

Technology Brief: IT Asset Management

Striving to Achieve 100% Data Accuracy: The Challenge for Next Generation Asset Management

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Co-authored by:

Thomas Watson President & Co-Founder, AMI John Fulton Senior Principal Product Manager, CA

Asset Management International 1008 Western Ave., Suite 503 Seattle, WA 98104 (877) 297-7618



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## **EXECUTIVE SUMMARY**

## CHALLENGE

The Next Generation Asset Manager (NGAM) must maintain a 95% or greater accuracy of asset data with a shrinking budget and increasingly limited resources along with escalating visibility, pressure, and expectations of executive management. Asset data is a key component of overall company financial reporting and is the foundation for Service Management. Without accurate asset information, asset management reporting is unreliable, exposing your company to unnecessary risk including the failure of your overall ITAM and Service Management programs due to lack of support as those involved from the technician to executive management lose confidence in both the information and program.

## **OPPORTUNITY**

By merging "best of breed" data collection technologies with best practice asset management processes, and integrating these components with your enterprise asset repository, Asset Management professionals can achieve 95% asset data accuracy or greater with existing staff and budgets. Moving your organization away from reliance on static, historical data to a more dynamic model gives your IT organization more complete, current and accurate asset data at a lower cost to the enterprise, which in turn increases the confidence necessary to maintain ITAM and Service Management programs.

#### BENEFITS

Leveraging CA IT Asset Manager, AMI AssetTrack and the AssetTrack CA Integration Library, you can capture asset information as it changes, helping you to maintain a more complete, current and accurate picture of your IT asset data, in a more efficient and cost- effective way throughout the entire lifecycle to help you:

- Increase information accuracy
- Reduce costs by minimizing redundant, tedious, error-pronework.
- Improve decision making by producing more complete, current and accurate reports.



## SECTION 1: CHALLENGE

## "The Challenge: To Achieve & Maintain 95-100% Accuracy in your IT Asset Data"

## THE IMPORTANCE OF IT ASSET DATA

The importance of governance over IT organizations is becoming more critical. IT organizations will require detailed information about their IT assets in order to manage costs, maintain compliance while delivering improved service levels. The need for integration with governance tools to provide granular information to improve executive decisions can't be underestimated.

The transition to Next Generation Asset Management can be characterized as moving from "What do I have?" to "What insight can ITAM provide to improve IT business decisions?" Clearly, organizations must first get their hands around what they do own, so naturally implementing a solid asset tracking process is a required first step towards building the Next Generation Asset Management and Service Management program.

Any asset management program must start with accurate and detailed baseline information about owned assets, including the exact number of existing assets, the current value, location and maintenance history. This information is essential for properly planning, procuring and deploying assets while maintaining cost control.

- Lease/Warranty tracking You cannot manage returns/compliance with contracts without knowing where everything is.
- Vendor Selection

Knowing which hardware costs us the most requires not just knowing the initial costs but the costs of supporting the assets in production, meaning tracking of assets and service requests is required.

#### Compliance Audits

You can't tell internal/external audit what we have if we don't know.

Budgeting

You can't accurately budget technology refreshes without knowing what you have, what's coming off warranty or service contract coverage to determine what needs to be replaced.



## A RAPIDLY CHANGING ENVIRONMENT

In any IT organization of any significant size, there is a tremendous amount of movement of IT assets. Assets are received, imaged, deployed, moved and disposed on a daily basis. Keeping up with all the changes and maintaining your asset database has traditionally taken a lot of effort, and many organizations find it so difficult that they forego daily asset tracking in lieu of expensive baseline inventories every few years.

## THE PAIN OF PAPER OR SPREADSHEET ASSET TRACKING

Manual tracking with pen and clipboard, or even spreadsheets is time consuming and highly error-prone. Organizations can typically expect a 10% error rate in manual data entry do to typing and transcribing errors. Errors with critical asset identification information such as asset tag and/or serial number are the most common and the most costly. Improper tracking of identification information loses you the ability to track individual assets through the lifecycle.

Furthermore, most organizations do not have the resources to assign a large team of people dedicated to the task of maintaining asset data in a manual way. Typically asset management responsibilities are spread across personnel with other responsibilities, and it is not generally considered a full-time task. But, without automatic data capture tools, it is a full-time job.

## CALCULATING THE COST OF MANUAL RECEIVING OF ASSETS:

The following algorithm can be used to calculate the costs of receiving assets which is only one of your numerous asset tracking tasks. Similar calculations can be created to measure the costs of other asset tracking processes throughout the asset lifecycle.

## ((X \* (MR+ME)) + ((X \* E) \* MF)) \* L = Total Cost of Manual Receiving

#### Where

- X = Number of assets to receive
- MR = Minutes to record each asset serial number, model number and PO ME = Minutes to manually transpose the written data into the database E = Percentage of errors caused by misread or incorrectly keyed data
- MF = Minutes to fix errors
- L = Fully burdened hourly rate of your personnel

*Example:* Customer X takes 5 minutes to record each asset serial number, model number and PO number on a clipboard. Customer takes 3 minutes per record to key the database into the database. Customer estimates 10% error rate in keying in data. Revisiting the location to find the error records takes 15 minutes per asset (locate actual asset, find erroneous record in database and update). The hourly rate for fully burdened labor is \$30. Given the above, the cost of receiving 1000 assets is \$5,000.



#### The Limitations of Discovery Data

Discovery systems are great at automating some of your asset tracking, but miss 20-30% of your assets, far beneath the 95% minimum requirement. Reasons why auto-discovery systems alone are not effective:

- Inability to track received assets
- Inability to track assets in the warehouse or in transit
- Inability to track non-networked assets
- Inability to track assets with failing discovery agents or network adapters
- Inability track authorized assets
- Inability to track additional ownership information including warranties, contracts, costs, and cost centers.

Auto discovery provides essential data for supporting IT assets, but cannot provide a complete picture on its own.

#### The Lack of Integration and Accessibility

Asset information is important for many lines of business, including accounting, help desk, IT, internal audit, security, and facilities. Not only must asset information be maintained at a high degree of accuracy, it must be readily accessible to the entire organization.



## SECTION 2:

## THE ASSET LIFECYCLE

When developing asset tracking solutions, the first place to start is to define the various stages through which assets move as they are procured, received, used and eventually disposed by your organization. We call this the "Asset Lifecycle." By defining your asset lifecycle, you can see the transitions that take place for a given asset. These transitions are where you need to put in processes to update your asset repository. We've often heard these transitions called "Catch Points."

## THE ASSET LIFECYLE DIAGRAM

The following diagram shows the typical asset lifecycle process for large organizations:



## ITAM Lifecycle Process

The items in the diagram above are different statuses activities that change the status of an asset. In the above diagram, an asset starts its life as an initial Request and moves through various lifecycle stages until the asset is eventually Disposed.

It is important to map the asset lifecycle specifically for your organization, by customizing the diagram you see above. There may be fewer or more activities based on the types of assets you're tracking and the way your organization does business. You should be able to define all the steps that affect asset information.



#### LIFECYCLE STAGES DEFINED

The following list describes each of the stages as defined by AMI. As we get further into building asset tracking solutions together, I will be using these definitions to explain how the solutions should work.

Request	When a request for a new asset is made. Typically, a request should be created and tracked so the asset, when procured and received, can be quickly delivered to the requestor.
Procurement	The actual cutting of a PO to a vendor. This results in On Order assets in the repository, as those which have been ordered but have not yet been received from the vendor.
Receiving	An asset is Received once your receiving personnel take possession of the asset. An asset may be received when it is first shipped from a vendor, or if it is returned from a remote employee. Received assets can then be stored in the warehouse or forwarded to the Staging/Configuration department for installation to an end user.
Distribution	Distribution is the sending of assets to warehouse or stockroom locations as available for use. Stored assets are usable assets in a stock location. Fulfillment coordinators should check for Stored assets to determine what assets are available to fulfill new equipment requests.
Assignment	Assignment is the process of installing an asset and assigning responsibility for it. Installed assets are asset currently deployed to end-users and in use.
Move/Add/Change	This is when assets are moved or reassigned. Results in asset records being updated in the database.
Repair	In Repair assets are those that have been returned to a vendor for repair, and are expected to be returned to your company.
Retired	Retired assets are assets that are no longer of use to your company but have not yet been properly disposed. Retired assets are still in the possession of your company and may be retained for a certain period to keep employee data while a new asset is used. Retired assets must be properly disposed before the assets are taken off the books.
Disposed	A Disposed asset is one that has been (or at least should have been) officially wiped of data, transferred to a disposal company and the disposal company has provided an official certificate of disposal. Once an asset is Disposed, it may be removed from the fixed asset and taxable property registers. The asset record remains in the asset repository for reporting purposes.



## RECEIVING

When assets show up at the door you need to establish a process for registering the new assets into your database and to show that they have been received. This is incredibly important for reconciling invoices, identifying duplicated shipments and streamlining the deployment process to ensure compliance with service levels.

The process you design must be easy and accurate to provide as minimal interruption to daily work as possible. Using AssetTrack mobile devices is essential to ensuring the receiving process is fast and accurate. Without such a tool, your receiving personnel can capture a large number of erroneous asset records, or could altogether fail to comply with the receiving process.

#### Vendor Advanced Shipping Notices

When possible, get your vendors to send advanced notices of equipment on order and import those notices into your asset database. This enables you to pre-load your CA IT Asset Manager repository and AssetTrack mobile devices with asset information before the equipment arrives. Doing so reduces the amount of data the needs to be collected at receiving time, reduces the chance for data entry error and alerts you to exceptions during the receiving process.

At a minimum, vendor ASNs should include the following data for each asset:

- Model number
- Serial number
- PO number
- Cost
- Lease or Warranty End date

## Vendor Applied Asset Tags

Most hardware vendors provide asset tagging services for a fee, so that asset information shows up pre-tagged. Asset tag information can then be included in the ASN feed, so that your repository can be pre-loaded with asset tag information. Using vendor-applied tags reduces the burden of managing tagging yourself, plus enables the vendor to pre-match asset tag information with discoverable asset tag values in the BIOS or repository.

## Barcode Data Capture At The Receiving Dock

Physically scanning assets that arrive enables real-time reporting of receiving information, provides invoice reconciliation capability and other benefits. Physical data capture is a requirement to complement autodiscovery data for non-discoverable assets, and using barcode-enabled mobile devices is required technology to make physical data capture feasible and accurate.



#### RECEIVING ASSETS WORKFLOW

To receive assets when they arrive at the dock:

1. First, group the assets by purchase order.

2. Next subdivide the assets in each order by model. For example, take all the Dell Latitude D610 laptops from a single PO and put them together. The assets in each group should be the same model number. This will make it easier for you to scan the assets with your mobile computer.



3. If you have fed purchasing data to your receiving system, choose or scan the PO number barcode from the list.

4. Next, enter the receiving location for the assets into the mobile computer. You should only have to do this once. The location information should remain on the form as you move through each group. If you are using a product like AssetTrack, scan the appropriate receiving location barcode from your Scan Sheet. Use location codes to quickly scan in location information.

5. If you are not using ASNs, scan or enter the PO number for this shipment. Capturing the PO number is essential for invoice reconciliation. If you have an ASN import process working, your PO information should already be in your repository.

6. Then, start with the first model group in this and select the manufacturer and model number for that group into the mobile computer. If you are using AssetTrack, you can simply scan the model barcode from your Scan Sheet. You have to do this only once per model group.

7. Now that you've selected the model for your first group, use the mobile device to scan the serial numbers of each of the asset in that group. As you scan each serial number, assets should be added to the received asset list on the mobile computer with the right technology.



8. When finished with the first group, move to the next model. Change the manufacturer and model information, and then proceed with scanning each of the serial numbers in the next group. Repeat this step for each of the remaining groups.

Once you've finished scanning all the assets, send the receiving data to your asset manager for processing. We recommend using a system that allows data collectors to upload the data from their mobile devices to the server directly. We also recommend using a system with an upload queue so asset managers can review the scanned data before applying the changes to your database.



#### INSTALLATION

When installing assets into production use, it is important to update the repository with the new location, user and, if asset tags are applied during the imaging process, the tag information.

#### Auto-Discovery System Agent

Imaging is the process of preparing an asset for production deployment. This is the point at which you can ensure your device is physically tagged and also properly enrolled into your auto-discovery system.

- Include an auto-discovery agent in your standard image.
- Ensure that tag information is properly registered in the device bios.

Implement auto-discovery to track assets on the wire. Integrate with ASN and Barcode data by serial number, providing a complete picture of asset data. By combining auto-discovery with physical discovery, you can identify and isolate issues with auto-discovery, finding assets which should be discoverable but aren't.

#### **Physical Asset Tag Placement**

Some companies choose the receiving process as the time to affix asset tags. The issue with affixing tags at the receiving dock is that you must open boxes which are often shipped in shrink-wrapped pallets. When performing an installation, technicians are typically working with individual assets, imaging the machine, installing auto-discovery agent and configuring the asset for production use. Since the technician is working on an individual asset, the installation process is the perfect place to affix asset tags in a location accessible for performing audits.

When affixing tags, consider the position of the tag when the asset is in use, and ensure the tag is in an accessible location. Use the table below as a guideline.

Desktop	Tag Placement: For desktops, place the tag on the top-front of the case.
Laptop	<b>Tag Placement:</b> Place tags on the backside of the LCD, near the front of the laptop so the tag can be scanned when the laptop is docked.
Server	<b>Tag Placement:</b> Place tags on the front of the unit accessible when you open the door of your data center racks.
Montior	Tag Placement: Place tags on the front or top of the monitor so you can scan it from the front.



## BARCODE DATA CAPTURE DURING INSTALLATION

During installation, use a barcode scanner to update asset information that is changed by the installation process. This includes location, contact and lifecycle status at a minimum. Use a system that doesn't require you to re-capture static asset information like model number, serial number, purchasing information, etc. that should have be captured via the ASN or Receiving process.

#### Installation Workflow

To update the repository during installation:

1. Affix a new asset tag to the asset in an accessible location.

2. Start a new install process on your AssetTrack mobile device.

3. Enter the destination location of the asset, the site or building at a minimum and the floor and room of the asset if known.

4. Choose the user from the employee list to which the asset is to be assigned.

5. Select the appropriate lifecycle status representing deployed assets. This is typically "Active" for CA IT Asset Manager but may be customized for your organization.

6. Scan the serial number of the asset to identify the asset in the repository. Undetected serial numbers scanned will alert the data collector that additional asset data is needed, at which point you will capture the model information to create the new asset.

7. Scan the asset tag to update the asset with the newly applied tag.

#### AUDIT

No matter how effective your asset tracking solution, assets will be moved without anyone updating the database. Users will simply grab the LCD monitor off the desk of coworkers that has left. Technicians will take equipment from the warehouse and install it without notifying asset management. Equipment will be disposed without anyone recording the changes. Equipment will be stolen.

From time to time you should audit your database to ensure its accuracy. Auditing your environment helps you to identify the health of your asset tracking process and identify where things are breaking down. Performing audits also provides a way to "true-up" your database, ensuring accuracy by updating the database with current information collected during the audit.

#### Audit Scope And Schedule

AMI recommends a rolling audit process where a portion of your environment is audited on a regular cycle. The cycle and scope of your audits will be based on the size of your organization and staff levels. However, a good starting place is to perform a monthly audit of 1/12th of your asset environment. In other words, slice your environment into twelve pieces, and audit one piece every month and don't repeat a piece until all pieces are done. This ensures your entire asset environment is audited each year.



This audit schedule is wildly over-simplified here. You will have to look at your environment, staff level and available tools to determine your rolling audit schedule. But if you can establish a schedule that ensures your entire environment is swept, you will be ensured that assets that have fallen through the cracks will be picked up and returned to their proper place in your asset database.

#### Audit Process

Follow this process to audit a portion of your environment.

#### **Collecting Audit Data**

When performing an audit, you really only care about certain pieces of data in your asset database. These are the location, assigned user, the lifecycle status and (optionally) cost center. These fields are the dynamic fields that change throughout the life of an asset. Other fields such as manufacturer, model, serial, PO number, cost, etc. never change. We call these static fields; fields that should never change in value unless you are correcting an initial data entry error.

When performing an audit, you will have your data collection team visit a site and capture the location, assigned user and status information for each asset, which necessary for the audit.

**Note:** When collecting audit data you don't need to capture information such as model, manufacturer and serial number for assets unless the asset is not currently in the database. In order to know whether this data needs to be collected, you need mobile device software that can alert the data collector when an unknown asset tag is scanned. Check with your tool vendor to determine if this feature is supported.

#### **Comparing Audit Data**

When finished collecting data for the audit, upload the data to a central location. Once the audit data is collected, it can then be compared to the repository for generating accuracy statistics.

**Note:** AMI recommends the use of an asset tracking tool that allows you to easily collect and review data collected by your entire audit team for use in generating accuracy reports.

Use a reporting tool or programming interface to compare your collected audit data with the data in the repository. Some accuracy reports that will help you measure your asset tracking processes include:

- Location Accuracy Percentage: What percentage of your audited assets have the correct location information?
- User Accuracy Percentage
- Cost Center Accuracy Percentage
- **Detailed List of Assets with Non-matching Data:** Of the audited assets that don't match the data in the repository, produce a list of the asset details.



There are many tools you can use to generate these reports. Microsoft Excel and Access both provide facilities to quickly generate reports based on collected asset data.

## Applying Audit Data

Once the audit reports have been generated and saved, you should apply the collected data to your database to "true-up" the data. Your asset tracking system should provide the means to apply collected audit data after audit reports have been generated. After applying your audit data, all assets included in the audit will be updated with the latest information.

#### DISPOSAL

Tracking the disposal of assets is one of the most important stages in your asset tracking process. Removal of equipment from your possession is key to reducing property tax and insurance liabilities by getting assets off your books, as well as ensuring compliance with e-waste and data destruction policies mandated by the government.

#### **Disposal Workflow**

To properly dispose assets:

- 1. Collect the assets to be disposed.
- 2. Destroy data using a DOD compliant process.

3. Using your mobile device, select a Disposed lifecycle status which indicates the assets are no longer in your possession.

4. Scan each of the asset tags of the assets that are disposed. Any undetected asset tags scanned should alert the data collector that additional asset data is needed.



## **SECTION 3:**

## **COMPLETE, CURRENT AND ACCURATE ASSET INFORMATION**

## MINIMIZE TIME SPENT CAPTURING DATA AND FIXING ERRORS

Automated data capture (ADC) technologies such as barcode or RFID scanners cut the time to capture data by an order of magnitude, and increase data accuracy enormously. Integrated solutions like AMI's AssetTrack takes ADC to a new level by eliminating all manual data entry, using ADC technologies not just to scan asset tags, but locations, model numbers, organizations and even custom data defined by your organization.

## EASILY INTEGRATE AND EXPOSE PHYSICAL AUDIT AND DISCOVERY DATA

CA IT Asset Manager and AMI AssetTrack join asset information by serial number and are designed to provide an "inside the box and outside the box" picture of IT assets, and expose that information in a unified master database (the MDB). The CA IT Asset Manager provides a web-based user interface accessible by the entire enterprise as well as a rich web services API designed to facilitate integrations with other line-of-business systems.

Auto-Discovery information collected via the network is connected to physical audit data captured by your mobile device scanners. The combination of data sources helps provide a holistic view of your assets as well as audit sources to identify assets that are not properly detected on the network or scanned during physical audit.

## TRACK DISCOVERABLE AND NON-DISCOVERABLE ASSETS ALIKE

Multiple integrated data capture technologies are required to track assets through the entire lifecycle. AssetTrack mobile barcode scanners are designed to enable receiving and warehouse tracking before CA auto-discovery can detect assets on the wire. And, of course, non-discoverable assets such as monitors, copiers, and other non-IT equipment benefit from physical audit tools like AssetTrack. With integrated barcode and auto-discovery technology, you can better know what you have on-hand and where, regardless of the asset location or status.

In addition, AssetTrack mobile barcode scanners are designed to help you to compare multiple data sources together to audit effectiveness of each. For example, you can report on all physically scanned computers assets which are not reported by auto-discovery and vice versa. This will identify exceptions in your data and processes so you can better resolve them.



#### AUDIT RESULTS

Just because you say your data is 95% accurate, doesn't mean it is. You can't manage what you can't measure. You must expose the inner-workings of your asset management program for your business owners to believe your data. You must convince them you have designed a fool-proof asset management system that has the controls in place to identify and resolve breakdowns. Only then will your business owners believe you when you say you have the 95% accuracy demanded of Next Generation Asset Managers. Once that is achieved, you will have the executive buy-in you need to expand into other areas of asset management.

## REPEATABLE AND AUDITABLE PROCESSES

Train your people on processes that are easy to follow and monitor. Regularly audit your asset tracking processes to ensure compliance and identify areas of weakness to fine tune your asset tracking processes over time.

## **SECTION 4:**

# CONCLUSIONS

No single asset tracking technology is capable of capturing the 95% accuracy you need. You must implement multiple technologies and solid processes in a concerted, integrated way. CA's IT Asset Manager along with AMI's AssetTrack offers an integrated out-of-the-box solution designed to provide the tools and flexibility needed to achieve 95% accuracy.

Many business units benefit from accurate asset data. It can be used by Service Desk/Help Desk people, AP/AR accounting people, others in procurement, part of the compliance and internal audit process. But before other business units will hop aboard the ship, they must trust its seaworthiness. Building a solid technology platform with repeatable, transparent and auditable processes will convey the confidence they need.

Once you've achieved this confidence, the numbers become a real part of the equation. They become relevant. The Next Generation Asset Manager becomes part of the team that reports real numbers, and doesn't remain in the group whose snapshots are from last quarter or last year.



SECTION 5:

# **ABOUT THE AUTHORS**

## Tom Watson

Thomas Watson is the President and Co-founder of AMI in Seattle, WA. AMI offers asset tracking software and solutions to enterprise and small-to-midsize (SMB) organizations, as well as comprehensive ITIL solutions integrated with the CA, HP, and Provance platforms. Watson has been working in IT asset tracking software space for ten years and has developed line-of-business software applications for seventeen.

Tom holds a Bachelor of Arts degree from the University of Washington.

For more information, you can contact him directly at tom.watson@amitracks.com

#### John Fulton

John is an established industry veteran with over 15 years of experience in the information technology sector. He has served in numerous roles in the industry, including principal Senior Consultant and Architect for CA's National IT Asset Management Practice. In his current role as Senior Principal Product Manager, John is responsible for the product direction of CA's IT Asset Manager solution.

John holds a BS in Economics from Pennsylvania State University. His certifications include ITIL Foundation Certification, IA ITAM Certified Software Asset Manager (CSAM), and Pragmatic Marketing<sup>®</sup> certification in Product Management.

To learn more about AMI and CA's IT Asset Management solutions, visit us at amitracks.com/ca

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