



INTRODUCTION

Welcome to the UID Quarterly Winter 2011 Edition, brought to you by A2B Tracking Solutions as an educational service. We think you will find a great deal of practical and useful information here. Read each article carefully and then pass along the Quarterly to a friend or colleague who could benefit from reading it.

What you'll find in this issue:

UID Success: Learn how the US Air Force is utilizing a seek and apply part marking strategy, not only to satisfy UID requirements for legacy equipment, but to cleanse the data in its equipment database.

UID SUCCESS

Air Force IUID Part Marking

A2B achieves "lift off" for enterprise-wide seek and apply marking

Air Force has been a frontrunner in the rollout of IUID since it was introduced in 2003. A2B is proud to have been a significant partner in the AF rollout, first in 2008 with the award of the EBS (Enterprise Barcode Service) contract and later in 2010 with the award and implementation of the IUID Part Marking contract. The former requires the manufacture and delivery of IUID labels to USAF bases worldwide – some 10 million over five years. The latter requires the fielding of part marking teams who physically label parts at all USAF bases – 221 in all.

This case study not only tells the story of what AF is doing to mark legacy items, it also serves as a template for the marking and registering of legacy and government furnished property (GFP) in any large enterprise.

Make no mistake, enterprise-wide seek and apply part marking involves a great deal more than someone slapping a label on an item. That person must know which label to use, which part to label, how to prepare the part for marking, which label material to use and how to position the label. The data management challenges faced in large enterprises – to capture, cleanse, verify and register serialized item data should not be underestimated. The first step is to develop a methodology that is consistent with IUID data management best practices.

Coordination and consistency - keys to success

In our work with the Air Force, A2B has developed a multi-layered approach that involves worldwide coordination, intensive training, a precise process for project management, field support and no small amount of diplomacy and creative problem solving.



Bar code History: Fifty years ago, May 1961 to be exact, the first bar code scanner was installed and tested on the Boston & Maine RR. This project marked the dawn of the bar code industry and forever changed the economic landscape. Read a first-hand account by the man who headed that project

UID Education: Check out the upcoming IUID and Track & Trace web seminar dates presented by David Collins of Data Capture Institute.

News From A2B Tracking: Read all the latest from A2B.

The AF part marking effort began as a pilot in 2009 when A2B was tasked with marking a single base - MacDill AFB. That effort ran concurrently with an AF "organic" part marking effort at five other locations. Using AF personnel, they wanted to compare a contractor part marking approach to an approach of enlisting their own equipment custodians. After recognizing that their "organic" effort wasn't going to achieve the required results, AF expanded the pilot effort to 29 bases. The methodical approach to marking, which A2B has painstakingly developed, grew out of the earliest experiences. "We sat in many hotel rooms drawing up plans," says Field Operations Manager John Jay Mouligne. "The plan evolved as we saw what really worked out on base. Now we feel we are a well oiled machine and have contingency plans in place for when things don't go as they should." Part Marking Program Manager Mark Freydl and Mouligne were the principle marking team and process designers.



Having worked side by side with AIT PMO since the first contractor part marking pilot project at MacDill AFB, A2B has played a central role in the development of the Air Force's approach to contractor part marking. Coordination continues with staffing, both within the continental United States (CONUS) and outside the continental US (OCONUS). A2B enjoys access to qualified labor pools, ensuring that the part marking services have a global reach, including in-theater such as Iraq and Afghanistan. A2B also makes every effort to hire military veterans and disabled veterans whenever possible. "This is a great way for people with military experience to be trained in a management role that they can use going forward," says Freydl.

Fielding teams around the world has its challenges. Early in the process, A2B utilized a large amount of feedback from its existing teams as

to optimal team compositions, leadership to subordinate ratios, and capacity to handle fluctuations in the schedule. Elements such as these are incorporated into a detailed hiring package, which guides the team fielding process. Refinement of this process is ongoing, with A2B making modifications and additions to the team structure as needed. For example, Matt Corso, a former Coast Guard Operations Specialist, was recently moved into a newly created Field Supervisor role with the ramp-up of concurrent bases in the marking process.



Team structure

Both A2B leadership and field personnel work closely with military representatives from each base, to schedule and coordinate the efforts of the part marking teams. The assistance and cooperation of the base personnel plays a crucial role in planning and is extremely important to the marking team outcome.

When asked about his greatest challenge in the field Corso didn't hesitate, "Without a doubt it's managing personalities and communication," he says. "That's understandable when you think about it. We arrive on a base and require that all these people work together: equipment custodians, various squadrons, and the Air Force AIT program office, not to mention personnel in secure environments. Things can get territorial. We are sometimes seen as auditors. The good news is that we're there to fix problems, to improve the system, and people are starting to get that."

Training and support the keys to marking success

A2B has developed a steady plan to effectively train and support field personnel. A centralized train the trainer conference is the starting point for team support in the field. Additional measures include direct interface with the A2B Field Operations Manager (FOM), interconnectivity between teams, web-based training materials, an in-house help desk, and access to other partners round out that support. "The implementation of this training and support component was designed, from the ground up, for scalability," says Freydl, "and it has proven effective in the smooth transition we have experienced on the most recent project in which our scope is up to 221 bases."

A2B has also developed robust visibility of key performance indicators, specific to part marking, that can tell where a project stands and predict where it is headed. Coupled with this oversight "Surge Strategies" have been developed for adjusting to unforeseen changes, midstream in a project. "Surge Strategies" are a series of measures that range from increased velocity to adding of technicians.

A precision process for every base

In addition to the requirement of properly marking parts and cleansing data, the motivation to develop a precise, repeatable process for each marking site was efficiency. "The business of part marking can be straightforward when done correctly, but it becomes very problematic and expensive when done incorrectly," says Freydl.

A typical marking process looks like this: Having already coordinated with base personnel, the CPML (certified part marking leader) meets his team at the base visitor's center where they are greeted by the EAE. This individual is usually designated to work closely with the team and is responsible, in large measure, for a successful marking deployment.

The first day is given over to base orientation, usually a base tour and a safety brief covering everything from on-base traffic laws to proper ear protection around the flight line. At overseas bases, this brief will include important customs and expectations while off base.

Once the team is settled into their workspace, usually a free desk in the Logistics Readiness Squadron (LRS) offices, the CPML will take inventory of the pre-shipped marking equipment (handheld computers, laptop, labels and marking kits). The first task is to sync their handheld terminals with the account database, and the team heads out to mark the account. The team is not expected to hit their prescribed quota of items marked on day one.

Once the team has established a daily rhythm with the EAE, marking progresses smoothly. The CPML arrives early to sync the handhelds. Depending on what kind of accounts are on the day's schedule, the CPML and the scheduler will confer as to how the team should be distributed. For example, with weapons accounts it is usually more efficient to send two people with one handheld.

Depending on how the team is progressing through the base, the CPML will either be marking with the team or out performing quality assurance checks on accounts already marked. This is a major part of the CPML's job, continuously ensuring that the team is performing their job to both IUID and A2B quality standards.

Part marking and data cleansing act, in part, as an inventory process for each equipment account. As a result A2B has gained many keen insights into the nature of issues faced by LRS and its equipment custodians. When discrepancies are found between the database and the actual parts, A2B's team must inspect the data for each asset, which often turns into a detective process with the following two steps: first, locating certain information that may be missing from the equipment database and second, dissecting and taking proper action on information presented by the equipment custodian's tracking software.

"You'll be standing in front of something that is described as a 'scooter' and you are picturing a childhood scooter," says Corso. "About 99% of the time that 'scooter' turns out to be a Humvee or some other huge vehicle. When that happens, the other data on that vehicle usually doesn't match either. That's when we have to go into detective mode to clean up the data."

Once the team has completed marking at a base, the CPML and the EAE do a "walk-around" to perform spot checks. This is to ensure that labels have adhered properly and that the data harvested is accurate. Finally, the LRS office issues a sign-off document that the job is complete, and the team moves on to their next base to start all over.

And the result is...

With nearly one million Class VII Assets – major end items - marked to date, the Air Force leadership role in IUID compliance is beginning to pay off. Even seasoned military men like Matt Corso see it that way. "In the long run this is going to save taxpayers money," he says. "A lot of the AF data that is fed to us needs to be brought up to date. Our job is to clean up that data to help everyone from the warfighter to the top brass get what they need."

BAR CODE HISTORY

Fifty years ago, in May 1961 to be exact, the KarTrak scanner, developed by Sylvania/GTE, was installed and tested on the Boston & Maine RR. This project marked the dawn of the bar code industry and forever changed the economic landscape. Although the large multi-colored bar codes used on over 1.5 million railcars have long since passed out of use, the progression of bar code adoption grew steadily from that date.

The birth of bar code is sometimes traced to retail and the adoption of the UPC code in 1973, but by then bar code was being used in manufacturing, warehousing and distribution, mass transit and sea container control. The rollout of new applications continues to this day, the latest push being a Department of Defense mandate requiring unique serialized item identification (UID) of its assets worldwide.



A2B Chairman David Collins, who is often referred to as the "father of the bar code industry," was KarTrak project manager back in 1961. His career, in the intervening fifty years, has been devoted to the design of control systems for bar code data collection in virtually every industry segment, in every corner of the globe. Today there are estimated to be three billion bar code scans per day. Bar code is the backbone of commerce in 150 countries, and it continues to evolve to new

apps such as Smartphone links to the internet for admission to sports and entertainment events.

We are proud to present below his first-hand account of that fateful test when bar code scanning became more than a dream.

KarTrak - The First Bar Code Scanner

David Jarrett Collins

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Technical Challenge

Let's look at the problem KarTrak set out to solve. As far back as 1889, a U. S. patent disclosure stated that: "The object (of this invention) is to take the initials and numbers as the cars pass certain points...to form accurate information of the whereabouts of the cars..."

The proposed solution put forward then was mechanical and didn't work. I arrived at Sylvania in the fall of 1959, just out of MIT, to work at their Electronic Systems Division on Route 128 outside of Boston. The management of this division planned to introduce a large-scale (IBM 709-size) commercial computer developed as a spin-off of an Army contract to deliver a "hardened" field computer. Since there

John Jay Mouligne agrees. "We're definitely improving the systems, and as a result AF can more effectively redistribute its assets," he says. "The attitude has switched from 'buy a new one' to 'let's improve the visibility of our inventories so we can use what we've got.' It's a big shift. AF personnel seem to recognize and appreciate what IUID is doing."

was no known market niche for another IBM-sized computer, I suggested our new computer be paired with a system of scanners to read and report on the lost railroad car problem described in the 1889 patent. As an undergrad engineering student, I had worked several summers for the Pennsylvania Railroad, and knew that "lost" railcars were a problem still unsolved. Sylvania management tossed me the ball to manage this scanner development.

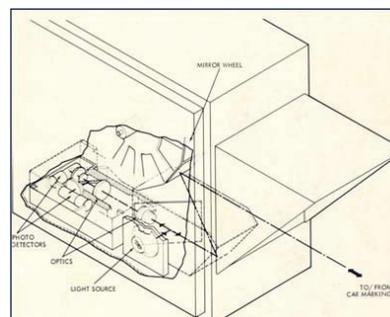


Sylvania's Applied Research Lab staff of 150 advanced degree scientists and engineers represented the pool of resources I could tap for this project. Initially, all practical paths for active and passive "pattern" recognition were explored within the lab, but by the end of 1960, light transmission was selected as the medium for label/scanner development. From this time until the end of the project, 3M Company teamed with Sylvania to coordinate on label technology.

Railroad Cooperation

Starting in December of 1959 and for the following seven years, meetings were held with a cooperative group of railroaders representing their data processing, operations, communications and car accounting disciplines. Many necessary scanner specs were produced including:

- » Low label cost (about one dollar)
- » Ability to scan railcars at zero to sixty miles per hour
- » Seven year label replacement cycle
- » Scan height at trackside of nine feet for flat car, sea container and piggyback traffic
- » Operation in remote unattended locations (and to be rifle resistant in hunting areas)



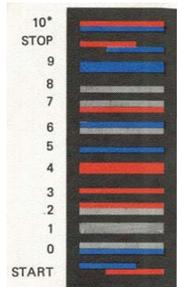
Cutaway Diagram of Scanner

Our initial KarTrak scanner was installed in 1961 on the Boston & Maine RR at a location where passenger trains and a captive gravel train would pass. The "captive" reference is important because most freight cars circulate freely around North America, and to conduct tests and

demonstrations the labeled cars would have to operate within a constrained area.

KarTrak Business Model

Funding for KarTrak was continually a problem. In several marketing studies we conducted in 1961 and later, the case was made for a U. S. rail market of the order of \$25 million for scanners, and about double that size when including transit systems, trucks and sea containers. To equate this to 2010 dollars you can multiply by about ten, or \$500 million today. "Captive" railcars would be only 10% of the market and open rail system applications represented the larger 90% of the market. This larger market was available only after the rail association adopted KarTrak labels as an interchange requirement. A change to railcar interchange rules was a rare event and occurred only a few times in a century. Meanwhile about ten other companies had jumped into the car identification battle, each claiming they had a better technology solution.



Code was color based, but incorporates black and white.

To deal with this competitive threat, we determined to sell KarTrak to every captive rail fleet worldwide, shutting out other competitive systems. From 1963 -1966 over 50,000 cars were labeled and scanned by KarTrak to the exclusion of all competitors. This revenue helped enormously to fund further product refinement.

Even with this market lead, the railroads were reluctant to vote KarTrak universal rail approval because competitors kept promising that "next year" they would have their elusive product breakthrough. To counter this death-by-delay, we established the Sylvania Rail Data Corporation, announced with a full page Wall Street Journal ad promising three billion dollars in rail savings when adopted. The proposed plan was simultaneously delivered to the top twenty railroad presidents, who collectively owned 75% of the railcars. The plan promised that Sylvania would immediately label all rail cars and

provide leased scanners anywhere, once railroads owning half the total cars had collectively joined the plan, with a subscription cost of \$10 per car. Scanner revenue would be based on car-passing rates, at one to seven cents per incident.

This plan had immediate industry appeal, but several large railroads were concerned about loss of control of their data. So in an emergency session, the Association of American Railroads called for a test of all



Wall Street Journal ad announcing Rail Data plan

scan technologies put forward by potential suppliers. The test was conducted in 1966 - 1967 and KarTrak won this contest by a landslide. In late-1967, KarTrak was named the mandatory car identification system of North America. One million five hundred thousand railcars were labeled, and about a thousand scanners installed during the next ten years. Transit systems including BART in San Francisco and the Washington Metro adopted this technology, along with the U. S. Postal trucking, many toll roads and the sea container industry.

Postscript

I left Sylvania in 1968 to found Computer Identics Corp. (CI), teaming with Chris Kapsambelis who had made major engineering achievements while working on KarTrak. Our immediate focus at CI was to develop the next generation of scanners for use in small item identification. In 1971 CI installed the first commercial laser based barcode scanner at Buick Motors. This scanner read black and white barcodes and issued hourly production reports. The barcode industry grew from there, as CI and later companies expanded applications of this exciting technology.

UID EDUCATIONAL WEB SEMINARS



In our quest to provide ongoing education to those who are implementing UID and RFID we offer the following seminar series:

IUID Web Seminars from Data Capture Institute

David Collins, President of Data Capture Institute, has been engaged by A2B to present a series of IUID Web Seminars as a non-commercial, educational service to those who are required to implement IUID.

David is considered by many to be the "father of the bar code industry" having led the original bar code project, KarTrack, for Sylvania in the early 1960s and later, in 1968, founding Computer Identics Corp, the first company to design and manufacture commercial bar code scanners. Over the years Collins and his team have overseen thousands

of bar code installations around the world. He is author of the popular 1992 book, "Using Bar Code - Why It's Taken Over" and is a frequent keynote speaker and automatic data collection seminar presenter. As a member of the UID integrated product team (IPT) he is uniquely qualified to respond to the questions and concerns of companies of all sizes, including large, multi-national enterprises as they grapple with UID implementation.

Upcoming UID Web Seminar Dates

(Presented each day at 2:00 Eastern)

Tuesday, March 8

Tuesday, March 22

Tuesday, April 26

Tuesday, May 10

To register for any of these dates, email pchasse@a2btracking.com or click on this link: http://www.uidsolutions.com/webinar_signup.aspx

NEWS FROM A2B TRACKING:

Partner Excellence Award for 2010 goes to Trotec Laser, Inc.



Congratulations Trotec!

A2B Tracking is pleased to announce that Trotec Laser, Inc. has been chosen by our employees to receive the prestigious Partner Excellence Award for 2010. This award is made annually to a business partner who personifies excellence in delivering UID products to the user community.

Trotec Laser, Inc., of Ypsilanti, MI is backed by a team of engineers and support specialists who offer extensive laser application expertise along with exceptional customer care. A2B began working with Trotec to supply lasers for Air Force UID label manufacturing in 2008. A2B has also utilized Trotec lasers when supplying Marine Corps UID marking carts as well as in systems to UID Comply!® and UC! Web™ customers.

Latest Press Releases

UID Tracking Solutions to Host Users Breakfast at UID Forum

Portsmouth, RI (February 8, 2011) - A2B Tracking Solutions will host its third UID Comply!® and UC! Web™ User Meeting at a breakfast during the UID Forum, on March 3, at the Hilton Orlando, in Orlando, FL. Open to both existing and prospective users of A2B's UID compliance software and services, the meeting will feature members of the A2B team who will provide new product information. (more)

A2B Tracking Solutions Taps Trotec Laser for Partner Excellence Award

PORTSMOUTH, RI (February 5, 2011) -A2B Tracking Solutions Inc, the leading enterprise software and services provider in support of the US

"In the course of working with Trotec we have come to appreciate their professionalism and the depth of their technical knowledge along with the quality of their products. They have played a significant role in our ability to meet the label production demands of the Air Force EBS and other contracts," said Collins. "We feel they are an excellent partner in every sense of the word."

A2B Travels

UID Tracking Solutions to Host Users Breakfast at UID Forum



March 3, 2011 / 7:00 – 8:30 AM / Hilton Orlando

Reserve your spot now: pchasse@a2btracking.com



We look forward to seeing many of you at the UID Forum - **Booth # 201.**

Department of Defense UID (MIL STD 130) program has named Trotec Laser, Inc. to receive the prestigious Partner Excellence Award for 2010. The award is made annually to a business partner who personifies excellence in delivering UID products to the user community. (more)

A2B Support of Air Force UID Rollout in Europe Highlighted

PORTSMOUTH, RI (January 11, 2010) - Aviano Air Base in Italy is the first USAFE (US Air Force Europe) base to undertake full scale UID part marking. The UID team, consisting of four A2B marking technicians assisted by military personnel, has nearly completed the task of marking 13,515 pieces of equipment at Aviano. (more)