



Federal, State, Provincial and Local Government Agencies: Improving asset visibility and maintenance with the Motorola MC3100 mobile computer

Challenge: paper-based processes result in a lack of asset visibility and under utilization of assets

Federal, state, provincial and local government agencies need to track and maintain visibility into the disposition of literally millions of assets — from weapons, parts, tools and IT assets such as laptops and servers to office equipment, plumbing, heating and other facilities infrastructure as well as supplies for military bases moving through the chain of distribution. Challenges include the diversity of the asset pool and the physical location of the assets. Different types of assets require the collection of different sets of information, which translates into the need for many different types of forms. And manual paper-based processes add time and cost, requiring personnel to:

- Travel to the asset location, which could be inside an administrative office or elsewhere on a base
- Complete different types of paperwork at the asset location
- Return to the office or base
- Enter the information into the computer and file the paperwork

The result is a very inefficient and error-prone process. Paper forms insert wasted time into the process, requiring the 'triple touch' of data — information is first handwritten onto a form, transcribed and then subsequently entered into a computer. The opportunity for data errors is high — numbers can be inadvertently transposed when a serial number is handwritten, illegible handwriting can easily be misinterpreted and keying errors can occur during data entry into the computer. The cost of errors in the asset tracking function cannot be overstated. Lost evidence can mean the difference between an innocent and guilty verdict. A lost laptop can threaten national security. And in the military, if a tank and its associated equipment and weapons are not visible and serviced in the required time interval, it could fail on the battlefield, affecting the safety of service personnel.

The solution: an automated mobile asset tracking solution

Mobility can greatly improve the efficiency and accuracy of asset management by extending the tools of the desktop and more to the point of work, all in one easy-to-use handheld mobile computer. In addition to accessing the applications that reside on agency servers, workers also have the advanced data capture capabilities required to automate data collection, allowing workers to act as efficiently as possible, right at the point of activity.

BENEFITS

- Eliminates paper forms — and the high cost of the time required to handwrite, translate and key information into the computer
- Reduces errors by eliminating the triple touch of information
- Captures and instantly transmits data into the appropriate computer systems, providing real-time asset visibility
- Reduces total cost of ownership for the asset pool by ensuring proper maintenance and repair are performed on time
- Enables the double and triple checks required in warehouse and distribution centers to ensure proper inventory levels are maintained at all times — and that the right materials are shipped to the right locations at the right time
- Enables compliance with FASAB and GASB accounting laws — without adding process, people or cost
- Reduces costs — less labor is required to manage the asset pool; proper tax reporting prevents overpayment of taxes; elimination of paperwork eliminates the cost of forms, filing cabinets and the space required to house the filing cabinets

Paper processes are replaced by electronic forms that can be heavily automated with drop down menus, check boxes and the ability to simply scan a bar code on the asset label to autofill fields with available information. And an electronic audit trail allows agencies to see who performed tasks. The results are:

- Real-time asset visibility through accurate accounting of assets
- Increased productivity — without adding staff
- Elimination of costly mistakes

Mobile asset management applications for government administrative agencies

In military and civil agencies, regardless of what you need to track, Motorola's mobile asset tracking solutions add value with the power to not only streamline and error-proof the management of virtually any type of asset, but also to provide the real-time visibility required to improve asset utilization, the return on asset and asset total cost of ownership (TCO).

Administrative office supplies and equipment

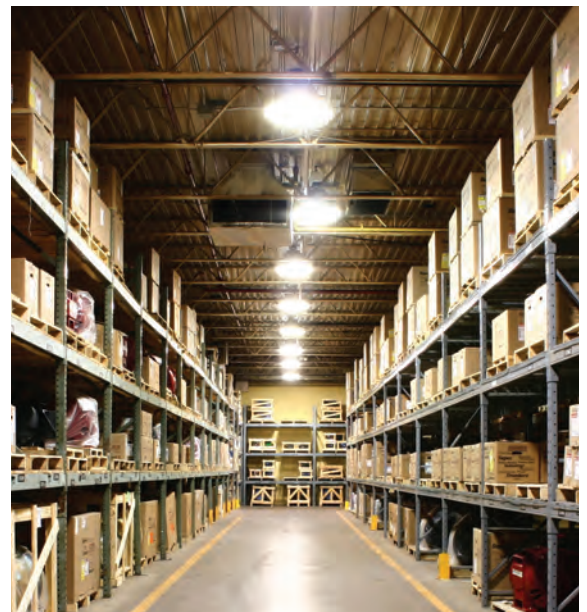
With a mobile computer in hand, maintaining an accurate inventory of the many general office-related assets is as simple as scanning a bar code. Whether you are tracking desks, copiers, two-way radios, cell phones, laptop computers, office supplies, or parts and tools in the stockroom, agencies enjoy the cost-efficiency required to enable more frequent inventories — and better asset visibility. Asset utilization is increased — agencies can quickly and easily spot available assets. Stocking levels can be reduced, minimizing inventory carrying costs and capital expenses. Accountability is increased, reducing loss and theft.

Warehousing and distribution

A mobile computer helps streamline processes in the warehouses of government administrative agencies as well as in the military distribution supply chain. The gun form factor provides personnel with the tools required to quickly and accurately process incoming and outgoing shipments — as well as all day comfort for users in these scan-intensive environments.

Now, at the receiving dock, a quick scan of the bar code tag on incoming shipments provides instant visibility at the moment of arrival. The shipment is automatically identified and instructions for proper processing sent to the worker's mobile device — such as staging for put-away or cross-docking for immediate shipment. If the shipment is damaged, the ability to snap a crisp photo provides indisputable proof of condition. If the shipment is slated for storage at the distribution point, granular instructions for put-away are sent to the MC3100, including the exact put-away location and the fastest path to that shelf — ideal in the expansive warehouses that are typical in large military distribution chains. At the storage location, a quick scan of the shelf tag and the shipment verifies that the right materials are about to be placed on the right shelf, eliminating misplaced inventory and erroneous out-of-stocks.

In distribution chains, electronic pick orders are sent to the MC3100, eliminating the need for paper pick lists. Each item is scanned as it is selected, verifying that the right item is picked. In addition, inventory



Warehousing and Distribution

The MC3100 Series gun form factor is ideal in warehouses and distribution centers, providing personnel with comfortable all-day scanning and the tools required to quickly and accurately process incoming and outgoing shipments. Warehouse throughput is improved and real-time asset visibility ensures timely delivery of the right materials to the right place, at the right time.

can be automatically adjusted with each pick, providing the real-time inventory visibility required to eliminate costly out-of-stocks. In shipping, bar code scanning provides an additional valuable cross check, ensuring that the items in the shipment, the shipping address and the method of shipment are correct.

The result is the efficiency, accuracy and real-time asset visibility required to improve warehouse throughput and ensure timely delivery of the right assets to any agency warehouse or military base, anywhere in the world.

Facilities management

In campus-style civil agencies and large military bases, a multitude of assets must be tracked — from supplies, road maintenance equipment and street signs to plumbing, cooling and heating systems. Managing this complex pool of assets requires many different types of forms to collect different sets of required data. A handheld mobile computer streamlines and simplifies the tracking of such a diverse pool of assets. A quick scan of an asset can instantly present the right electronic asset tracking form. A scan of a bar code can automatically auto-fill available information into the appropriate form — from the last maintenance date to the complete maintenance history. And since the integrated 2D imager allows the capture of photographs, asset records can easily be supplemented with a photo that documents asset condition, helping ensure prompt scheduling of any required maintenance.

IT assets

A handheld computer with scanning capabilities allows personnel to scan bar codes on servers, hard drives, media tapes and more to access critical asset information, take inventory or to document an IT asset as it moves through a checkpoint. Personnel conducting inventory can also scan their own badge, improving accountability. And at checkpoints, the ability to scan the badge of the person carrying an IT asset enables the automatic creation of a highly accurate and complete chain of custody, helping ensure the security of the sensitive data that may reside on that asset.

Evidence tracking

As evidence moves in and out of the evidence locker, a triple scan provides a rich audit trail that helps prevent loss and improve accountability. In just seconds, personnel can scan the bar code on the evidence bag, their own badge and the badge of the person who is checking the evidence in or out of the evidence locker. The result is the highly accurate real-time information required to help agencies maintain visibility into the chain of custody for this mission critical asset.



The features of the MC3100 enable tracking of a wide variety of IT assets. High performance 1D and 2D scanning capabilities allow government agencies to place information rich bar code labels on IT assets to better track and maintain crucial IT assets, such as servers, hard drives and media tapes. At checkpoints, the badge of a person carrying an IT asset can also be scanned, providing a highly accurate and cost-effective audit trail that helps improve accountability.

Fleet tracking

Government administrative and military agencies are responsible for tracking many different types of vehicle fleets, including:

- Forklifts, clamp trucks and other material handling equipment (MHEs) in warehouses and distribution centers
- Trucks and tanks in a repair depot or out on the field
- Containers on the loading dock
- Planes and helicopters in the airfield
- Ships in a port

A quick scan of the direct part mark (DPM) or other bar code can provide tracking information as well as a complete history for that asset — including maintenance and repair. For example, if a vehicle has been damaged, workers can snap a quick photograph, append it to the asset record and submit a request for emergency repair, providing the information supervisors need to properly prioritize work orders and dispatch the right technician for the job. In addition, a forklift driver can scan the DPM mark on the machinery as well as the bar code on his or her badge, allowing the agency to rapidly locate the forklift if needed.

The benefits of mobile asset management

Mobile asset management provides many benefits for government administrative agencies:

Reduced costs

Asset inventory can now be taken in record time. The decrease in labor requirements reduces the cost of inventorying assets. In addition, real-time asset visibility ensures proper reporting of asset depreciation, preventing inadvertent underpayment or overpayment of taxes.

Improved productivity through automated collection of asset management data

The elimination of paper-based forms provides personnel with more time to complete more mission critical tasks per day — precious time is no longer wasted on administrative paperwork.

Fewer errors

The elimination of the need to handwrite and re-enter handwritten information into a computer also eliminates the opportunity for costly errors, improving data integrity.



Fleet Tracking

From local agencies tracking snowplows and streetsweepers to military agencies tracking trucks and tanks, the MC3100 allows personnel to scan a bar code to access maintenance history in seconds, providing real-time asset location and ensuring that maintenance is performed on time, every time.

Reduction of paperwork

The ability to substantially reduce paperwork eliminates all the associated costs — from the time required to complete, process and file paperwork to the filing cabinets and the space required to store the paperwork.

Identification and re-deployment of excess equipment

When purchase requests are received for additional assets, real-time global visibility of the entire asset base enables the identification of any unused assets that might be available at other locations. Asset utilization is maximized, while capital expenses are reduced.

Automatic identification of lost and missing assets

Instant identification of a lost or missing asset enables agencies to maintain and assign accountability, reducing the opportunity for loss and protecting capital investments.

Automatic identification of assets to be retired/replaced

Identification of assets that have reached their useful and intended lifecycle enables prompt retirement and replacement, preventing the liability and risk associated with unplanned asset failure — from a laptop computer to a helicopter.

Reduced total cost of ownership

The ability to integrate the asset management mobility solution with maintenance and inspection applications ensures that assets are properly scheduled for inspection and maintenance — and that maintenance is promptly and accurately performed. As a result, assets receive the right level of care at the right time — extending asset lifecycle and reducing asset TCO.

Cost-effective regulatory compliance

The automated capture of required information enables agencies to achieve cost-effective compliance with state, local and federal government administrative agency accounting laws (FASAB and GASB) — without adding process, people or cost.

The enabling technology: the Motorola MC3100 Series

In order to enable mobile asset management in government agencies, a mobile computer needs to offer:

- 802.11a/b/g support for easy and instant connectivity to virtually any wireless LAN, providing workers with convenient anytime, anywhere access to needed information

- The rugged design required for use inside the enterprise walls and in outdoor spaces
- The security features required to meet the high standards for sensitive government data — including FIPS 140-2 enhanced security to protect information that is collected, stored and transmitted to and from mobile devices
- The ability to provide desktop like application performance
- High performance scanning for easy capture of bar codes

The Motorola MC3100 Series offers all these features and more, providing an easy-to-use secure tool that can help government agencies cost-effectively improve the efficiency and accuracy of the asset management process. A choice of three models (straight-shooter, gun and turret), two operating systems (Microsoft Windows Mobile 6.X Classic or Windows CE 6.0 Pro) and three keypads (numeric telephony, shifted alpha, or alpha-numeric) allows agencies to select the model that will best meet the needs of IT and users. And in addition, the MC3100 incorporates several Motorola Mobility Architecture eXtensions (MAX) — a set of Motorola unique features designed to maximize the value of Motorola mobile computers by driving ease-of-use, ease-of-management, flexibility, modularity and lifecycle to new heights.

The Motorola MC3100 Series



Six different models allow government agencies to mix and match devices to best meet the needs of different applications. The gun provides all day comfort for scan intensive activities. The straight-shooter is ideal for standard scanning applications. The turret provides the flexibility to adjust the scanning position, improving user comfort. All three models offer a choice of operating systems. Microsoft Windows Mobile 6.X Classic provides users with a familiar and intuitive interface that significantly reduces training time, while Windows CE 6.0 Pro provides a robust programming environment to support the development of rich custom applications.

Features include:

Motorola MAX *Rugged* — built for indoor and outdoor use

Assets are located throughout your facilities — from materials in the warehouse aisles and shipments on the loading dock to IT assets in the data center and vehicles out in the yard. Motorola MAX *Rugged*, Motorola's signature rugged design, ensures dependable performance wherever your assets are located. The MC3100 is built to survive the dust and grease in the warehouse, the extreme temperatures, rain and snow outside on the loading dock or out on the tarmac, and inevitable drops inside or outside the four walls.

The device passes Motorola's stringent impact tests, able to withstand a 4 ft./1.2 m drop to concrete anywhere in the operating temperature range, as well as 500 1.64 ft./0.5m tumbles — the equivalent of 1,000 consecutive drops. In addition, IP54 sealing protects the device from exposure to dust and liquids, allowing the frequent wipedowns required in certain environments, such as hospitals and warehouses.

In addition to the ability to survive physical impacts and environmental exposure, the keypad is designed to endure the substantial amount of data entry that is typical in asset management. The extremely durable Polycarbonate Insert Mold Decorated (IMD) keypad greatly improves keypad durability by eliminating the ability to dislodge an individual key. In addition, the key graphics are printed underneath the polycarbonate layer, preventing the wear that is common in heavy key-based applications.

Motorola MAX *Secure* — certified for use in government operations

The MC3100 series provides the security features required for use in Federal government applications, including:

- Federal Information Processing Standard (FIPS) 140-2 certification, providing an enhanced level of security for information that is collected, stored and transferred
- Support for 2-factor authentication to ensure that only the right users can access the data on the device and on your network — for example, the ability to scan a bar code on a security badge in addition to requiring a password

- The high performance processor required to perform the large exponent calculations utilized in PKI public key operations as well as digital signing and other private key operations
- Validated third party security applications that further enhance security, such as Virtual Private Networks (VPNs), provided through the Motorola Solution Center
- Compatibility with Motorola's Mobility Services Platform (MSP), enabling centralized management of security policies to ensure around the clock compliance — regardless of devices are local or halfway around the world

Motorola Mobility Platform Architecture (MPA) 2.0 — next generation architecture for next generation performance

When you choose the MC3100 Series, you get advanced processing power and the memory architecture required to support virtually any application — including rich asset management applications that include asset photos. Add a large 3.0 inch high resolution color display (320x320) that provides a 30 percent greater resolution than standard QVGA displays as well as the ability to dynamically switch between portrait and landscape modes, and you have a device that offers the screen real estate your staff needs to easily view any application — including video and multimedia applications.

Motorola MAX *Data Capture*: Comprehensive and best-in-class advanced data capture options

No matter what type of bar codes you need to capture, you can count on superior performance. Choose the Motorola SE950 1D laser scanner or SE4500 1D/2D imager. The SE950 enables rapid and accurate capture of all 1D symbologies — including damaged and poor quality bar codes common in warehouses and distribution centers. And the patented Liquid Polymer scan element eliminates friction and wear for superior durability and reliability.

If your agency data is more diverse, the SE4500 imager enables the capture of 1D and 2D bar codes as well as still images, documents and the direct part marks (DPMs) common on vehicles, weapons and other equipment that is exposed to the elements. But while typical imagers provide the flexibility to capture both 1D and 2D bar codes at the cost of 1D bar code performance, the revolutionary SE4500 redefines imaging technology. There is no need to sacrifice laser scanning speed to deploy 2D capability — Motorola's SE4500 delivers equally stunning performance on both 1D and 2D bar codes.

**Motorola MAX Sensor:
Interactive Sensor Technology (IST) —
enterprise-class motion sensing**

The MC3100 Series offers an integrated accelerometer that starts where typical consumer-style accelerometer integration ends, allowing agencies to achieve real business value from motion sensing technology. Right out of the box, the device supports dynamic screen orientation, allowing users to choose the orientation that best suits their preference. An array of power management features offers real value, working to conserve power whenever the device is not in use. For example, the MC3100 can be configured to enter power-saving mode when movement has not been detected in a defined period or when the device is placed screen-side down. In addition, the ability to access and integrate accelerometer data into customized applications allows agencies to more fully leverage the value of motion sensing technology — especially valuable for workers in remote areas of expansive campus-style environments. For example, if a device has not moved in a pre-determined period of time or sustains a substantial fall, an alert can be sent to a supervisor, enabling the rapid detection and response to potential emergency situations.

**The MC3100 Series —
the right return on investment
(ROI) for budget conscious
government agencies**

The MC3100 offers a unique combination of benefits that deliver the superior return on investment (ROI) and total cost of ownership (TCO) that budget conscious government agencies need to help justify this mobility expense.

- The rugged specifications expand device lifecycle, eliminating the more frequent replacement required for consumer style devices.

- Superior flexibility further maximizes device utilization and lifecycle. Keypads can be swapped to better accommodate an updated or new application. And the ability to swap operating systems (between Microsoft Windows Mobile 6.X Classic and Microsoft CE 6.0 Pro) enables the device to accommodate a future OS migration.
- Compatibility with Motorola's Mobility Services Platform (MSP) provides the comprehensive centralized management capabilities required to enable IT to stage, provision, monitor and troubleshoot all MC3100 mobile computers — regardless of where in the world they are located. As a result, one of the largest costs associated with any mobility deployment is minimized — the day-to-day management of the mobile devices.
- Since Motorola mobile computers are built on a common technology platform, existing applications developed for the MC3000 and other Motorola mobile computers can be rapidly ported to the MC3100, reducing deployment time and costs while improving the ROI for existing applications.
- Repair costs are contained and reduced with Motorola's Service from the Start with Comprehensive Coverage support program. This exceptional service is truly comprehensive, providing technical software support as well as end-to-end protection for your device. Normal wear and tear, internal and external components damaged through accidental breakage and select accessories that ship together with the MC3100 are all covered — at no additional charge.

Last, the MC3100 is backward compatible with the MC3000 accessories, including cradles, magnetic stripe readers, holsters and cables. Government agencies that currently utilize the Motorola MC3000 Series can cost-effectively upgrade to the next generation technology without requiring the purchase of all new accessories, effectively protecting and reducing the TCO of existing mobility investments.

For more information on how you can put the MC3100 to work in your government agency, access our global contact directory at motorola.com/enterprisemobility/contactus or visit motorola.com/mc3100

About Motorola: end-to-end mobility solutions for deployment simplicity and success

Every day, organizations of all sizes all over the world count on Motorola Enterprise Mobility Solutions to maximize personnel effectiveness, improve services, and increase revenue potential. When you choose Motorola for your mobility solution, you get the peace of mind that comes with choosing an industry leader as your technology partner. Motorola offers the proven expertise and technology you need to achieve maximum value and a fast return on investment — as well as first hand experience in virtually every size organization in nearly every major industry. And our end-to-end solutions offer the simplicity of a single accountable source — regardless of the number of vendors involved.

Our comprehensive product offering includes: rugged and enterprise class mobile computers with extensive advanced data capture and wireless communications options; rugged two-way radios for always on voice communications; private wide area and local area wireless network infrastructure enables robust real-time wireless connectivity indoors and outdoors in a campus-style facility — as well as between multiple locations; comprehensive RFID infrastructure offering fixed, mobile and handheld RFID readers; a partner channel delivering best-in class applications and rapid deployment with minimal business disruption; software solutions that enable centralized and remote management of every aspect of your mobility solution; and a complete range of pre-and post-deployment services to help get and keep your mobility solution up and running at peak performance every day of the year.

For more information on how your federal, state, municipal or local government agency can benefit from Motorola's mobility solutions, please visit www.motorola.com



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