

MyAdvantech

The Magazine for Global Advantechers and Partners

Spring 2011 No.8



Internet of Things The Coming Era

Helping Disaster Prevention
through Intelligent
Monitoring Systems

Designing Intelligent
Living Spaces



Smart Access to Embedded Devices

Proactive Data Gathering Reduces Maintenance Costs,
Improves Efficiency and Reduces Downtime



In-Vehicle Solutions for:

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Viewpoint

Welcome to the New IoT World

Today, you will find that the concept of the Internet of Things (IoT) is already becoming part of our lives without many of us even noticing. It's not just a popular buzzword in the IT industry either, if you Google "IoT" there are over 2 million results, including environmental monitoring, smart grids, intelligent transportation, and intelligent buildings. It is already related to more kinds of applications and technologies than you may imagine.

IoT is not just for our sci-fi films anymore, but is the new breakthrough in this generation. Every 15 years we see such breakthroughs, from the mainframe in 1965, the PC in 1980, the WWW in 1995, and the IoT in 2010. Through the Internet, people-to-people exchanges are expanding to man-to-object and object-to-object exchanges through IoT. In the near future, our ubiquitous networks will be able to link to every device in your home and on your person, radically changing our behavior and our environment.

In response to this breakthrough, many countries are promoting and proposing relevant policies, such as China's national IoT program. Dubbed "Sensing China", the government has had the foresight to build a 'Sensing Information Center' to drive the rapid development of IoT. In addition, IBM's "Smart Planet" concept, the "i2010" from the European Union, and "i-Japan" are all efforts to drive the innovation of Information and Communication Technology (ICT) to inspire IoT

applications. Moreover, a surge of competition is swelling within the major Industrial Computing manufacturers worldwide to drive growth of this technology and be the first to bring such self-aware devices to the market.

Advantech is proud to be on the leading edge of these efforts and is excited to see where this new technology will take mankind. Advantech's history and expertise lends itself well to these efforts, as the bottom layer of the IoT are data acquisition devices, modules and components, of which Advantech excels at creating. The second layer is the network, including Internet solutions and integration technologies. The third layer includes the management of these services and applications that provide the processing and exchanging of data.

To be able to find success with these new IoT devices, the supply of hardware is not enough; these systems need software to link and process data as well as integrated solutions for the service applications. Therefore, in addition to our existing solutions, Advantech will adjust its strategy to focus on developing comprehensive solutions for IoT. Advantech is not only dedicated to vertical industries, but also developing new solutions based on the support programs of the cross-industry service platforms and advanced Internet software technologies. The vision of Advantech is to help 'Enable an intelligent Planet' and to work with our colleagues and partners to achieve a new era of technology through the IoT.

Ming-Chin Wu

President of Advantech Industrial Automation Group, Ming-Chin Wu

A Partnership for a Perfect End-to-End Solution

Next Generation Software for Next Generation Customers

By Martin Marshall
An Interview with Alexander Nussbaumer,
Director Sales & Marketing of nxtControl, Austria

In the real world of industrial automation for buildings, machines and embedded systems, standards and protocols for hardware, software, distributed devices and systems vary enormously. For Distributed Control and SCADA/HMI systems, this inhibits engineering innovation and increases investment risk and costs. What control engineers want is an object oriented software engineering tool that can support different hardware platforms and mix proprietary technologies and disciplines within one tool. What manufacturers want is a control engineering solution

that protects their investment but which can also grow in the future with their business.

A Complete End-to-end Solution

nxtControl is a dynamic company based in the heart of Europe in Austria. Its control engineering software portfolio includes products for runtime systems such as Programmable Logic Controllers (PLC's) and other embedded systems. Their advanced control and visualization software improves the automation of

buildings, machines and processes. As a developer of control engineering software, nxtControl's products integrate many system components into one complete solution following the IEC 61499 standard for an open, distributed architecture and engineering solution. With vertical markets expanding and manufacturers facing extraordinary challenges, nxtControl was looking for a large multi-faceted industrial automation manufacturer with global reach and vision that could help them achieve and provide the future generation of control engineering solutions and products.

Take a Global Technology Challenge

Mr Alexander Nussbaumer, Director Sales & Marketing at nxtControl explained, "With the accelerating pace of change in the global economy and the competitive nature of manufacturing, it's important to be sure the investment decisions a business makes today can support it equally well in the future. By working with Advantech, we can tap into the experience of a leading global player that is well established in the industrial automation and control business. This means we are able to achieve the flexibility and responsiveness required in today's globalized manufacturing environment and offer our customers a complete end-to-end solution. We see an opportunity in the European automation market, where a lot of proprietary solutions are not really open. The market is changing quickly in its thinking and innovation, and we see a substantial opportunity to go into it together with Advantech to provide a more efficient way of developing more favorable control engineering solutions as well as helping customers reduce risk and costs," said Mr. Nussbaumer.

Bringing a Vision to Life

Mr. Nussbaumer further elaborated, "nxtControl is



the first company worldwide to commercially develop software technology based on the new IEC 61499 standard, which will be the successor to the IEC 61131 standard for Programmable Logic Controllers. And, we have already integrated support for HMI and SCADA so that nxtControl's software product portfolio offers what everyone is looking for now – a single software tool that allows you to engineer both the PLC and HMI/SCADA worlds. Advantech, as a global automation and embedded technology leader, has a clear vision, a clear strategy and they know where they are going—for us this is important. Advantech saw in our software portfolio a commitment to, and the fulfillment of a vision for integrating all the intelligent and smart devices that make up the Internet of Things. The combination of Advantech hardware and our software portfolio is perfect for the market today."

Advantech provides hardware solutions and services across multiple vertical markets worldwide. nxtControl provides control software engineering solutions. Together, they solve real world problems and inspire the next stage of automation engineering. ■

Corporate Overview: nxtControl GmbH

nxtControl was founded in 2007 with a highly skilled and experienced team in the automation area. Starting with development of software tools, nxtControl was able to present the first version in 2008 on the SPS/IPC/Drives fair in Nuremberg. Based on the new technology IEC 61499, nxtControl develops runtime systems for controllers and embedded platforms as well as an engineering tool with integrated HMI/SCADA capabilities. The event driven and distributed/decentralized concept allows a new engineering approach which makes it possible to engineer automation projects very fast and efficiently with the highest standardization and re-use levels.

The enormous response from the market confirms nxtControl in its vision to bring IEC 61499 as a new standard into the automation market.

More about nxtControl: <http://www.nxtcontrol.com>
alexander.nussbaumer@nxtcontrol.com

IoT Drives Business Opportunities for Intelligent Transportation

The concept of intelligent transportation has been around for a long time but it was not until the emergence of the Internet of Things (IoT) that it could become a reality.

IoT combines automation with cloud computing, WiFi, RFID and telephony to enable smart and intelligent applications, bringing with it a new driving force as well as enormous business opportunities.

By Ninelu Tu and pictures from Advantech

An interview with Van Lin, Manager of Advantech Industrial Mobile Computing



Every morning, truck drivers turn on their in-vehicle systems and follow the onscreen instructions to their destinations. Through instant reports and advice for road conditions, truck drivers can avoid any traffic jams ahead to deliver goods quickly and efficiently. These devices can also remind a driver that they have to do routine checks that day and send information to the depot about which goods have been delivered. Due to the linkages between devices, sensors, WiFi and telephony, drivers can not only fully control their vehicles but also fleet managers can manage and maintain them more easily. In fact, it was the increasing number of vehicles on our roads that resulted in the demand for intelligent transportation, and it was arrival of the IoT that brought it all together and pushed it to the next level. According to Topology Research Institute, China's RFID industry and Wireless Sensor Network (WSN) market are expected to reach 10 billion RMB in 2010 and the business opportunities for IoT applications could approach 100 billion RMB; some of which will be related to intelligent transportation. Following this, many vendors have been actively engaged in the development of products and services in these relevant fields.

IoT Completes the Intelligent Transportation

The idea of intelligent transportation had already been around for a while but went no further until such things as the wireless infrastructure and RFID technology reached a critical mass, whereupon transportation applications such as i68 in Taiwan could directly benefit. i68 enabled drivers to directly view real-time highway traffic information through their mobile phones. This project had already been completed ten years ago, but wide scale adoption only started recently. The project benefited from the wide scale uptake and popularity of communication technologies. It was the combination of automation, and telecommunication technologies that drove the application further.

As a result of those maturing technologies, the emergence of IoT has also indirectly influenced intelligent transportation. Based on the concept of object-to-object communication, the practical issues to be solved were how to link all the vehicles and their devices through the network? Furthermore, how to create more diversification and added value became one of the key drivers in the development of intelligent transportation.

With regard to the relationship between intelligent transportation and IoT, the manager of Advantech Mobile Computing and In-vehicle Computer Group, Van Lin pointed out that, "Advantech has been dedicated to automotive-related applications for a long time, the in-vehicle platform has already been widely adopted in the management of commercial vehicles and logistics. The basic concept of

IoT originally existed in the management of vehicle fleets and in warehouse logistics. And now, Advantech with its premier market position and extensive product offering is engaged in carrying forward this idea."

In terms of products, Van said, "Advantech can provide critical system equipment for a complete turnkey solution. For example, through the Controller Area Network (CAN) protocol, Advantech's solution can get vehicle information such as speed, engine revs and fuel, and also connect to the Tire Pressure Monitoring System (TPMS) or other monitoring systems for even greater feedback. Through Advantech's in-vehicle computer, TREK-550 or TREK-743, with its built-in wireless communication features like GPRS, CDMA and HSDPA, vehicle data can be transmitted directly to the control center to be utilized by the intelligent traffic control system infrastructure.

Integrating DLoG Resources Focusing on Four Fields

In order to gain valuable new experience and enhance device features, Advantech acquired a German company, DLoG in 2010. With a new brand name, Advantech-DLoG, it focuses on four major areas including Intralogistic, Heavy Duty, Stationary Applications, and Fleet Management.

Van stated that the reason Advantech chose a commercial and specialist vehicles business was that their business model was driven by a notion of "must have", not the "nice to have" sentiment of the consumer market.

For instance with telematics, a fleet control center can fully control a vehicle's status and location which helps prevent unexpected situations. In terms of a commercial fleet of 600 cars, through telematics, a company could save at least two million dollars a year.

Advantech also benefited from the application experiences of a high-end and exclusive market, such as in the case of farm vehicles. Through automated scheduling programs, Advantech has gained expertise from this field which will help Advantech to develop more suitable applications for future specific telematics markets.

For general drivers, Van said that, "right now, there is no strong attraction to add advanced functions in cars except for entertainment systems. However, when the IoT grows and matures, systems will interact more effectively and benefit all drivers, and they will need telematics support for reliable data delivery, intelligent information, and real-time processing." Telematics and the concept of IoT both emphasize data transparency, meaning, status information can rapidly intercommunicate between different devices and platforms to enhance administration efficiency, convenience and safety. As the public gets to know more about the IoT and what it really means for us all, more diverse in-vehicle systems will be applied." ■



Designing Intelligent Living Spaces

By Advantech
An interview with Thomas Lee, Associate Vice President of the WebAccess Solutions Product Division, Advantech Industrial Automation Group

With its technology maturing, the Internet of Things (IoT) is set to energize the automation market with a wide variety of new devices that can dynamically communicate with one another. IoT technology combines interconnectivity, automation, and data acquisition devices to create new products with unlimited application potential, even intelligent buildings and homes.





Peter is the owner of an IT company, and has a tight schedule every morning, including breakfast with clients, public speaking engagements and meetings with cooperative partners, all before lunch. But before Peter finally gets to his office, he can setup his air-conditioning, lighting and boot up his computer through an application on his cell phone.

After work when he comes home, there is no need for him to look for keys in the dark because he has already remotely turned on his porch light and unlocked his door through the press of a button. These simplifications of our daily routines are the best practical example of what IoT-enabled devices will bring to our lives, allowing us to integrate many of our devices through wireless technology.

"It's not completely correct to equate IoT with M2M. IoT should be considered an advanced version of M2M, actually." Thomas Lee explains, "M2M allows users to link with lots of data, but the information may be useless. IoT applies statistical analysis technology to transform data into valuable information, and diverse applications are derived from this feature."

Intelligent buildings and homes are one area being looked into by the manufacturers of IoT devices. Such products could open the door for a variety of useful applications through wireless sensors. Intelligent buildings integrated with IoT technology could be even more focused on energy saving and information analysis. China, for example, has begun promoting IoT applications recently because of their usefulness in building automation, and they have already begun working to implement these technologies in large government, office and campus

buildings to establish the energy monitoring systems that can interact with automation equipment such as control platforms and power measurement devices.

Through IoT and cloud computing systems can accumulate a mass of data and take advantage of statistical analysis to calculate the EUI (Energy Usage Index) to setup consumption standards. In addition, the system would also be able to monitor energy usage anytime and automatically execute unloading to avoid the usage exceeding these established standards.

For intelligent homes, IoT applications can help create convenient living spaces by ensuring all the equipment is integrated, from the front-end sensing devices to the back-end management platforms. Homeowners could have access to all of the devices in their homes through the simple press of a button.

Thomas said that vendor collaboration is very important for IoT development. Advantech itself is continually looking for new partners to help provide customers with total solutions. Advantech's broad product portfolio and include M2M products that are available to meet the various needs of system integrators. In addition, Advantech developed WebAccess, a free SCADA software program that supports IE browsers and smart phones. This kind of software flexibility creates greater value for IoT applications.

Advantech believes that IoT is the framework of industrial development for the next 10 to 15 years. Therefore, Advantech plans to be a pioneer in this field of technology, assembling resources and partners to heavily promote IoT applications as we enter this new exciting era of technology. ■

Ubiquitous Smart Living


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Living with a Sense of Comfort and Convenience at Home, the Office, or a Hotel

- Advantech residential terminals can automate scenario lighting and environmental controls such as audio/video equipment, projectors, curtains, lighting scenes, and HVAC.
- Home or hotel owners can access their central control terminal remotely over the internet to communicate directly, either via PC or via mobile phone.
- Totally controls intruder security systems by strategically placing cameras outside residential houses and replaying visitor images to fixed points of access control.



UBIQ-231

- 4.3" Fanless Touchscreen
- Infrared Control
- Colorful Faceplate by customization



UBIQ-360

- 7" (16:9) Fanless and Portable Touchscreen
- Infrared Control
- Remote Controllable
- Smart Learning Infrared
- ZigBee/Z-wave by project



UBIQ-480

- 7" (16:9) Fanless Touchscreen
- Intercom Compatible
- Infrared Control
- PoE
- Customizable with Colorful Faceplate
- ZigBee/Z-wave by project



UBIQ-481

- 10.1" (16:9) Fanless Touchscreen
- Intercom Compatible
- Infrared Control
- Support RFID
- Customizable with Colorful Faceplate
- ZigBee/Z-wave by project

Helping Disaster Prevention through Intelligent Monitoring Systems

Even though we refer to our world as modern, natural disasters claim many human lives each year. Through the potential of IoT, it may be possible to develop advanced environment monitoring systems that can help warn us when incoming disasters may strike.

By Advantech
An interview with Advantech Industrial Automation Group
Senior Managers
Hector Lin and CC Lin

In recent years many high-profile natural disasters have made headlines and claimed hundreds of thousands upon thousands of lives. Many countries are beginning to realize the importance of accurate environment monitoring systems and are working to advance technology that can aid in these efforts. Based on the Internet of Things (IoT) concept, smart control can help us setup new lines of defenses through wireless sensor technology.

Intelligent Disaster Prevention through Integrated Wireless Devices

Looking at current disaster prevention measures, there are two general approaches, a short-term method using automation technology to monitor weather so that residents can have early evacuation warnings. The long-term approach uses collected data through a variety of monitoring systems to create likely upcoming scenarios and provide related life-saving strategies. By using the right tools and new technology, it's now possible to use large volumes of data for long-term analysis to be applied in short-term scenarios.

Senior Manager at Advantech's Industrial Automation Group, Hector Lin, said that the features of IoT include a sensor network, reliable data delivery and intelligent processing. These features can improve current environment monitoring systems and help provide more accurate warning systems. By taking advantage of sensor devices to collect data and send it to the data center, a more complete picture can be achieved. Currently IoT technology has been adopted in several warning systems including urban flood, river, landslide, bridge, earthquake, lake and coral reef observations.

And while the methods of obtaining weather and disaster data are not new, the old technologies are not sufficient anymore. A Senior Manager at Advantech, CC Lin, pointed out that the relevant departments used to set up prevention projects only after a disaster occurred. Even more troubling is that the systems used for such data collection are facing rising costs, difficult installation, communication interference, and insufficient functions.

The First Line of Defense in Environment Monitoring

CC Lin stated that several key elements of the intelligent system for wide-area environment monitoring such as the sensors, cameras and other equipment need to be battery-powered to meet power supply requirements. Secondly, the communication system must offer various distance transmissions to suit rugged environments, so IP66 waterproof ratings and other protection standards are necessary too. Finally, with the Internet, central monitoring systems are easy to connect and share information. In addition, I/O monitoring, recording analysis, warning



diagnostics and instant video integration are the prerequisites.

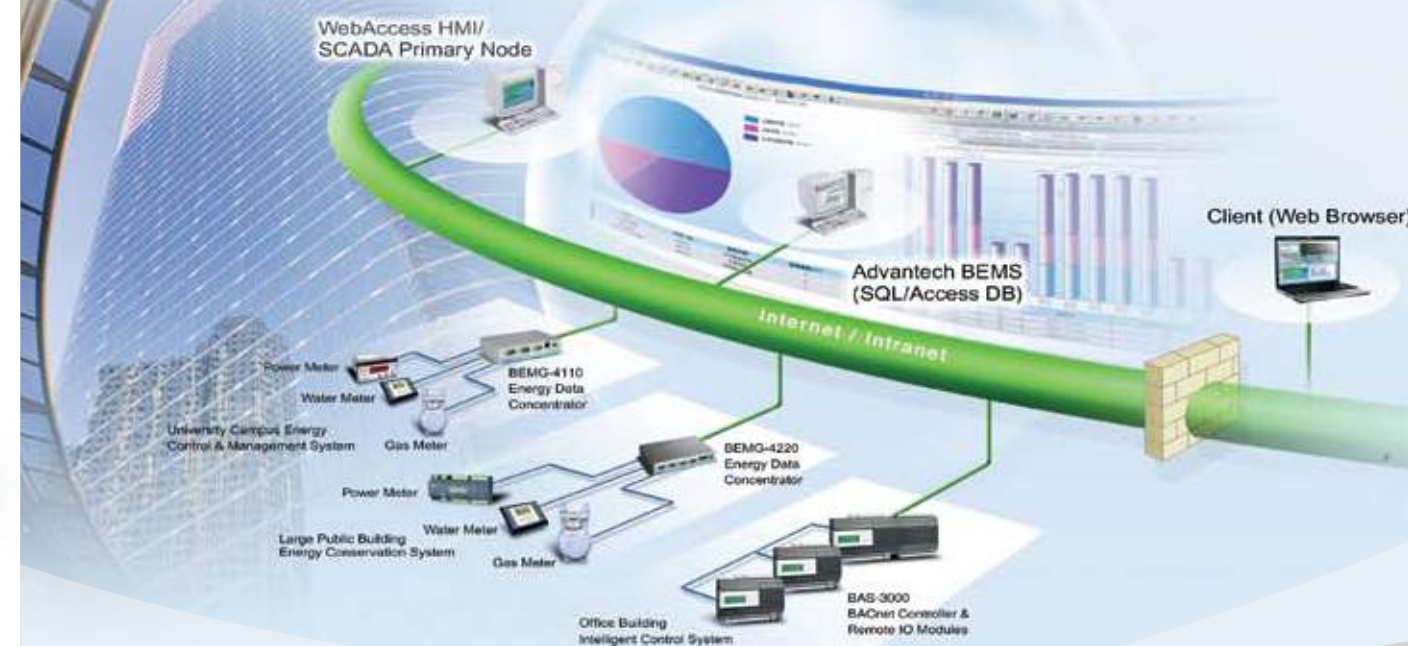
Advantech offers complete products for IoT applications including ADAM-4000 RS-485 data acquisition modules and ADAM-6000 Ethernet data acquisition modules, while also providing APAX-5000 Programmable Automation Controllers, NVS-3500 video servers, and EKI industrial communication products for remote transmission. Hector Lin indicated that in order to complete the linkage interfaces of onsite devices, Advantech proposes web-based SCADA monitoring software, such as WebAccess, to reduce the difficulties of system integration.

Quick Importing and Multi-application Coverage

From the single-ended monitoring of the past to the integration of multi-monitoring and central control systems, environment monitoring has evolved from "monitoring without control" into smart, integrated systems. Simple data acquisition is inadequate for current circumstances, and systems must have database establishment and diagnostic capabilities in the back-end control center as well as real-time control capabilities in the front-end devices.

CC Lin also said Advantech realizes that as environmental changes are increasing, the importance of monitoring technology also needs to increase, and luckily we are at a point where a breakthrough in device integration can help simplify these systems and also make them more accurate, reliable and more affordable. ■

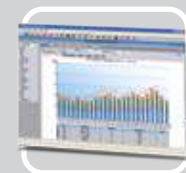
Advantech's Building Energy Management Solutions



ADVANTECH Green Energy

Increase Energy Efficiency with Open and Web-enabled Technologies

- Provides BACnet controller and remote I/O modules, energy data concentrators, and power meters for building automation and energy management systems
- Comprehensive DDC graphical programming tools and browser-based HMI/SCADA for multiple servers and client applications
- Rich energy consumption analytical charts and reports
- Supports free dynamic DNS services and web servers to optimize energy management efficiency



Advantech BEMS
Advantech Building Energy Management Software



WebAccess
Browser-based HMI/SCADA Software



BAS-3500BC
20-ch BACnet Controller (coming soon)



BAS-35XXBC
8/12/16-ch BACnet MS/TP Remote I/O Modules



BEMG-4220
Energy Data Concentrator with 4 COM, 2 LAN

IoT The Coming Era

Enabling the Next Wave of IT Development

According to expert predictions, the IoT will be the most important tech market trend in the coming decade. From now until 2020, the IoT is expected to stimulate the global economy, with business opportunities to the tune of up to a trillion dollars. Are you ready to ride the new wave?

By David Huang, with pictures from TPG and Advantech

If you have seen the movie “Minority Report”, you will definitely remember the future world so strikingly depicted: ID verification by pupil scan; interactive billboards that greet passerby’s by name; automatically controlled vehicles driving through well-ordered traffic; and computer-calculated meal planning based on user’s shopping records, complete with calorie and nutrient output.

Some of these concepts may look incredible now, but are due to be realized in the not-distant future. The internet, cloud computing, and a plethora of sensors are combining into a popular technology of object management called the IoT (Internet of Things).

Subtitle: IoT Changes the Way We Experience Life

One of the earliest IoT proposals appeared in “ITU Internet Reports 2005: The Internet of Things,” which outlined

IoT architecture as divided into three layers: sensing, network, and application. As the internet greatly increased people-to-people interactions, the IoT greatly increases people-to-object and object-to-object interactions.

The first and second layers represent access to object data via RFID, barcodes, and sensors; wireless networks and the internet converge in a real-time data stream. The third level involves the management of services and applications; cloud computing technology processes and

analyzes the mass of data, intelligently controlling the objects and appliances of daily life.

For a current example, the Haier Group unveiled the first IoT refrigerator last year. Not only does it store food, but it also can identify information about that food, and can draw up appropriate dietary advice according to the user’s food habits. It can also link up with supermarket databases, delivering convenient product availability information.

The President of Advantech’s Industrial Automation Group, Ming-Chin Wu, had previously said that the golden era of IoT and cloud computing would begin in 2010. As the IoT matures, all objects can be connected, creating a more intelligent lifestyle.

The Market of a Trillion Opportunities

Following the introduction of the computer mainframe, the PC, and the internet, the IoT is the IT wave of the decade, and it extends to various fields, including intelligent environmental monitoring, intelligent building and homes, smart transportation, and smart health care.

According to a Forrester Research prediction, global IoT revenues will be thirty times those of the internet; the IoT is the next trillion-level communication industry. Forrester

predicts that over a hundred billion devices will be linked through the IoT by 2020.

To take advantage of the upcoming business opportunities, many governments have listed IoT efforts in their national awards programs and have made huge investments designed to encourage its development. In 2008, Barack Obama, just before he became U.S. president, proposed a national IoT program to revitalize the economy. The EU in June 2009 introduced its IoT policy roadmap. Japan has evolved from e-Japan to the latest i-Japan through its broadband implementation, building an ubiquitously networked society. In the second half of 2009, the Chinese government chose Wuxi as its premier IoT center, and China’s 12th Five-Year Plan also included IoT promotion and development.

In the meantime, vendors have been gearing up for this rapidly growing industry. Large-scale applications are still a long way off, however, because the business model is at an early stage and lacking in technical standards. IBM’s leader of IoT research, Wang Yun, recently mentioned that IoT development will far exceed the current use of the internet, especially in food traceability, health care, intelligent cities, environmental protection and energy savings. But the issues of establishing standards, the enormous cost of data computation and analysis, and problems of the digital divide must first be addressed.

It is difficult, of course, to foretell exactly when the IoT will reach maturity. But as long as your services and technologies are in place, you will be ready to take advantage of paradigm shift as it happens. ■



Advantech's 5-year Plan for the Internet of Things

Creating Devices with Object-to-Object Interactions

Following the PC and the Internet, the next IT technology to change the world will be the Internet of Things. In this article, Advantech outlines its general 5-year plan for developing and launching IoT-enabled devices that will change the face of automation applications.

By Advantech
An interview with Peishan Juan, Director of Advantech Industrial I/O Division

During the 1950s, the computer was invented and triggered the third industrial revolution, which led to the creation of the first mainframe in 1965. After that, PC development continued until 1980, when they became available to the public and changed the way we work and live forever. In 1995, the World Wide Web became available and the computer was transformed into an information, communication, and browsing platform. Each of these events changed the world and many people believe the next change will be driven by the IoT.

The Informationization of Everything

The concept of IOT is to acquire data from a variety of objects via sensors. The precursors to this new technology, RFID and M2M have been applied in the same way, but are much more limited in scope. IoT will enable objects with "Informationization" features and spread the "cyberization" concept to general devices. In this way we may be able to interact with all of the devices in our lives. But RFID and M2M have failed to gain enough popularity to become ubiquitous. However, "The demand for the informationization of devices always exists," Assistant Manager at Advantech's Industrial Automation Group, Peishan Juan mentions.

Although the architecture of IoT is the integration of automation, IT, and wireless communications, automation is already a mature technology and its prior applications quite similar to IoT concepts. For instance, Advantech's ADAM series products were applied in highway toll systems over 10 years ago to collect and transmit traffic information. In this project, a group of sensors were set every 100 meters to acquire car speeds, and then the traffic flow data transmitted to back-end systems.

Another example is in San Francisco, where an Advantech monitoring system helps drivers locate empty parking spaces. Through Advantech's products, the parking situation on the street can be collected and displayed onscreen.

These two types of applications, like the concept of IoT, have been widely adopted now. Peishan noted that government agencies will play a strong role in the development of IoT and their investments will create new markets. Furthermore, because of the emphasis on energy conservation in recent years, it is necessary to monitor energy consumption. Through the IoT, there are positive effects for our environment and industries.

A Ubiquitous Network Connected to all Objects

Regarding Advantech's IoT development, Peishan said "Just like a marathon runner, we want to win from the starting point, and therefore developed a 5-year plan." We're just in the beginning, where many applications have not yet emerged, so we are just embedding IoT features in our related products, that way the products are ready for IoT when our customers and their systems are.

With the increasing popularity of IoT, the second stage is to enhance our product value. For example, intelligent sensors with self-judgment features can enable sleep modes, when the power supply is low. The third stage is the so-called "ubiquitous network". During this period, the IoT has been built in all things and complete object-to-object omnipresent communication has come true.

The bottom structure of IoT is composed of sensors, networks, services, and applications. Advantech provides sensing products to acquire the front-end data. After convergence and processing, this data is sent to the service layer via the network. In the end, the database will be used in various fields with different strategies. Furthermore, Advantech also offers the SCADA systems for the service layer to manage the status of sensing devices.

Peishan pointed out a successful sensing layer should consider accurate acquisition to add value to data, faster deployment to create benefits, and lower costs to meet budget controls.

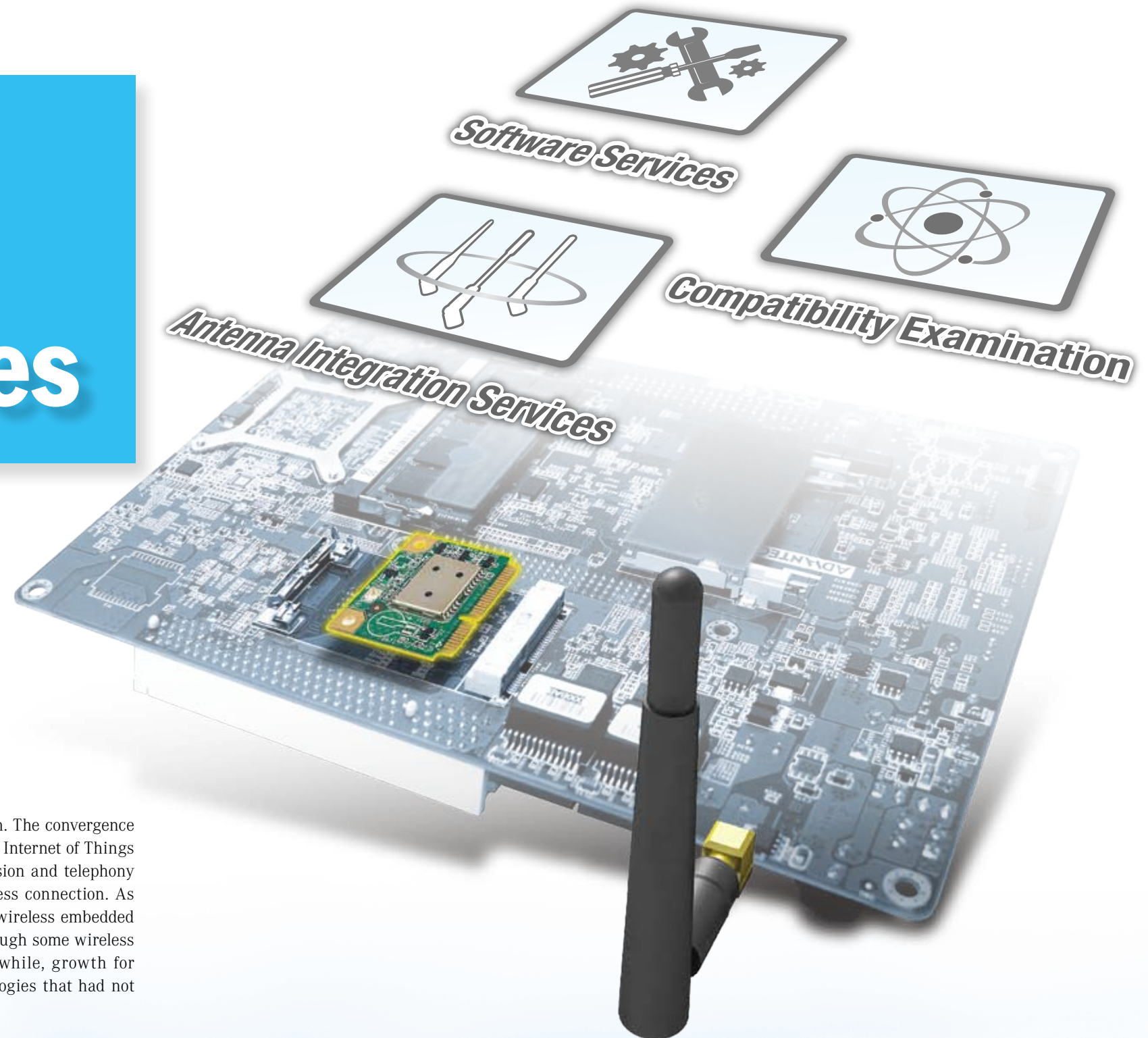
In terms of the communication, there are pros and cons of both the wired or wireless sensor networks. With quality and stability, a wired transmission is difficult to construct and also very costly. By contrast, wireless networks are easier to implement and have a broad range of applications, but their signal transmissions are prone to interference.

Advantech's products can support any communication interface currently on the market. In addition, to respond to environmental needs, their design is flexible and they offer rugged features including waterproof, dustproof, and shockproof designs. Peishan said that Advantech has been engaged in industrial computer manufacturing for a long time and has actively invested in different vertical areas to accumulate technical experience. Like a long distance runner, Advantech is prepared for the long haul with abundant technologies and experience, and has already begun the steady jog that will lead to IoT success. ■

The Further Evolution of Embedded Design-in Services

Advantech enhances its Embedded Design Services in order to help vendors to quickly complete product development. With Advantech's wireless modules products can achieve their target time to market faster.

By Nienlu Tu and pictures from TPG and Advantech
An interview with Ethan Chen, Assistant Project Manager of Advantech Embedded Core Group



Today's digital lifestyles expose more and more people to consume digital products and equipment like never before, and even the largely unseen embedded applications in our homes and workplaces have also been receiving more attention as devices become smaller, cheaper and smarter. However, with these growing opportunities, many businesses will need to invest more resources into the development of communication technologies. As a leading manufacturer in the embedded industry, Advantech has further enhanced its embedded design-in services to help accelerate this growing market. Vendors can now benefit greatly from faster times to market by using Advantech's wireless communication modules including 3G, 3.5G, WiFi, WiMax, RFID, GPRS, GPRS, ZigBee, Bluetooth, and LTE.

Wireless Technology Boosts Embedded Applications

The Assistant Project Manager of Advantech Embedded Core Group (ECG), Ethan Chen pointed out that, "Reliable transmission and exchange of data between devices is fundamental for digital applications to enable intelligent

and smart real-time data communication. The convergence of several technologies that make up the Internet of Things (IoT) has meant that wireless transmission and telephony has replaced cables to achieve a seamless connection. As a result, the demand for smaller, faster wireless embedded products has grown exponentially. Although some wireless technologies have been around for a while, growth for products was limited by newer technologies that had not yet fully matured."

Modular Integration Adds More Functionality

As the demand for wireless functionality increases, vendors of industrial products have to overcome additional difficulties, such as longer product life cycles with expensive design development and production phases. Not to mention the elaborate testing procedures products must go through to receive certification. All these things load greater burden and expense onto businesses.

Ethan said, "Removing cumbersome cables was an inevitable consequence of wireless technology, and of course wireless is better suited to accomplish the task

of remote monitoring and management. Therefore, Embedded Computing Group (ECG) offers a wireless module planning service based on current standard ports, our modular approach will help integrate wireless within existing embedded products." In addition, ECG also offers related software and firmware design, communications protocol programming, drivers, and other UI or API services for wireless modules. Embedded vendors can now conveniently complete their product design by just using our "one-stop" services.

Unity is Strength

For those special industrial applications that require wireless modules, Ethan pointed out that, "Supply requests for small quantities of chips are unlikely to be fulfilled from major manufacturers. Therefore, there is a need for unity, and by aggregating all small chip demands together, we can get more attention from chip makers. Secondly, most major chip manufacturers are used to supporting the consumer market. For industrial applications with small quantities and longer supply guarantees, they have



to perform technical training many times for different industrial clients. So in response, Advantech ECG proposes to bridge these difficulties between chip makers and vendors.”

Time to Market via Resource Integration

ECG is not the only design group for wireless communication, Industrial Automation Group (IAG) has also engaged in designing and developing similar products for intelligent buildings and environmental monitoring applications. Ethan stressed that their wireless service is a part of ECG; its greatest value is to provide comprehensive services to help clients to design embedded boards, modules and software. Ethan further explained that through the help of ECG, IAG can dedicate its effort to the integration of industrial products and applications as well as save its resources in the development and validation of wireless communication technology, so that new products can meet their targets for time to market. For IAG customers who need embedded wireless technology, ECG can offer and help integrate embedded products with wireless features.

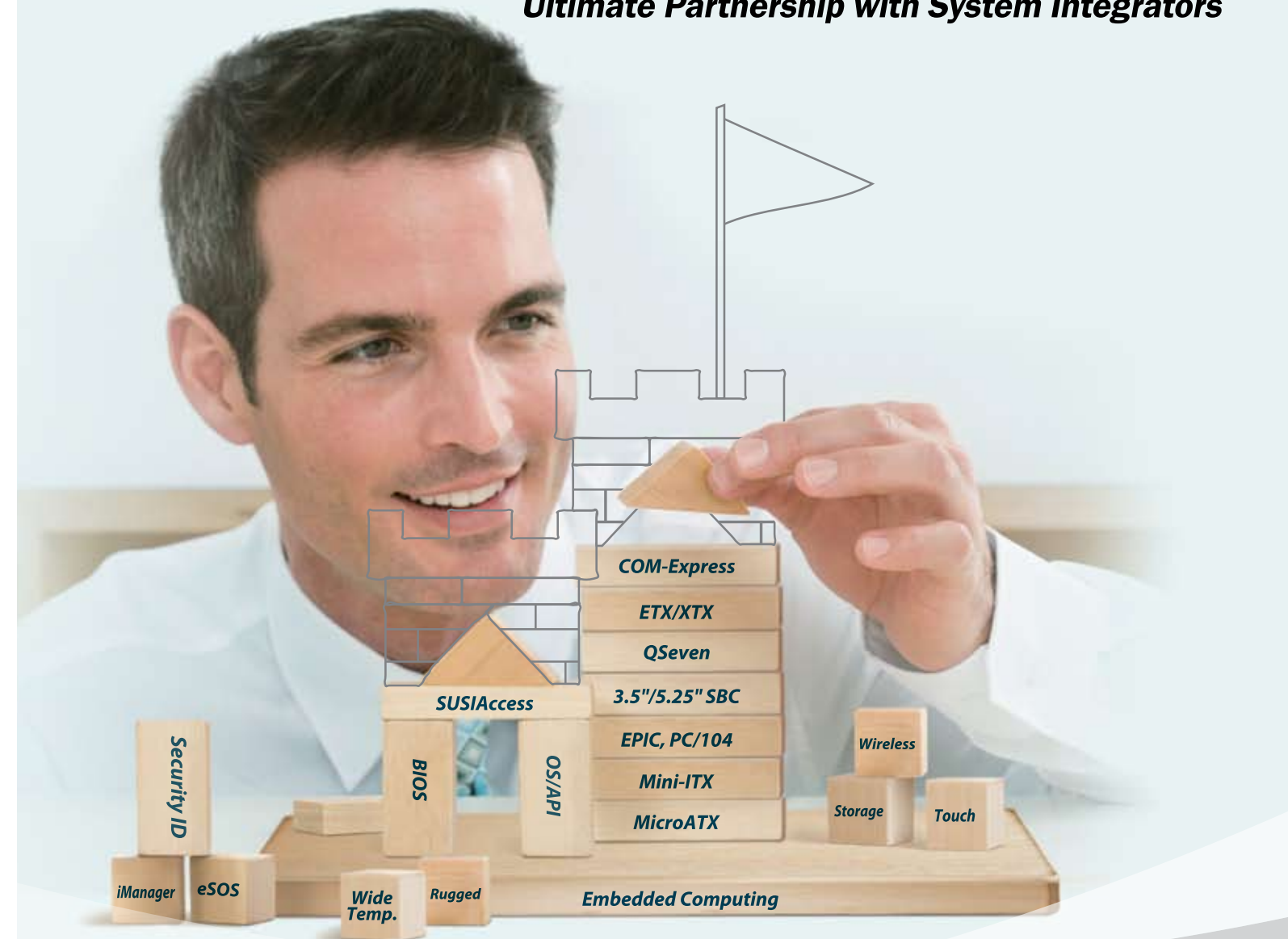
Elevating the Value of a Brand

ECG wireless is an innovative service that can enhance brand value. Ethan believes that such a new business model has market potential. Advantech is willing to provide customized branded modules but there are some questions and issues regarding leakage of product information. In this regard, Ethan explained and assures customers that Advantech's wireless communication modules are a standard and modularized product, and Advantech will only provide technical support. In other words, clients do not need to worry about their new application's intellectual property being discovered in advance and just need to provide designs and reserve space and port locations for integration with wireless modules by ECG when they are preparing their product.

Due to ECG's accumulation of technical experience in embedded solutions, there are already a number of vendors who have applied for wireless module integration into their embedded products. Ethan said, “This new model can not only offer customers more expedient design services, but also add more value to ECG itself. In the end, time will prove this is the smartest way forward.” ■

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SUSIAccess

Smart Access to Embedded Devices

By CL Chiang, Manager, Advantech Embedded Core Group

Advantech has been developing the SUSI API series since 2004 to create convenient management solutions for embedded applications. After the original security features of eSOS (a small embedded OS used to boot up a system when the major OS boot-up fails) were introduced in 2009, Advantech launched SUSIAccess in Q2 2011, incorporating the latest cloud computing concepts. Nowadays, because most embedded devices are connected, the System Integrator can employ remote access solutions to manage or rescue their remote embedded devices. This new version enables users to remotely control, configure and manage, multiple terminal devices and data, as well as providing system maintenance, backup and recovery. The new smart remote access solution for embedded devices will give customers more control over their devices regardless of the hardware platform specifications.

Proactive Data Gathering Reduces Maintenance Cost, Improves Efficiency and Reduces Down Time

The main purpose of SUSI (Secure & Unified Smart Interface) was to provide a set of tools to effortlessly

monitor and integrate the system through a user-friendly interface as well as helping to save power and energy. By adopting Advantech's SUSIAccess, any unique combination of software and hardware can achieve maximum efficiency for end users' applications. "SUSIAccess was derived from Advantech's ePlatforms to monitor and manage multiple terminal devices as well as configure, maintain and recover them.

SUSIAccess centralizes monitoring of all embedded devices; it collects all device data, and provides logs in a customized dashboard or table view. When errors occur, it auto-notifies the system administrator via warning popups and e-mail alerts. And if there's a major system crash, it automatically reboots so it can run diagnostics and deploy system recovery procedures. If necessary, it can deploy firmware upgrades or file updates, and it can even capture screens to help troubleshoot problems.

The main difference between SUSIAccess and other competitive products are the proactive data mining features. SUSIAccess not only actively detects embedded devices, but also saves related data on the server for

subsequent evaluation. Backup or recovery can be performed with the help of the eSOS utility. An emergency OS image is stored in an FTP server or on a hidden partition to provide ultimate peace of mind. SUSIAccess can enable remote recovery by manually clicking the restore button to recover the whole system. These remote operations can significantly reduce the maintenance and manpower costs arising from on-site visits.

More Cost-effective Troubleshooting through Remote Access and Control

Take digital signage for example, there are hundreds or even thousands of units in a typical airport or in chain stores up and down the country. To be able to effectively control all those devices and quickly resolve any problems is a big challenge, and although there are similar products that provide early warning functions, it is not so simple to determine what causes a system to fail. Usually, maintenance staff will need to inspect a broken product to determine what the problem is.

Obviously, staff on-site visits can be an unnecessary waste of time and manpower. Such scenarios can be resolved by using the remote management features of SUSIAccess. With SUSIAccess, when a device fails or behaves abnormally, the system will send a message so that a user can remotely diagnose and resolve problems. Most problems can be resolved by remote control which can drastically reduce maintenance effort. Furthermore, some digital signage devices may have been installed high up, or placed in difficult to get at locations—making regular backups or updates difficult to perform. But, through the remote configuration and system backup features of SUSIAccess, users can backup any system or update data from the convenience of the central administration office. Devices can also have volumes and

displays adjusted through SUSIAccess.

Future Versions Will Combine Intel Technology

SUSIAccess features are also suitable for many different application fields such as traffic monitoring, logistics and transportation, factory automation or ATM management. The greatest value of Advantech's SUSIAccess is that it provides a ready to use remote access solution for system integrators to monitor, control, recover and manage their embedded devices from anywhere. Hitches and glitches are taken out of complex projects, and developers can concentrate on adding value to their application and reaching the market ahead of the competition. SUSIAccess is included with selected Advantech embedded products. SUSIAccess will continue to evolve with new functions to fulfill customer requirements as the need arises, and in order to add more value and provide the best services, Advantech will launch SUSIAccess 2.0 specifically for Intel technology in the second half of 2011.

SUSIAccess Benefits

- Lowers complexity for embedded system deployment
- Saves time and resources during system builds
- Increases system reliability
 - All devices have real-time monitoring
 - Instantly control devices to resolve technical issues
 - Recover the OS image if Windows XP crashes
 - Transfer files to remote devices for firmware or application updates
- Decrease after-service costs
 - Reduced volume and customer call duration, more issues solved via SUSIAccess
 - Reduced service visits, more issues solved remotely
 - Reduced cost of visits—correct parts are sourced for FAE engineers ■

SUSIAccess Functions

Devices Monitoring



- Devices Status
- Remote Site Layout
- Alarm Notification
- Hardware Log
- Critical Settings
- SQL Server Database

Remote Configuration



- Hardware Control
- Brightness Control
- File Transfer
- Capture Screens
- Windows Event Log

System Recovery



- One-Click Restore
- Incremental Backup
- Backup Image on FTP Server

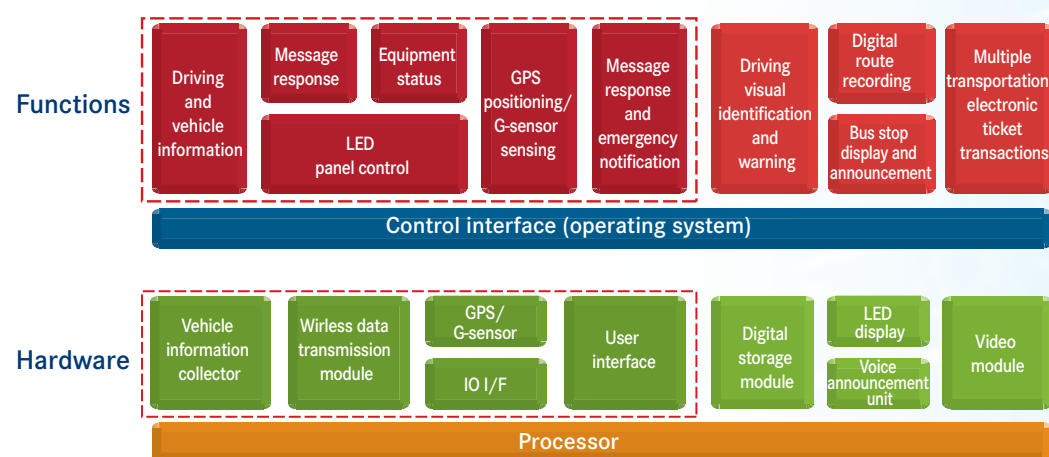
Advantech's Fleet Management Computing Solutions Set the Bar High for Intelligent Bus Telematics

Industry Standardization for Vehicular Management Solutions

Intelligent bus platforms have become an important factor in environmental protection campaigns to promote public transit use. The success of intelligent bus systems hinge on a workable industrial standardization system. In addition to participating in – and promoting the standardization of intelligent bus specifications, Advantech, a global leader in fleet management solutions, launches a wide array of market-ready intelligent bus solutions.

Script by Leo
Photos by TPO and Advantech

Intelligent Bus Computing Standards (v1.x) Telematics System Modules



Source: TPO

In the hope of encouraging the development of the intelligent bus industry, the Economics Ministry is leveraging Taiwan's celebrated Information and Communication Technology capabilities and combining them with other sources of input to empower the burgeoning intelligent bus manufacturing sector into another leading Taiwan industry. The Ministry's first job was to introduce the world's first Bus Telematics Industrial Standards to the intelligent bus industry and the transport sector through the help of Intelligent Bus Computing Systems Working Group (IBCS WG). By formulating a set of industrial criteria, the Ministry hopes to inspire more service operators to explore telematics marketability and lend more momentum to product development; in so doing, the Ministry hopes to catapult Taiwan's high quality intelligent bus platforms into the international technological limelight.

Establishing Industry Standards to Increase Marketing Effectiveness

Fleet management applications are limited to a rather closed industry. Application environments for vehicle fleet management are enormously different from those of traditional ICT products. Unified industry standards, therefore is the key to helping fleet management suppliers unlock the potential of the bus telematics market and better understand product development demands—thus maximizing industrial application versatility and benefits.

Whether it's fleet telematic applications in a broad sense or exclusive intelligent bus solutions, they generally fall into several categories: vehicle information interconnectivity, safety assistance, navigational assistance, and fleet management assistance. WLAN, GPRS/CDMA/HSDPA and other diverse telecommunication methods (ex: LTE & WiMAX later) are employed to compile and collect various

fleet status and vehicle location information, and the data is transmitted to the central dispatch. The solutions enable the dispatch center to stay on top of on-the-road vehicular status and ensure passengers' protection. Meanwhile, data transmitted back to the center can be computed into other forms of useful information, such as estimated arrival times; the data can even be used by the dispatch center to help adjust vehicular traveling speeds and distances travelled of every bus on the road, thereby improving the overall service. Also, through seamless Internet of Things (IoT) interconnectivity, bus service providers can supply alternative assistance, such as LBS (Location-Based Services). Bus telematic installations, fleet management services, in-vehicle computers and peripherals all belong to the industrial telematics field.

The collecting and transmitting of data requires the establishment of uniform, effective telecommunication specifications and application modules for both inside-the-vehicle and external communication needs. The inauguration of bus telematics Industry standards, therefore, becomes all the more crucial in functional effectiveness and hardware installation. With a set of uniform industry standards in place, information can be promptly and effectively utilized accordingly; meanwhile, for product developers, they no longer have to endure the troubles of embedding conversion designs in their products to accommodate different industry standards and modules.

Advantech Gives the Thumbs-up to Commercial Bus Telematics Industry Standards 1.0.

Hardware and functional platforms were outlined in the Bus Telematics Industry Standards 1.0 specification to support better fleet management application development. Thanks to the backing of powerful processor computing capabilities, a set of industry standards are modularized for vehicular data collecting, wireless telematics transmission, storage, display, voice command, videoconferencing and I/O interface.

In light of these new intelligence-enabled technologies, Advantech developed intelligent bus solutions, such as the TREK-550 Mobile Data Terminal (paired with the TREK-303, a smart and rugged 7" touchscreen), a rugged in-vehicle telematics computing platform designed for applications in bus, taxi, and trucking fleets in a wide array of industries, with wide operating temperatures from -30°C to 70°C. TREK-550's sealed unit is stamped with a military grade certification (MIL-STD-810F, Method 516.5) against vibration and shock. It's also ISO7637-2/e mark/SAE J1113 compliant, with car power management software to guard against electrical noise and surges, as well as preventing damage to the computer caused by transient vehicle power surges. TREK-550 also supports Car Area Network (CAN 2.0b/J1939/J1708) and is connectible to tire pressure monitors (TPMS). Its built-in wireless communications (WWAN and WLAN) allows data transmission, over-the-air updates reception, and two-way communication with central dispatch. Additionally, to ensure absolute driving safety, TREK-550 supports a real-time rear view monitoring feature. The built-in G-sensor can sense abnormal G-forces and send SOS information back to a central server for automatic emergency call-in and re-dispatch.

The release of the Commercial Bus Telematics Industry Standards 1.0 specification has enlivened development in the intelligent bus industry and acts as a springboard for application launches. Version 1.0 makes on-board real-life applications possible and precise modifications can be implemented through repeated trial-runs and testing. Driven by an urge to promote industrial upgrades in Taiwan, Jeff Chen, Advantech's Chief Technology Officer (CTO) noted that, "Advantech will continue to work with the Taiwan Telematics Industry Alliance (TTIA) to roll out industry specifications more befitting to actual applications and acceptable to the market, paving the way for Taiwan to develop into a worldclass, leading-edge, intelligent bus systems provider." ■



Advantech's ADAM Modules: Small Devices for Big Applications

Script by James Kiley
Photos provided by Advantech

One of Advantech's largest distributors in North America, B&B Electronics Manufacturing, recently purchased the one millionth ADAM Remote I/O module, the ADAM-6024, a 12-channel universal I/O module. Brad Swanlund, Assistant Product Manager at B&B Electronics says, "Congratulations to Advantech on reaching a very impressive milestone. The ADAM modules are very versatile and provide a lot of value which is why they sell so well." Linda Cochran, Marketing Merchandise Manager, says "Congratulations, Advantech, on your success! The ADAM products are, indeed, one in million." To celebrate the milestone of one million ADAM modules sold worldwide, Advantech would like to take a moment to share some background on this long-standing series of industrial products.

Advantech's ADAM Remote I/O Modules have been a consistent and reliable figure in the industrial automation field for almost 20 years. Although the core functions have remained relatively unchanged, Advantech's research & development teams have constantly been analyzing and improving the ADAM series with applied technology more advanced than its competitors. From the early RS-485-based ADAM-4000 I/O series to the more recent Ethernet-based ADAM-6000 I/O series, and the upcoming ADAM-2000 series of wireless I/O modules, Advantech has been developing ADAM devices ahead of the curve with advanced networking technologies for many years.

Designed for Long-Term Success

Advantech's ADAM module has had its signature blue color ever since it originated in 1992. Complimented with a bright green terminal, the ADAM module introduced a fresh and approachable outlook into the traditionally gray-and-black industrial field, not just at its inception, but still today. The initial design concept of ADAM focused on its ability to be recycled, marking Advantech's efforts to be environmentally conscious as far back as 20 years. All of its housing and onboard terminals can be recycled and reused in fact. And each ADAM shipping box contains more than 80% post-consumer recycled fiber. After spending 1 ½ years in research and development, Advantech unveiled its first ADAM module, the ADAM-4520 an RS-232 to RS-485 converter that was initially programmed using Windows 3.1. Ironically due to the slow changing nature of industrial equipment, this device is still one of the more popular ADAM modules available today.

Many fields (for example, laboratory automation) provide a continued demand for RS-232 I/O due to sustained use of very expensive but aging equipment. It is often far cheaper to continue to use RS-232 than it is to replace the equipment. Additionally, modern industrial automation equipment, such as PLCs, VFDs, servo drives, and CNC equipment are programmable via RS-232. This feature has ensured that the original ADAM module, the ADAM-4520 RS-232 to RS-485 converter has been a consistently

important product in the industrial manufacturing market for over 20 years.

Advantech's Development & Research team has always kept ahead of its customers' needs, providing distinct solutions for different needs. ADAM-4100 series for example, has been improving on its functionalities and usability over many years. Based on the design of ADAM-4000 series, the ADAM-4100 modules introduced reinforced isolation protection, wide operating temperatures and input power, strict environment applicability and watchdog communications to the ADAM series.

Advantech also emphasizes user friendliness, such as the convenience of installation and maintenance, as well as reliability and cost effectiveness. The modular industrial design enables ADAM modules to be easily mounted on a DIN-rail, panel or piggybacked on top of each other, depending on the customers' requirements.

Each ADAM module is strictly tested by Advantech's production engineers and product quality controllers before it is shipped to the customer. To ensure consistent high quality, Advantech is dedicated to a multi-dimensional approach to testing during production, and aims to eliminate all possible issues in the first place. All ADAM Remote I/O Modules must pass a least five stages of examination and different modules have different examination jigs, which are calibrated annually. Furthermore, modules must be packaged in anti-static bags, protecting against mechanical damage and electrostatic damage which can easily happen during shipment.

Looking Ahead

The ADAM series has continually evolved ahead of the curve, and has always strived to meet new trends even before they become popular. Providing ADAM modules with integrated sensors is one of the short-term goals, but that is only the beginning of the much larger plan Advantech has to revolutionize the industrial market with new kinds of ADAM modules with amazing

technical innovations.

One of the biggest such innovations is the Internet of Things (IoT). Through the IoT devices from all fields, be it industrial, commercial or even personal can be integrated together through wireless technology to be able to share data and communicate with each other. In the practical sense this will allow us to control home devices from the road, but in the business and manufacturing markets it will provide system operators and engineers with unlimited potential to link systems and solutions to create new kinds of applications with tremendous potential.

Advantech is looking into creating new lines of ADAM devices with such technology and hopes to share more information in the near future. Needless to say, the ubiquitous little blue module that has become standard in the industry will be around for much longer than anyone could have predicted.

Application Story – Fiber Optic Train Station Communication System

A train station in Indonesia wanted to upgrade its network backbone to fiber optics for data transmission. Compounding the issue was the fact they wanted to keep their current RS-485-based PLC for the railroad crossing gates and crossing signs as the controller due to budgetary concerns. To allow for fiber optic connectivity, Advantech installed a bi-directional converter, ADAM-4542+ in each station to allow the PLC to switch from RS-485 to fiber optic, or vice versa. The ADAM-4520I RS-422/485 to RS-232 converter allows data to be transferred between the train stations and the central room where the industrial computer is located. Both ADAM-4542+ and ADAM-4520I are capable of transmitting messages over long distances without interference.

Application Story – Peer-to-Peer Functionality in the Manufacturing Process

An Advantech customer in the LCD manufacturing market wanted to increase quality control and production in the manufacturing process, and wanted to add DI/O wiring to transfer alarm messages which would be transferred to the monitors outside. Due to these requirements, Advantech's one pair of ADAM-6052 Ethernet-enabled DI/O modules with Peer-to-Peer are used for this application allowing the customer to leverage their existing Ethernet network. One ADAM-6052 module reads the DO signal from the production equipment, while another ADAM-6052 module is located at the control center to control the LED alarm on the control panel. No computer or extra controllers are needed to read data from one ADAM-6052 module and send it to another module. ■





Hawaii Tseng
China DMS, Director
Advantech China

“Aloha! This is a warm greeting from sunny Hawaii, and also a “hello” from me. Yes, I am a Hawaiian man with great enthusiasm for making a better life! Actually, I have never been to Hawaii! ... Hawaii to me is not only an island, but also a symbol of passion, joy and happiness. I call myself an Hawaiian because I’d like to be thought of as someone who spreads joy and happiness everywhere. (Of course, it’s also my wish to visit the island of Hawaii with my lovely family soon one sunny day.)

I joined Advantech in 2006, and was assigned to join ACN to develop the DTOS business locally. For the past 5 years, a small DTOS team in China has grown into a big DMS division with more than 15 members and USD\$ 25+M revenue. I enjoy working with my colleagues here and feel grateful to all my precious customers.

Talking about the DMS team in China, something I would like to highlight are our mission and slogan. Our mission is to provide professional DMS services to all of our customers. The secret ingredient here is “passion”: passion on product design, passion on project management, and passion on customer services. All of our team members have the “passion for everything”, which has become our slogan. We’ve also extended the meaning of what it means to be called a “customer” to all the related parties that work with us, internally or externally. We’d love working with everybody and serve all of our customers the same way to reach total satisfaction and complete our mission.

Next time, if you see me around, please don’t hesitate to say “Aloha” to me. Let’s share the Love!

How you doin’ from Philly! I joined Advantech in August 2009 as an FSE after many years of moving from Arrow distribution to the Intel ESF for a couple of years and a brief stay at ITOX.

My experience with the ESF allowed me to interact with most of our key competitors and gave me unique insight to proudly say I believe we are the largest, most diverse, flexible & professional team in our industry. In all my years in the business I’ve felt the places I’ve been were stepping stones to something greater. I didn’t know what it was, but I knew I wouldn’t find it where I was at. Sometimes you don’t know what you’re looking for until you’ve found it. I found it here...for the first time in my life I’m with an organization that excites me. I believe our products, services and technical support teams set me apart from all of our competitors. I can feel it and I know my customers can see it. At ITOX, I walked into a customer thinking “I hope they can use what I have”. If there was a problem with a product with a problem from the customer, the solution was to find a new customer! At Advantech, I walk in the door with pride knowing I have what they need or we’ll customize a solution for them that they’ll love. We’re all very lucky to be a part of this family, I find myself motivated and thankful on a daily basis. Keep up the great work and if you’re ever in Philly, look me up...I’ll buy you a cheesesteak!



Mike Gomolinski
Field Sales Engineer
Advantech America



Lucien Lee
Assistant Manager
Advantech Taiwan

Greetings from Advantech HQ Taiwan. My name is Lucien Lee, a key account manager of Machine Automation. I started my career job with Advantech since 2002 as a sales engineer for north Taipei region. I love travelling around the world with my family and my friends as it opens my mind and helps me enjoy my life even more.

Back in 2002, I was a person who left my hometown seeking personal fortune in Taipei city and I was lucky enough to join the Advantech Family. Even though I felt alone in this city, I had lots of kind colleagues here that made me feel comfortable and welcome. It’s very challenging to be an industrial automation sales person, because the customer expects that we not only provide components, but we are also a solution consultant. Because of this, I have been spending lots of time learning about vertical domain knowledge from Advantech customers. After a few years, the sales team in Taiwan tried to establish the first vertical focused sales team for Machine Automation to fulfill special customer requirements and enhance our market share. This team are still working and improving, and we hope we can share this vertical domain information with everybody in the future. I accomplished my personal dream to stay in Philadelphia, US, and to study and travel around the US during this time. I visited several places which helped to change my world outlook such as Canada, New York, Boston and LA. It was an experience that I will never forget. It’s been an honor to join the Advantech family. My feelings from Advantech are goodness and happiness from everyone. I hope everyone agrees with me: “Work hard and play hard “.

Greetings from Advantech Germany. I’m Christoph Kühn and I first joined Advantech in 2002 as a “Medical Key Account” vertical sales manager for Europe. Starting from one basic product, medical products have grown into a huge product line. This is an exciting challenge that requires me to always be focused on helping our vertical key accounts.

My key accounts are global and i’m in contact with Advantech global employees all over the world supported by a great team. I’m proud to be a part of the Advantech family. After graduating in 1992 as Biomedical Engineer, I entered the healthcare market. Before Advantech I worked for a few companies selling medical devices like internal infusion pumps or hospital software (ERP) where I recognized the huge potential for medical grade hardware in hospitals. That’s when I got in contact with Advantech and I have no regrets.

In my private life I love to be with my wife and my two kids at the seaside, reading and relaxing. Last summer we had a great time watching the soccer world cup in South Africa.

I also love to explore the mountains with my mountain bike.



Christoph Kühn
Key Account Manager
Advantech Germany

The Solutions and Best Services for The Gaming Industry

Advantech-Innocode Offers A Full Product Range and Full Services to Fit All Applications

Script and Photo Provided by Advantech



The combination of Advantech and Innocode Gaming presents an opportunity for the gaming industry to have the best of all worlds; a massive consumer-scale manufacturing and support infrastructure fused together with the focused, dedicated personal service of a highly specialized supplier. "The acquisition of Innocode by Advantech has changed our offer to customers dramatically. We are now the only dedicated supplier to the gaming industry that owns its own manufacturing facility," said Advantech-Innocode Managing Director, Edward Price.

The manufacturing capacity alone offers huge capacity; while 'Advantech Care Services' are now offered with extended warranty, guaranteed RMA turnaround, onsite support and stock supply. Furthermore, "Our infrastructure now spans the world, on all five continents served by over 4,500 staff, 900 of which are dedicated R&D engineers. As a focused business unit of Advantech, we have retained the dedicated personal service of Innocode and added a manufacturing infrastructure and supply chain that spans the globe," explained Edward Price.

Based on Advantech-Innocode's roadmap, the company offers the economy E-Series of products for the low to mid end of the market and the higher performance S-Series to address the mid-to-highest end of the market. Besides, with the technical development of both AMD and Intel to integrate everything (CPU and GPU) onto a single chipset, Innocode's new products will offer a great increase in performance and reduced power consumption.

have two new AMD products, one using the latest Fusion chipset for e-Ontario, and the other using the more flexible AMD 785E." outlined Edward Price. They have been released and mass production will start this year. "AMD's Fusion e-Ontario chipset is offered as part of our E-Series of products, offering good integrated graphics performance," said Edward Price.

In the meantime, "Intel's Calpella (HM55), is the latest flexible and powerful chipset, which is sampling now with mass production later this half," said Edward Price. Later this year Innocode will probably offer e-Llano as part of the S-Series range, offering greater flexibility and upgradeability at a different price point. Intel's latest Sandy Bridge platform for 2011 also provides the high end performance and scalability required for the S-Series boards with unique Intel features such as Hyper-threading, and Turbo Boost Technology amongst others.

While the integration of Advantech and Innocode continues at a pace and the operation will be complete by the summer, the advantages are being passed immediately to Advantech-Innocode's customers. The size and scale of the new company presents a host of dramatic enhancements for gaming customers as Advantech-Innocode has retained every part of its successful business model and expanded upon its offer to the customer in every way. ■

"Due in part to the success of 'early access programs' for all the major chipset manufacturers, we have formulated a complete roadmap with both AMD and Intel. We

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