



# The DATA CAPTURE Report

Since 1977, the premier management & marketing newsletter of automatic data capture: Bar Coding, RF and related technologies.

1572 Kuntz Road ■ Erie, PA 16509 ■ PH (814) 866-1146 ■ <http://www.scandcr.com>

January 27, 2012

## [Part 1] Vocollect Offers Customers Big Savings

***Voice technology gains traction in the market and delivers proven ROI.***

We can remember the days when voice recognition and other biometric technologies were touting 300-400% annual growth rates. Of course, when you are starting at zero, those numbers aren't that difficult to achieve. Today, the CAGR for voice technology sales is 7-12%. This doesn't mean sales rates have gone down. Quite the opposite...it shows that the industry has grown to a point where more realistic numbers are the norm. More and more, we are seeing major global companies using the technology to streamline operations—particularly in warehouse environments.



**Tom Murray, VP of product management and marketing, Vocollect.**

Although there have been a number of other vendors over the years—**Voxware, Lucas Systems—Vocollect, an Intermec** business unit, appears to be the clear leader. And although Vocollect is owned by one of the AIDC industry's major players, its technology also supports products from other terminal leaders such as **Motorola, LXE, and Psion.**

**Continued on page 6.**

## Zebra And Checkpoint Combine Strengths In RFID

***The strategic alliance will enable Zebra to add OATSystems' passive RFID software platform expertise to its own location solutions with a goal of extending enterprise visibility.***

On January 12, two industry giants—**Zebra Technologies** and **Checkpoint Systems**—announced they have entered into a “cooperative relationship and licensing agreement.” No specific terms of the agreement were released. However, the goal is obviously to bring together Zebra's active location solutions with the passive RFID, AIDC, and sensor capabilities of Checkpoint's **OATSystems** division to give customers increased visibility of their assets across the enterprise.



**Phil Gerskovich, SVP, new growth platforms, Zebra Technologies.**

Combining the strengths of these two industry powerhouses will undoubtedly create a major force in the RTLS (real time locating systems)/RFID sector. Checkpoint has been involved in RF technologies for decades, through its retail EAS (electronic article surveillance) offerings. OATSystems was an early pioneer of software platforms for managing RFID and AIDC devices, as well as the dissemination of gathered data. Zebra, in addition to pioneering thermal transfer printing, has played an integral role in the development of passive RFID standards, embedded RFID labels, and user education. With its acquisitions of the **WhereNet** RTLS and **Dart** UWB RTLS technologies, Zebra rounded out its portfolio to cover a sizeable portion of the total RFID sector.

The non-exclusive agreement provides Zebra with an OEM software license for OATxpress™, which is part of the most widely deployed RFID middleware platform, OAT Foundation Suite™. This software platform is designed specifically for capturing, filtering and managing high

volumes of AIDC and sensor data from a single facility—such as a manufacturing plant, distribution center, or retail store—to an enterprise deployment across hundreds of locations.

### FROM THE OATSYSTEMS WEB SITE...

According to the company, **Merchandise Visibility** incorporates a variety of capabilities for retailers, including:

- Source Management at point of manufacture
- Shipment Validation/ASN-Based Receiving in distribution
- Inventory Updates and Cycle Counting on the retail sales floor

This solution improves on-shelf availability, increasing retailers' margins, and sales, while reducing operating costs.

To learn more about the alliance, *SCAN/DCR* spoke with Phil Gerskovich, Zebra SVP, new growth platforms; Su Doyle, industry marketing, Checkpoint; and Alan Sherman, Checkpoint director of marketing. The following is a transcript of our question and answer session:

*SCAN/DCR:* Do you have a particular vertical application that might be a good starting place for your combined offerings?

**Gerskovich:** Just this week, we have announced that we will initially be focusing on RTLS and passive technology. Our number one success with RTLS, so far, has been in the industrial sector. Automotive has been a big adopter. As we get further into the partnership, we will broaden our target markets.

**Doyle:** In the discrete manufacturing arena, for tracking assets from sourcing to assembly to distribution, there is definitely a need for both technologies. We see customers deploying multiple AIDC technologies to balance price and performance. For example, a heavy equipment manufacturer might track inbound shipments from suppliers using passive RF, track components and materials with passive RF, detailed assembly processes with UWB and sensors while tracking whole goods and capital assets across yards and dealerships with RTLS.

*SCAN/DCR:* Have you already been working together—is this just a more formal agreement?

**Gerskovich:** We have always been impressed with OATSystems and its ability to combine multiple technologies on a single platform. So, we've been talking with them off and on for years. However, the real/serious talks began last summer. We saw an opportunity to share our areas of expertise.

Although we are not elaborating on the terms of the

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- Bar coding, 1-D & 2-D symbologies
- Bar code printers, scanners, terminals, verification products and labels
- Wireless (RFDC & RFID)
- Magnetic stripe
- OCR products
- Voice recognition systems
- Vision systems, video scanners
- EDI
- Smart cards
- Biometrics
- Application software
- Peripherals or supplies for the above

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agreement, the essence is about Zebra licensing the Oat Framework and our organizations jointly working technologies to bring OAT passive applications to the market.

*SCAN/DCR: Zebra has played an integral role in incorporating passive RFID into bar code printers. I am assuming that, with the use of the OAT platform, it will give Zebra the ability to combine all its technology strengths—bar code, embedded passive RFID tags, RTLS, UWB RTLS, etc. Is this correct?*

**Gerskovich:** The answer, of course, is yes. At its core, Zebra is a company that focuses on identifying and tracking assets and people. We do this with all types of technologies. When creating a tracking solution, the use of multiple technologies is critical. To do this properly, we needed the software platform that ties everything together.

When we looked at the various [software] products on the market, and analyzed their strengths and weaknesses, OATSystems always came out on top. They were simply the best.

*SCAN/DCR: Will there be any special training programs for Zebra VARS and integrators to show them how to get the best value from the OAT platform and to give them implementation advice?*

**Gerskovich:** Only a relatively small part of the channel, today, has the expertise to integrate RFID in the solutions they offer. Selling and implementing RFID can be complicated. Certainly, one of our goals in this partnership is to make RFID integration easier for our resellers. We hope to create a package that will help simplify the process.

**Doyle:** We're seeing a big need for visibility across multiple modalities: bar code, passive RFID, active RFID, UWB, RTLS, GPS, and other sensors. As vendors, we need to make sure our partners receive the right combination of industry applications and technology support and that we give them the software they need to manage devices and disseminate information.

*SCAN/DCR: To what degree do you see your marketing and sales staffs working together?*

**Gerskovich:** We intend to extract as much value as possible from this partnership. To that end, we will work together not only from a marketing



**Su Doyle, industry marketing, Checkpoint Systems.**

perspective but an engineering standpoint, as well.

**Doyle:** We have different areas of technical and industry expertise that come together in the field. For instance, Zebra has a strong presence in capital asset tracking for oil and gas and maritime industries, while we are strong in cross-industry supply chain and manufacturing. Our intent is to make sure we leverage these strengths to meet the needs of the customer.

*SCAN/DCR: If a reseller isn't equipped to perform an installation of the magnitude the release is referencing, are your two companies offering integration help? On a joint basis?*

**Gerskovich:** As I said earlier, our goal is to help expand the ability of our resellers to integrate RFID. Part of this includes broadening the applications available to them. Passive RFID is showing renewed momentum, and OATSystems can help us capitalize on this trend.

We will also work with them in areas such as item-level tracking. Both our companies have made huge investments in this niche and OAT's software is critical to making item-level adoption successful.



**Alan Sherman, director of marketing, Checkpoint Systems.**

*SCAN/DCR: Although OATSystems is most frequently associated with RFID, it seems to me part of its most important value is that it is a platform for all things AIDC. We believe ideal tracking systems will incorporate a variety of technologies that will undoubtedly include bar codes (linear and 2D), wireless mobile computers and printers, RFID—passive, BAP, Active, RTLS, etc.*

*Since this platform is so unique and all encompassing, should OATSystems be promoting this ability over RFID?*

**Sherman:** We've [our platform has] always had the ability to cross all AIDC technologies. You're correct; this is a big competitive advantage for us. We've done many installations where multiple technologies have come into play. For customers tracking goods across multiple facilities and geographies, we bring everything together.

**Doyle:** Part of the reason we've used RFID so much in our branding is that it is more frequently searched on the Internet than AIDC. People start looking at a point solution for RFID and RTLS before considering an enterprise implementation with

multiple technologies.

**Sherman:** I would add that we really need to do more education. We need to spread the word that potential adopters should look for a single package that does it all—one that combines the best technologies for the application and has the software to manage the system.

*SCAN/DCR:* How quickly do you foresee your organizations making a joint impact on the market, or are you now ready to hit the pavement running?

**Gerskovich:** As I noted, we will move quickly in the areas where we already have embedded RTLS systems and try to add passive where it can increase value. Throughout 2012, the industry and our customers can expect to see us move beyond RTLS and into other areas where Zebra and OATSystems can find synergies.

*SCAN/DCR:* Any final comments?

**Doyle:** The market has gone beyond looking at RFID simply as an exciting new technology. The focus now is to create business solutions that leverage AIDC visibility. Customers want seamless solutions that support multiple AIDC modalities.

For more information: **Checkpoint Systems**, Thorofare, NJ, PH (856) 848-1800, Email: Alan.Sherman@oatsystems.com; **Zebra Technologies**, Lincolnshire, IL PH (847) 634-6700, Email: pgerskovich@zebra.com. **SCAN**

## Zebra Launches New WhereLAN III RTLS Hub

**Added features meet growing needs of RTLS users.**

Unlike some forms of RFID, which may solve a plethora of diverse business problems, RTLS is much more specific in its uses. As the name states, it's a "locating system." It has a long read range, in most cases, and is used mainly in factories, marine terminals, and yard management systems. Zebra's **WhereNet** brand, founded in 1997 as **WiData**, was one of the first RTLS offering in the market. Tim Harrington, Zebra VP of product strategy played an integral in WhereNet's beginning and is still helping to take its RTLS offerings to new heights.

In our cover story, in this issue, Zebra and **Checkpoint Systems** outlined their plans to work together to create new technology packages that

incorporate traditional passive RFID with RTLS. The key to the new alliance is the licensing of Checkpoint's **OATSystems** division's software platform that ties all forms of AIDC technologies together. It's the "glue" that binds.

Last month, Zebra announced its new WhereLAN III product. WhereLAN III is the locating and messaging hub of Zebra's RTLS offering based on the ISO/IEC 24730-2 standard. The state-of-the-art sensor receives low power signals emitted by Zebra's active RFID tags, known as WhereTags, up to a distance of 1,750 m.



*Tim Harrington, VP of product strategy, Zebra Technologies.*

### **An industry update**

To learn a little more about the product and get a general update on the sector, we coaxed Harrington to the phone. We've known this RTLS guru since his early days at WhereNet and interviewed him countless times since 1997.

When asked how sales have been in RTLS, Harrington told *SCAN/DCR*, "We're seeing good growth. 2009 was tough; 2010 was a year of rebuilding; 2011 showed consistent growth. We are very bullish about 2012.

"Our main niche at this point is still in manufacturing/industry," he continued. "However, we just announced our alliance with OATSystems. This partnership will help us expand and broaden our target market and list of possible applications."

WhereNet also continues to work with **Navis**, formerly owned by Zebra. According to Harrington, that relationship is still very much intact. "They help us in applications that call for container tracking," he explained. "We have systems in the Long Beach, Oakland, and Seattle terminals. These are very complex applications, and our solutions are proving to be up to the task every day. We are hoping to expand our penetration of this market."

In the government sector, WhereNet works with the **U.S. Air Force** and in security agencies. Yard management at marine terminals is yet another big market. "Zebra is a full solution provider, and is also big in providing necessary software for our customers," said Harrington. "This seems to be what the market is looking for, today. A leading home improvement retailer and a national mail and package delivery agency are both customers of Zebra."

Software has become a huge focus in the AIDC

industry in the past five years. Harrington said that, at WhereNet, management always thought software was an integral part of any solution. It is absolutely necessary. In some cases, WhereNet has actually engineered software to meet its customers' specs.

Harrington also told us that RTLS is now touting a CAGR of approximately 20-30%. "It's great to see it really taking off," he stated. "I've been with WhereNet since 1997. Six months into the founding of the company, we still didn't have a product. Now, some of the major companies in the world have adopted our systems.

"As I noted earlier, Zebra is very bullish on providing full solutions," he continued. "The goal is always to incorporate whatever technology is best for the application. We are definitely not a single technology company. We fit the technology to the app, not vice versa."

### **UWB RTLS**

Part of the Zebra package also includes the company's **Dart** Ultra-Wide Band (UWB). The next generation of the Sapphire UWB product line, Zebra Dart UWB RTLS enables location accuracy for personnel and equipment tracking in indoor and outdoor environments. Built on Sapphire UWB RTLS core capabilities, Dart UWB provides the lowest cost-of-ownership in the industry by improving installation ease, visibility, scalability, performance, asset tracking and tag management. By reading thousands of small, active RFID tags per second, this RFID tracking system allows for an expanded array of both indoor and outdoor asset management applications in the harshest industrial environments.

"There is a huge convergence of technologies going on today," Harrington asserted. "From our vantage point, we are well-equipped to combine whatever technologies are available. Within our company, we have a wide variety products—UWB, RTLS, bar code printing, card printing, passive RFID embedding in bar code labels.... Zebra has been a pioneer in RFID since the founding of **EPCglobal**. Zebra should be the first place to look for solving business problems. All our technologies are best-of-breed.

### **More on the WhereLAN III**

The new WhereLAN III offering touts one-meter accuracy under normal situations. It has a very long range. It also offers lower battery consumption and even the ability to use solar power, in some instances. In addition, a Wi-Fi client is available.

These new features were a combination of things

Zebra customers asked for and ideas its engineers came up with. "We try to use our knowledge and expertise to anticipate our customers' changing needs," said Harrington. "The WhereLAN III is non-disruptive to existing systems, and as such, equates to lower implementation costs. Our business is to change the way our customers do business...to make their operations more efficient.

#### **WhereLAN III:**

- Employs advanced signal processing techniques, enabling it to determine the time-of-arrival of a WhereTag signal to sub-nanosecond resolution, resulting in up to one meter location accuracy. This means customers can gain visibility into their tagged assets and tightly couple these real time locations into their business operations. WhereLAN III can also be used to process event messages from WhereCall button tags. These tags are used in Industrial Manufacturing to convey parts replenishment requests or task completion events. Due to the Six-Sigma reliability of the WhereTag signal, customers can rest assured that the WhereCall event will be detected.

- Delivers the WhereTag and Where-Call data to Zebra's Visibility Server Software (VSS) stack, which computes the location of tagged assets and delivers actionable and timely visibility information. VSS also provides tools for integrating RTLS data with customer and third party applications. VSS and a network of WhereLAN IIIs provide accurate and timely asset visibility across your enterprise.

- Features an IP 55 cast-aluminum enclosure, which allows the product to be deployed in indoor and outdoor environments, such as warehouses, heavy-industrial manufacturing plants, vehicle and trailer yards, and Maritime shipyards. The product features novel signal processing techniques that provide full locate without the need for dedicated time synchronization wiring.

- Can automatically configure and dynamically adjust to changing Radio Frequency environments while maintaining wireless time synchronization. Its configuration does not require complex RF spectrum surveys nor periodic calibration. These advanced features simplify the design and installation of the infrastructure, allowing you to focus on running your business instead of running an RTLS network.

- Supports IEEE 802.3af Power-over-Ethernet (PoE). It may be ordered with integral Wi-Fi client capability supporting the transport of the received WhereTag and standard management data across

any industry standard 802.11 b/g Wi-Fi network. The product consumes just 12 Watts, enabling a small and economical solar-powered option for remote deployments.

### **Final comment**

Closing, Harrington told *SCAN/DCR*, “Zebra’s commitment to the industry is huge. We are always expanding our technology offerings to help in areas like track-and-trace, the Internet of Things, and other burgeoning markets. The company is great in bar code offerings, but it also offers much more.”

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### **Continued from page 1.**

To learn more about the changing market, we spoke with Tom Murray, Vocollect VP of product management and marketing. Murray told *SCAN/DCR*, “Today, commercial voice technology is a \$160-\$180 million dollar industry. Payback times are 12-18 months on the average voice installation. This is a technology that definitely adds value to the bottom line. It’s all about decreasing waste and increasing efficiency.

“We’ve gotten past the point where voice is just used for picking,” he continued. “Our customers are quickly reaching the ‘Aha!’ moment where they realize that the technology can help them in many areas. Workflow is a good example of an application that can show true productivity improvements with the use of voice. Voice can also show where other problems exist, especially in high-velocity environments. Replenishment in grocery/convenience stores and food services is yet another area where voice excels.”

Roger Byford, founder of Vocollect and a voice pioneer, added, “Let’s be honest, this ‘human-speaking-to-computer’ type of experience has not always been positive. For instance, we may have phoned a customer service center and been asked by the electronic ‘receptionists’ to state our reason for calling from a list of options. We spoke a response, and often the system failed to fully recognize what we were saying. We have to repeat the process, practically shouting at the phone and over-emphasizing our diction until the system finally understands. It leaves many of us frustrated and shaking our heads at such technology.

“It is little wonder, then, that many supply chain managers fear that voice-directed workflow systems

will offer similar results,” he continued. “If their experience with voice has been tainted by their encounters with consumer speech recognition systems, then they probably have low expectations for how well voice can succeed for their distribution operations in a ‘human-talking-to-computer’ type of arrangement. Little do they know that not all speech recognition systems are created equal.”

### **Intermec acquisition opens doors**

When Intermec acquired Vocollect, Murray said a wealth of new opportunities came with the merger. “We are really making headway in distribution center applications,” he told *SCAN/DCR*. “Intermec has one of the broadest product portfolios in the AIDC industry. Because of this, we are looking at a number of technology combinations that will give us an edge in the market place. And, there are so many Intermec partners that now have a better chance to add voice to their offerings.”

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**“Let’s be honest, this ‘human-speaking-to-computer’ type of experience has not always been positive. For instance, we may have phoned a customer service center and been asked by the electronic ‘receptionists’ to state our reason for calling from a list of options. We spoke a response, and often the system failed to fully recognize what we were saying....It is little wonder, then, that many supply chain managers fear that voice-directed workflow systems will offer similar results...”**  
**Roger Byford, founder of Vocollect.**

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In Sept. 2011, Vocollect announced a significant expansion of its Vocollect Voice Partner Program. The goal is to give AIDC resellers of mobile computers for warehouse applications a new competitive edge and enable them to resell Vocollect’s Talkman mobile voice computers in partnership with Vocollect certified software partners to new voice customers worldwide. This enhancement to Vocollect’s industry-leading global partner program allows AIDC resellers, as “Vocollect Hardware Partners,” to join forces with “Vocollect Software Partners” to offer all the benefits of complete voice solutions to their customers not currently using Vocollect Voice.

Vocollect offers customers its voice software on a broad range of hardware platforms, including a recently expanded range of devices from the major players mentioned above. “We are the only voice solution to offer compatibility with the four major terminal vendors in AIDC,” said Murray.

Vocollect customers can also choose to deploy Vocollect's own purpose-built Talkman devices for voice, voice and scanning, or voice plus a wide range of functions. Until now, the Talkman device portfolio was not available for resale by AIDC resellers. These resellers now can become Vocollect certified to resell Talkman mobile voice appliances and accessories alongside their other device offerings and help to further expand the growing global market for voice solutions.

Vocollect Voice is used by more than 350,000 workers in more than 60 countries and in over 35 languages whose companies move more than US \$3.5 billion worth of products to customer locations around the world. The major expansion of its partner program will extend the benefits of a voice-centric warehouse to thousands of more customers in industries worldwide.



**Scott Anderson, VP,  
global channels,  
Intermec.**

“We are excited to present our partners, both existing and those who might join us through this new program, with the chance to participate in the growth opportunity provided by voice-directed technology in warehouses and distribution centers,” added Scott Anderson, VP, global channels, Intermec. “This is one more way for Intermec and Vocollect partners to offer differentiated, customer-valued solutions that address the top business challenges of our customers.”

“To assist our new resellers, we now have 50 online courses,” said Murray. “We are expanding our educational efforts and will add another 25 in 2012. We’ve also created an eBook—*The Talking Warehouse*—to help potential users and the channel better understand how voice systems work and the benefits they provide. This is a very valuable tool for those who are interested in voice technology. The first three chapters are finished, and we expect to have two more coming. Our partners will be able to add and edit the eBook to cater to their own customers.”

[[http://www.intermec.com/vocollect/learning/content\\_library/talking\\_warehouse/index.aspx](http://www.intermec.com/vocollect/learning/content_library/talking_warehouse/index.aspx)]

“We have been an Intermec partner for 14 years, and we are excited about the opportunity to sell Vocollect Talkmans in addition to our other offerings. This expanded portfolio gives us a great opportunity to expand our business and drive improved bottom line with Vocollect’s innovative products,” said Dan Cheresch, president, **Infirms**.

### **The Challenge**

Voice recognition systems within computers have a

challenge. Following is an excerpt from the Vocollect eBook:

When human beings work with a computer via screen and keyboard, we know that we are dealing with a dumb machine, so we are at least somewhat tolerant of flaws in the interaction. We also have rapid visual feedback, which in many cases helps out, e.g., “Oh. I misspelled that word – but the spelling engine in my word processor fixed it for me.”

On the other hand, people are much less tolerant when it comes to spoken communications. Everything we’ve learned about live conversations has involved a second human being, so we fully expect the other party to respond intelligently, and often to know what we mean, even if we misspeak. And we expect this intelligence to apply in a wide variety of environments, whether it is a quiet room, a noisy coffee shop, or a loud concert.

It’s little wonder, then, that users sometimes get frustrated even when a computer-based recognition system is near-perfect in understanding their speech. This becomes even more the case in a distribution environment, where every misunderstanding or slow response has an impact on productivity. Thus, it behooves the designers of warehouse voice systems to not only strive to maximize speech recognition accuracy, but also to be sensitive about managing the dialogue with the user as naturally and “intelligently” as possible. [Stay tuned for more in our next issue.]

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## **TECHNOLOGY AND STANDARDS**

by Steve Halliday

### **THE “TECHY” COLUMN**

Over the last few years, we have brought a “techy” column to those related to the AIDC industry. We have covered technologies like bar code and RFID; we have discussed standards and the Internet of things.

The responses to the columns have varied from nothing (well OK, not everything is going to need a response) to both agreement and disagreement (none of it too violent). As we start a new year, it is your chance to let me know what you want us to cover. No guarantees, but we will try to give you the info you are looking for. Send your input to me or to the editor and we will review your ideas.

Last month we talked about the Internet of Things. I am still interested in hearing about your opinions as to where traditional AIDC ends and the IOT begins. I think the line is very blurry, but maybe you have some ideas that provide better definition.

On the standards front, we continue to see updates and changes. The work on the SC 31 committees can be summarized as follows:



Steve Halliday,  
president, High  
Tech Aid.

**WG1**

ISO/IEC 16480 Reading and display of ORM by mobile devices

ISO/IEC OCR Quality Testing

ISO/IEC 18004 QR Code revision to an existing standard

**WG4**

ISO/IEC 18047-2 Test methods for air interface communications below 135 kHz

published

ISO/IEC 20017 Electromagnetic interference impact of ISO/IEC 18000 interrogator emitters on implantable pacemakers and implantable cardioverter defibrillators published

ISO/IEC 18000- 6, 61, 62, 63, 64 860 – 960 MHz air interface all at DIS ballot closing in February 2012

ISO/IEC 18000-63 860 – 960 MHz air interface – Type C, re-opened to incorporate security techniques

ISO/IEC 18000-7 433 MHz air interface CD ballot has closed

ISO/IEC 15961-1 Data protocol: application interface sent to FDIS ballot

ISO/IEC 15962 data encoding rules and logical memory functions sent to FDIS ballot

ISO/IEC 24791-2 Data Management published

ISO/IEC 24791-5 Device Interface sent to FDIS

**WG5**

ISO/IEC 24730-1 2nd Edition Real time locating systems (RTLS) — Part 1: Application programming interface (API) revision started

**WG7**

ISO/IEC 29167-10, -11, -12 and -13 have been approved as work items for crypto suite standardization

Is your company keeping up with the rapid changes in international standards that relate to AIDC? Are you aware of how the Internet of Things will affect your business? **High Tech Aid** can provide detailed, customized reporting, monitoring and meeting attendance for your company needs. Email [steve@hightechaid.com](mailto:steve@hightechaid.com) for more information. **SCAN**

**To our subscribers: We are in the early stages of creating a new blog for sharing information on emerging trends in the AIDC sector. Feel free to check it out and leave comments. <http://scanthedatacapturereport.blogspot.com/>**

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