a fan. One way is to set different fan speeds that correspond to different temperature ranges between 0~100°C. The other way is to maintain the CPU temperature at a fixed value, such as 70° C, and the fan speed will adjust according to the actual CPU temperature. Advantech provides two methods, depending on the product application needs.

The goal of Advantech's quiet industrial computers is to keep product noise within a range acceptable to everybody. Some of the systems can even be kept within 35dBA. Starting in 2012, Advantech plans to gradually incorporate noise reduction into all its industrial systems to provide clients with a full range of quiet system solutions.

Advantech Remote I/O Modules

Advantech's ADAM family is one of the most compact and flexible remote I/O modules on the market. Despite being virtually hidden from view, they serve an important role as a gateway to every imaginable device that does sensing or control.

Serial RS-485 I/O modules

with Modbus RTU protocols

ADAM-4100 Series Robust serial RS-485 I/O modules with Modbus RTU protocols and operating temperature range of -40~85°C/ -40~185°F

ADAM-6000 Series Ethernet I/O modules with Modbus TCP/IP protocols

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Enabling an Intelligent Planet

ADAM-6100 Series Real-time Ethernet I/O modules with EtherNet/IP or PROFINET protocol

ADAM-5000 Series

Serial RS-485 or Ethernet rack-based I/O modules with ASCII, Modbus RTU, Modbus TCP, and UDP protocol

Don't Forget to Assess Opportunity Cost When Purchasing Mobile Terminal Devices

Vehicle mobile terminal devices are key for logistics mobilization, however, in special environments, not all kinds of vehicle mobile devices can be used for warehousing and logistics applications. Therefore, to improve the shipping timelines and accuracy, as well as purchase price, enterprises must compare the opportunity cost when they have to assess the overall cost of mobile terminal devices.

Written by Long Lin; Pictures from Advantech Interview with Jia-jun Hsieh, Business Manager of Vehicle Computer Unit, Asia-Pacific, Advantech

obilization is such a popular term nowadays, it's also best used to describe enterprises wanting to improve logistics efficiency. In the past, without IT equipment, warehousing and logistics centers rely on manual operation, therefore, management must be very experienced and have a memory like an elephant.

In the retail industry for instance, when stores place an order with headquarters, warehouse management will be thinking where the goods are to be placed. And after the goods are handed over, they must key-in the shipping information into the system. However, once they start using a warehouse mobilization system, warehouse staff no longer need to key-in shipping orders, there will be clear instructions sent to all mobile terminal devices on forklifts and cranes, whereby staff can get all information including shelf spaces and item numbers, to help them find specific goods immediately.

Warehouse mobilization also helps reduce the probability of products being out of stock. "Out of stock" means goods are purchased faster than the shipping speed. In the past, warehouse management relied on manual operation, and staff could not deploy shelf space, or could not find the goods they wanted. Therefore, newly purchased goods could only be placed in temporary areas if shelves had been filled, and then moved to permanent shelves when permanent space became available. After introducing the mobilization system, the system records purchases and shipping, and warehouse staff have the flexibility to deploy the shelves, they now need only to label changes in the system, and with more flexible shelving, they will not appear out of stock.

Industrial Specifications Ensure Stability

Vehicle mobile terminal devices are the key for logistics mobilization, there are a handful of solutions in today's market, but not all solutions are suitable for the warehousing and logistics environment.

In general, mobile devices will not have problems if the Internet is permanently connected with no more than 5 minutes interruption, said Jia-jun Hsieh, business manager of Advantech's vehicle computer unit. But in the warehousing and logistics area, on average a pallet is moved every four to seven minutes by forklifts or cranes, if the network breaks for more than five minutes, all work will be shut down, not only affecting work efficiency, but also affecting the flow of freight.

Stability is very important to vehicle mobile terminal devices since warehousing and logistics center environments are usually unique. To maintain stable and continuous operation, these vehicle mobile devices must be designed for seismic shock, waterproof and dustproof resistance, higher temperature operation, and panel and storage durability. In general, vehicle mobile terminal devices must have three characteristics:

Firstly, they need to strengthen their seismic capability, including solid rubber tires for forklifts and cranes, road buffers for bumps, as impact resistance to cope with heavy goods which can impact vehicle devices.

Secondly, special antenna designs are needed to enhance message reception capabilities. Warehousing and logistics centers typically use wireless networks for

message transmission, but the height of shelves is usually higher than 2 meters, in these cases, antennas must be placed in a high place, even higher than the stacker, but this leads to a problem—when a stacker shuttles between different shelving racks signaling could be interrupted. and perhaps roaming problems will be generated between different antennas. Therefore, a multi-directional antenna is necessary, at least two antennas plus software enhanced roaming capabilities can improve antenna reception, thus enhance accuracy and timeliness of shipments.

Finally, the power supply design. Vehicle devices powered by battery, stackers/cranes are typically used to 12~40V batteries, therefore, to avoid damage caused by transient voltage increases or decreases, vehicle devices must have 12V withstanding voltage surges as well as overvoltage protection capabilities.

Rugged Industrial Mobile Devices are Better

According to VDC (Venture Development Corp.), with normal commercial specifications for mobile terminal devices, failure rates increased significantly after the second year of procurement, but industrial devices did not have such a problem. When mobile devices fail, average productivity loss is about 75 minutes, which affects profits. Therefore, besides purchase price, enterprises must compare the opportunity cost when they have to assess the overall cost of mobile terminal devices. The opportunity cost means a loss of productivity when equipment fails.

In general, commercial devices don't particularly consider the special environments of warehousing and logistics, and these harsh environments often lead to component damage, Hsieh said. For instance, strong shocks can cause connector and cable damage. For enterprises, the additional cost of hardware component failure is loss of efficiency and productivity; so it would appear that the procurement of cheaper commercially specified equipment is not worthwhile.

Advantech's ultra-rugged vehicle computer MTC is designed for warehousing and logistics environments, featuring excellent stability, and field tested application experience worldwide. MTC ranked second in the European market, key customers included 7-11 and a well-known Swedish furniture store. MTC was also used in a port hoister application at a port in Germany for ten years, where the MTC ultra-rugged vehicle computer has proved the reliability and stability of Advantech products.

Hsieh stressed that Advantech has stable products and vast experience. They not only support SI vendors to address on-site installation problems, but also help customers to select the best rugged mobile devices for their model of machine. Their warehousing and logistics products ensure continuous system operation, thus improve shipping timelines and accuracy.

Automation Cloud

Technology Forum

Powered by Advantech

Remote Configuration

Public

Cloud

Private Cloud

Device Monitoring

System Recover

The Quick Way to Build an Industrial Cloud

CloudBuilder Fulfils Requirements for Different Enterprises

After careful consideration, Advantech will launch CloudBuilder solutions to enable enterprise customers to use the most streamlined investment and resource paths to benefit from the advantages the cloud brings to businesses.

Written by Peter Du; Pictures from Advantech

Interview with Magic Pao, Product Manager of Advantech Embedded System Group

Raced with continuous market and technological change, meeting customer demands and enhancing competitiveness have become goals common to all businesses. With the rapid rise in cloud computing, enterprises are beginning to focus on the most streamlined investments and resource paths to build their own clouds.

In view of these demands, the global industrial computer (IPC) leader, Advantech is helping customers to position themselves in the cloud by utilizing existing hardware platforms using CloudBuilder software.

Enterprise Cloud Emphasizes Four Key Applications

Advantech has long been doing research and development in the cloud market, and it has realized that there will be much more space for development for industrial applications in the private cloud than in the public cloud.

The Product Manager of Advantech Embedded Systems Group, Magic Pao, said that unlike the public cloud, which stresses the sharing of resources and engine room hosting, industrial applications for the private cloud focus on data storage, application deployment, application and data synchronization, and monitoring management. Therefore, Advantech recently released their CloudBuilder software to meet the needs of these four areas.

Magic Pao believes that the most important thing for cloud applications is not bigger storage capacity, higher server-class, or larger-scale data centers, but achieving better efficiency in data storage, synchronization, and management. In contrast to a large telecom carrier, 2 to 3 servers with storage capacity of 40^{-50} TB are enough for manufacturing or medical applications. However, how to effectively utilize and manage this data and how to synchronize and update peripheral devices is the most important aspect.

With regard to hardware, Advantech has accumulated rich experience cooperating with large global telecom carriers, so it is very capable in dealing with telecom-grade equipment including servers, storage devices, and other essential needs for the cloud architecture.

Magic Pao also indicated that Advantech's existing cloud solutions are designed for small and medium-sized enterprises in different industries. With these solutions, the cloud implementation is quite easy. Users have only to connect their terminal equipment and install CloudBuilder, and then they have a familiar interface to build their cloud platform.

Using CloudBuilder to Simplify Data Management

Taking a production line as an example, one server may manage 10 or even more terminal equipment stations that have to follow strict manufacturing processes and perform inspection and testing.

Application programs for such devices used to be updated manually. But with modern production efficiency and increased scale of expansion, such laborious updates can become a problem.

But via the cloud, the latest program is automatically downloaded and updated. This not only saves cost and manpower, but also effectively improves system management, as well as preventing problems of asynchronous programs or data.

CloudBuilder plays an important role in creating an application platform. Magic Pao described it as similar to Apple's App Store. Users can use Advantech's API to design apps and upload them to the platform to easily update

terminal devices. In addition, the problems of compatibility or connection are instantly resolved.

Three-tier Architecture Design

Advantech provides three proposals to help customers setup their own cloud. The first management framework is SUSIAccess, which was originally used in remote management and is well known by Advantech's long-term customers. The second is for the users who have broader application requirements and refers to the Intel® AMT architecture. Currently launched Advantech products support iAMT for remote management and control. Third and last, Advantech also provides an IPMI solution to satisfy advanced users who have cross-platform needs.

Magic Pao pointed out that Advantech's threetier architecture was developed for different customer segments. The free SUSIAccess software is the best choice for existing customers or small-area management for factory equipment or building control systems. A bigger scale application such as traffic safety monitoring or road monitoring with IP CAM can use iAMT for better system performance. As for users who have already applied different systems or have large-scale control areas, communication between their various pieces of equipment won't be a problem for IPMI compliant systems; the IPMI architecture is recognized throughout the world.

"Advantech addressed the three-layer management and control solution with careful consideration of all aspects of the issue, whether internal, external, or cross-platform. We want to give all users the best satisfaction via our services," Magic Pao said.

In March 2012, Advantech will officially launch the new version of CloudBuilder. Magic Pao emphasized that based on Advantech's long-term experiences in the IPC industry, Advantech hopes to provide a simple, familiar interface to users as they implement their cloud management, allowing customers to start enjoying the benefits of the cloud as soon as possible.

Ultra Light, Ultra Thin and **Super Power Saving**

New generation Intel[®] Atom[™] embedded platform

Written by Zhong Kun Hong, Project Assistant Manager of Advantech Computer on Module Pictures from Advantech

In recent years, environmental protection issues have attracted increasing attention in many countries and industries. Industrial computer manufacturers echo these trends by developing new generation industrial equipment featuring energy-saving and carbon reduction features. However, figuring out the exact trade-off of power consumption and performance can be more difficult, low power devices typically do not have high computing power, but high performance products require it. In fact, it used to be difficult to develop a product which features low power and high performance.

With the launch of the newest low power Intel® Atom $^{\rm TM}$ N2000 and D2000 series, these core processors help

applications maintain high efficiency and performance, which is a huge boost to the industrial computer market. Comparing these new core processors with previous Intel® Atom[™] N455 and D525 series by power and performance, the advantages of Intel® Atom [™] N2000 and D2000 series is clear, echoing the development trends of the industrial computer market.

I. Specification comparison

Block diagram and specifications of the new generation Intel[®] Atom[™] N2000/D2000 series with previous Intel[®] Atom[™] N455 and D525 series:

Figure 1: Intel[®] Atom [™] comparison.

Comparing specifications, the N2000/D2000 series do not increase CPU frequency as the manufacturing process transitions to 32nm. They adopt 1066MHz DDR3 memory and enhance graphics specifications and video processing capabilities to support more display interfaces such as LVDS, eDP, VGA, HDMI 1.3a, and DP1.1 (see Figure 2). Furthermore, the new generation processors also support high end video processing instruction sets such as DX10.1, HDCP and OGL3.0, and also integrate video and audio processing, encoding and decoding functions (such as H.264 and WMV9) managed by the CPU directly rather than through software simulation. These new CPUs use enhanced image decompression but don't take up too much system resources, thus improving core processor performance.

The power comparison table shows that power consumption shows a significant improvement with Intel's 32nm node processor and thermal output is reduced with lower power consumption. Fanless designs are a basic requirement for the Atom series, however, in order to maintain system stability and for faster heat conduction and cooling, heat sink modules in fanless systems will normally be greater than heatsink and fan modules in systems needing a fan. The heat generated by latest generation Intel® Atom[™] N2000 and D2000 series has been significantly reduced, enabling a smaller heatsink design.

Figure 3: Intel[®] Atom[™] Performance Comparison.

Figure 3 shows performance comparison of core processors and graphic chips after shrinking the CPU process technology and upgrading the memory frequency. Intel® AtomTM N2000/D2000 graphs show a significant performance increase. The graphics performance has also increased dramatically due to Intel AtomTM N2000/D2000 supporting a more high-end instruction set, and built-in video/audio codec into the chipset.

Comparing the new generation Intel® Atom[™] N2000/ D2000 processors with previous CPUs, N2000/D2000 series not only reduces power consumption, but also significantly improves performance and graphics support. These gains will better enable differentiation in industrial computer applications.

· Handheld devices

Significantly improved battery life and standby time due to lower power consumption and enhanced performance.

• Medical applications (Medical and EMBs)

Lower power consumption, higher computing performance, and faster and more accurate imaging results. Diverse display interface and performance for medical devices.

• Retail products (POS)

Higher transmission performance without high power consumption. Higher display performance and diverse interface support for more advanced applications.

• Digital Signage

Support for more high-end displays and computing capabilities. Intel[®] Atom[™] N2000 and D2000 series supports HDCP and Blue-ray. These very low power products are ideal for applications in harsh outdoor environments.

Based on Intel[®] Atom[™] N2000 and D2000 series. Advanced has specially developed new embedded platforms, including Computer on Module (COMs), Single Board Computers (SBCs), industrial motherboards and embedded box PCs. SOM-7565 COM is built around the Intel[®] Atom[™] core processor, measuring 84 x 55 mm. The tiny module looks like a name card and brings significant advantages for the low-power handheld devices market. SOM-6765 module has been upgraded to a dual core CPU, with power consumption of less than 6 watts. Compared with conventional SBCs, MIO-5250, MI/O-Compact, and MIO-2261 MI/O-Ultra Extension SBCs have more flexibility, lower power, streamlined shape and higher reliability, through their unique MIOe connector. AIMB-214 ultra low power industrial mini-ITX motherboard features smart performance and advanced power saving technology, which also integrates Intel[®] graphics media accelerator 3600/3650 and DX9.0 on a single chip to provide a lot of connection and expansion options. Advantech also announces the ARK-2120 fanless computer, which supports multiple display types: VGA, HDMI or 48-bit LVDS displays, and power input voltage from 12VDC to 24 VDC.

Yongzheng Huang AKMC QS Manager Advantech China

Tello everyone, I am very glad to have this opportunity to write to you in MyAdvantech magazine.

I joined Advantech in August 2004 and worked in AKMC QA department responsible for the Kunshan Manufacturing Center ISO system establishment, maintenance, and product certification. Over the past 8 years, we've built up a safety certification service platform for CCC China Compulsory Certification) to provide timely and efficient service for product divisions and sales departments so that they can easily manage and develop the business in the growing Chinese market. Our team can now confidently state that we provide our customers with the best service experience.

I am happy working here in Advantech. I learn from my work and my colleagues, but also with HR partners through various arranged training courses. This elevates employees' professional knowledge to a higher level and enables us to pursue our dream careers. Continuous learning is one of the most valuable experiences we have in Advantech.

I treasure every moment working together with you all. In life's journey, there may be obstacles, hesitation, and setbacks, but with our faith, passion, and tenacious strength, we will always shine through.

I wish you all success!

Kayvin Khoo AOnline Sales Engineer Advantech Singapore

Tello from Singapore! This is Kayvin Khoo, AOnline Sales Engineer. I've always been interested in the latest technologies since I was young. The very first personal computer that I owned back as a kid fascinated me and got me interested in the wonder of technology. Each change in technology, changed the way we interact with each other or other things. Joining Advantech Singapore provides me with a wonderful opportunity for exploring technologies in our daily lives. I enjoy reaching out to customers, understanding their issues and providing solutions. With the vast variety of products from Advantech, we are not only presenting a single product but a 'complete solution' to our customers. Being part of the AOnline team, I also have the chance to work with talented people who are passionate about their work and provide the best customer buying experiences. It is always a great pleasure to come up with ideas with the AOnline team in creating brand awareness and customer loyalty.

▼i I am Barbara, European Marketing Manager for Advantech sending you my warm greetings from the Heart of Germany in Munich. During my whole working life (25 years), I have had the pleasure to work for multinational companies like: Intel and AMD, with a strong culture encouraging people to be open for continuous change. Companies who confront issues work on them and always challenge the status quo; this helps leaders to grow continuously. I joined in October 2010, remotely managing 8 people in 4 countries, all with different cultures. Work never becomes boring with daily new challenges and new adventures. What I am most proud of is that everyone in our team respects each other and helps in case of need. It is not an individual who contributes to success, it is a team effort. We are the first department worldwide who works as one integrated marketing force. This means no split between iA and EmbCore. People have sector specific responsibilities and local marketing responsibilities. A new environment with a great future, and with the right focus, discipline and enough perseverance, Europe will continue to be one of the biggest growth regions in Advantech.

Barbara Tritscher Marketing Manager Advantech Europe

ll the world is a stage and each of us plays a part..." I've been on 66 A many stages around the world and played many parts but for the Last 7 years I have been firmly planted here in Cincinnati Ohio and my roles have consisted of; I/O Specialist, Inside Sales Engineer and currently the iPlanet. AOnline Manager for the East Region in the US. My team consists of 8 very diverse individuals selling everything from ADAM I/O modules to the iSever Platforms. Last year was a great year for our team breaking numerous milestones and this year we hope to make an even greater contribution.

I joined Advantech in 2004 with a 14 year background in Condition Monitoring from Entek Scientific and Rockwell Automation. I have degrees in education, athletic coaching, vocal performance and computer science. I guess I just couldn't figure out what I wanted to be when I grew up!

While my work as iPlanet.AOnline Manager keeps me very busy during the day, my 4 children (all teenagers 13 to 20 years old) keep me even busier with sports and dance teams and just lots of fun stuff most evenings!

If you find yourself in Cincinnati in April or July this year, come and see a stage show!

In my leisure time, I enjoy trekking, travelling to places for diving trips. Work hard, play hard, you only live once!

Matt Dentino AOnline Manager Advantech America

Advantech Cincinnati on the Move

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Tn North America, the Advantech Cincinnati regional office is home to the Industrial Automation Group (IAG). The office opened in Northern Kentucky, just across the Ohio River from Cincinnati, with eight employees in November of 1998. In May of 1999, the office was relocated to Forest Park, a suburb of Cincinnati, with 16 employees. In October 1999, with the direction to grow the IAG market, the office grew to 48 employees in five months, a 300% growth.

Over the years, the IAG product line has increased dramatically offering HMIs, Embedded Automation Computers, Industrial Communication, Building Automation Systems, Automation Controllers, Remote I/O modules, Data Acquisition & Control, and Intelligent Video Solutions. This growth has built a strong relationship with many new customers. The Cincinnati office now has approximately 90 channel partners and 440 key accounts as well as hundreds of general accounts.

In 2010, Advantech chose to move the Cincinnati Design-To-Order-Service (DTOS) to the Milpitas, California production facility to increase efficiency by providing one location for all design to order requests. The DTOS move resulted in a search for a new office location in the Cincinnati area that would better suit the long-term needs for the team. Many locations were considered and evaluated but after much discussion with management and

employees, the office was eventually relocated to Blue Ash, another suburb of Cincinnati.

Blue Ash is known as a high-tech business corridor in Cincinnati. Visibility and location in this area of Cincinnati is considered a plus for any corporation. In addition, Blue Ash offers many extra benefits to the employees such as; parks, walking trails, recreation center, and frequent community events that are open to individuals who work in the community.

The office move was to be completed by the end of 2011. The new location construction started in October and what is normally a four to five month job took just two months. This was due to the employees and a great team of construction workers. The old office shut down on December 31st, 2011 and when all the employees returned from the holiday break on January 3rd, the new office was up and running. A seamless transition from one location to the other.

The new office provides an open environment. All employees are just steps away from key contacts making it much easier to respond to customer needs. A large kitchen area with an overhead window has provided a place for employees to eat their lunch and enjoy the open atmosphere. With an initiative to reach one billion in sales, the new Cincinnati office provides a great environment for employees to work towards this goal!

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