Maximo Asset Management 7.6

The Ultimate Guide to Inventory

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Hello Friends!

My name is Jesse Warby, owner of Warby CMMS Solutions. My goal, as stated in my company moto, is to help you harness the full power of your Maintenance Management Software.

To that end, I've written this document with the intent of explaining and expounding on all topics related to the various applications in Maximo's *Inventory* module, from the basic (creating new inventory items) to the complex (using item assembly structures to create rotating asset hierarchies) to the impossible (figuring out why your cat prefers the hard floor to that expensive cat bed you purchased).

The applications in the *Inventory* module are where you'll deal with items, tools, and service codes. You'll do things like track quantities, perform issuances and transfers, carry out physical inventories, check out tools, organize service codes, find fulfillment in your personal relationships, save endangered species, de-nuclearize North Korea (actual results may vary), and more.

The document is divided into three parts.

- **Concepts**, where you'll find explanations of various inventory-related topics.
- **Processes**, which will step you through all the processes mentioned in the first section.
- **Index/Glossary** – I put these two together, so you can look up definitions and also know immediately where to find more details.

I've organized this so that it works for different kinds of readers. If you're looking for a full tutorial (and you don't have ADHD), feel free to read it from beginning to end. If there's a process you need help with or a concept that you're not clear on, you can jump straight to that section as well. If you find yourself stuck at an awkward dinner with your in-laws, you can pull it out and spark a lively conversation about inventory costing methods or commodity groups.

Lastly, a few quick notes on conventions

- I've added callouts for **NOTES**, **TIPS**, and **ALERTS/WARNINGS**. These contain commentary based on experience – things you won't find in regular "user manuals".
- In the 'Processes' section, I've marked required or recommended fields with an asterisk (*). Note that I included "recommended", because not all these fields are actually required by Maximo.

I hope you (and your wife's relatives) find it useful, and maybe even enjoy some of it! Remember that feedback or suggestions are always welcome!

Cheers!

-Jesse Warby, PMP

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Concepts

Applications in the Inventory Module

- **Item Master** – the full list of all inventory items available to storerooms across all sites. Think of this as an item catalog. It's a list of items that are available, but it doesn't represent the items themselves. Therefore, you won't find stuff like quantities or stock locations in the *Item Master* application. From this application, you'll select which items you actually want in your storeroom.
- **Inventory** – the items that have been selected for each storeroom. Here you'll find storeroom specific information like stock locations, available quantities, and reorder parameters. This is where you can issue and return items, perform physical inventories, etc.
- **Tools** – similar to the *Item Master* application in that it's more or less a catalog of tools available, but it doesn't tell you which tools are where in the storeroom. It's just a catalog.
- **Stocked Tools** – the equivalent of the *Inventory* application, but for tools. You can come here to find storeroom specific information about tools and to check them out to employees.
- **Service Items** – codes that are used for procuring services. Examples might include "welding", "NERC Contract Services", or "Fabrication".
- **Condition Codes** – establish varied levels of conditions for items and their relative inventory value. For example, two different condition codes might specify that "refurbished" items are worth 60% of the "new" value, and "scrapped" parts are worth only 5%.
- **Inventory Usage** – allows for movement of inventory in bulk transactions instead of one-at-a-time. This could be shipments from one storeroom to another, or issuances of many different parts as a single transaction.
- **Shipment Receiving** – works closely with the *Inventory Usage* application and is only applicable at multi-storeroom facilities where movement between the storerooms must be closely tracked. Items leave one storeroom in the *Inventory Usage* application, and they are received at the other storeroom in the *Shipment Receiving* application. In the meantime, they're considered "in transit".
- **Storerooms** – where you create new storerooms and view certain read-only information relating to them.

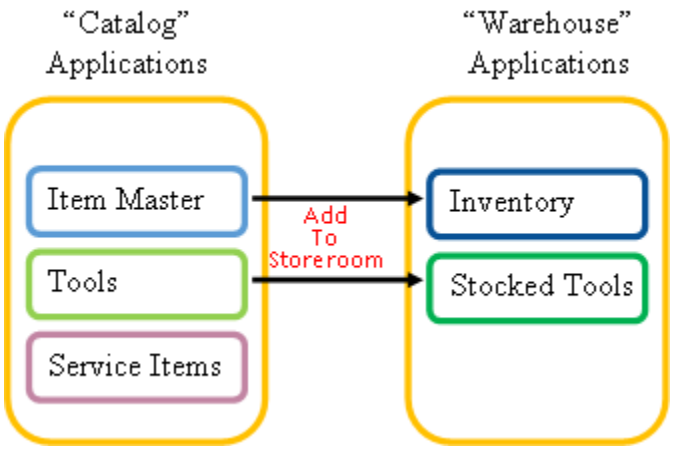
Relationship Between Inventory Applications

To manage inventory, you need to deal with a least two applications.

- **Item Master** – Remember that the *Item Master* application like a catalog. It contains descriptions of stuff, and it tells you who to buy it from and how much it'll cost you. But having a catalog doesn't mean that you actually own all the stuff in it, or even that you intend to. Similarly, just having an item in the *Item Master* application doesn't mean that you actually intend to keep it in your storeroom.
- **Inventory** – If you intend to actually stock an item, then you'll need to add it to the storeroom. Only then will it show up in the *Inventory* application. If you have more than one storeroom, then you can add the same item in one, multiple, or all of them.

Technically, tools and service items are also "items", they're just filtered to show up and be tracked in different applications. But from a user's perspective, they all appear like different things. A tool is created in the *Tools* application, but it is then added to one or more storerooms (just like an inventory item). From there, it can be viewed and managed (purchased, counted, checked out, etc.) in the *Stocked Tools* application. Service items are also a type of item, but there is no equivalent "warehouse" application because service items don't represent a physical object that can be inventoried. Just like items and tools, each service item belongs to an item set.

We could divide the core *Inventory* applications into two groups: the "catalog" applications, which contain definitions only (like the *Item Master* application), and the "warehouse" applications, which contain real, physical stuff (like the *Inventory* application).



Life Cycle and Statuses

The following represents the typical life cycle of an item or tool, showing how it progresses through the various statuses. The life cycle for a service item is similar.

1. An item or tool is created in the *Item Master* or *Tools* application. Depending on the organization setting, the initial status will be PENDING, PLANNING, or ACTIVE.

   PENDING – Items or tools are not available for use or inventory control, except that you may add it to a storeroom with an initial quantity (next step). Pending items/tools are not visible on lookups from other applications.

   PLANNING – Similar to PENDING, except that (a) full inventory control (physical counts, cost changes, and current balance adjustments) and purchase receipts are allowed and (b) items/tools *are* visible from lookups in other applications. Pending items/tools still can't be reserved or issued.

   ACTIVE – Items/tools are fully enabled and available for use.

2. The item/tool is added to the storeroom.
3. If necessary, the status is changed from PENDING to PLANNING, then from PLANNING to ACTIVE.
4. As the item/tool resides in the storeroom, various transactions and storeroom processes take place, such as receipts, issuances, and transfers. The status can be changed back to PENDING or PLANNING at any time.
5. When the item/tool becomes obsolete, the status is changed to PENDOBS (Pending Obsolescence). It can no longer be purchased, but it can still be counted, issued, etc.
6. Something is done to get rid of any current balance that still exists. It is either issued out or adjusted to zero. Alternatively, the status may be changed back to ACTIVE, PENDING, or PLANNING. Obviously, this step does not apply to service items.
7. When the current balance is zero, the item status is changed to OBSOLETE.

WARNING: Once an item's status has been changed to OBSOLETE, it can never be changed back to ACTIVE. So be careful!

NOTE: Both the 'Item Master' and 'Inventory' applications contain statuses for item records. In most cases, you would want the statuses to be the same between these two applications, but there could be some exceptions if you are dealing with multiple sites/storerooms. For example, you might have two combined cycle plants that share an item catalog. Then due to demand changes, one of the plants decommissions its entire steam cycle, leaving only the gas turbine to operate as a simple cycle peaker. Now that plant has no use for any of the items associated with the steam turbine. You would probably change these items' statuses to PENDOBS in the 'Inventory' application for the affected storeroom only, transfer them to the other plant using the 'Inventory Usage' and 'Shipment Receiving' applications, and then change the statuses to OBSOLETE (again, just for the affected storeroom). But you'd leave the status as ACTIVE both in the 'Item Master' application and in the 'Inventory' application for the non-affected storeroom.

TIP: In most cases, it's better to make status changes from the 'Item Master' application instead of the 'Inventory' application. That's because there's a special option in the status-change dialog to roll changes down to all storerooms. That way, you'll only have to make the change once.

Types of Inventory

Different people use different terms, but there are three basic types of items in any system that can be added to purchase orders. Note that the term "Spare Parts" here is used in the commonly accepted sense and doesn't refer to the spare parts feature in the assets/locations Maximo applications.

- **Spare (stocked) Parts** are inventory items that are kept in the warehouse. For these items, you'll keep track of things like bins (stock locations), current balances, vendors, costs, etc. You might even do things like set expiration dates or maintain a separation between new and refurbished quantities. You'll perform physical inventories and issuances. In order to do all this, these items must be placed in a storeroom – that is, they must exist in the *Inventory* application. "Spare parts" is what most people think of when they talk about inventory control.
- **Consumables** are also inventory items, but they are things that you don't track by individual units. For example, earplugs, dust masks, or toilet paper. When a dust mask is taken and used, you don't bother to do a formal issuance. You'll never do a physical inventory of toilet paper, and you won't need to know exactly how many earplugs are in the bin at a given time. Since you don't track the quantities, it follows that Maximo can't do an automatic stock reorder. But at the same time, you still want to have these items registered in Maximo so that you know who to order them from when the time comes, how many you've purchased, how much you've paid for them in the past, etc. Consumables, like all inventory, are created in the *Item Master* application, but are usually never placed in a storeroom and therefor don't exist in the *Inventory* application. Consumables can be listed as planned parts on a work order, causing a PO to be generated.
- **Non-inventory Items** are one-time purchases that you don't want to permanently register in Maximo. These are things like furniture, server equipment, or major assets that you don't intend to purchase again (or at least you don't care about registering with an item number). Because these types of items are never added to any of the inventory applications, they're technically out of scope of this document, but I mention them briefly here because it touches on the topic at hand. Also, understanding this might influence your decisions about creating new items.

NOTE: Consumables don't have to be "little" things. They could also be purchased assets that you don't want to manage in the storeroom (probably because they're not things that you'll ever "issue"). Laptop computers could be a good example. By putting it in the 'Item Master' application, you'll be able to group all purchases of uniforms together so that you can (a) know who to buy them from and how much they should cost and (b) view the history of the item – how many you've purchased, etc. Neither of these could be accomplished as easily using non-inventory items.

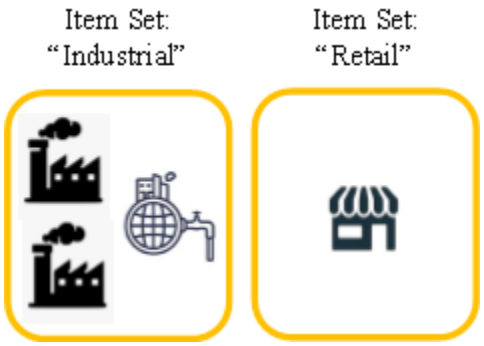
Organizing and Categorizing Inventory

Item Sets and Storerooms

Let's start with item sets. Getting back to the catalog analogy (that the *Item Master* application is like a catalog), let's say that you have a couple different facilities, and that they don't all want to use the same catalog. You could create more than one "catalog" by creating multiple item sets. Each item must belong to an item set, and each of your organizations must have one item set assigned to it. Remember that an organization is a group of one or more sites.

Let's walk through an example of how this would look if it were fully implemented. We'll say that you are configuring Maximo for a large organization that manages two combined-cycle power plants, a desalination plant, and a JCPenney franchise (interesting way to diversify, but I assume that you've got some kind of strategic direction in mind…). You determine that the power and desalination plants have quite a few common inventory items, so you create an item set to store all the items available to these three sites, then you group those three sites under one organization. JCPenney needs its own storeroom to track cleaning supplies, cash register tape, and stuff like that, but they don't want anything to do with the other facilities. You would create one item set for the parts that are of interest to the "industrial" organization, and another item set for the "Retail" organization. When you create an item, you'll need to specify which of the two item sets it should belong to. (It can't belong to both, although you *can* use the same item number in different item sets. In that case, they'd be treated as two separate items.) The next step would be for each site to determine which items (from their associated item set) they will need, and then add to their own storeroom(s).

ALERT: This approach would require the "Retail" item set to be part of a separate organization than the three industrial sites. Even though it works for the purpose at hand, other business rules might make this undesirable. Unfortunately, all sites within an organization must use the same item set.



So, what if your scenario isn't that complicated, like just a single plant with one warehouse? Can't you just skip the *Item Master* application and all the messy business with item sets and just add stuff straight to the *Inventory* application? Unfortunately, no. Because of the way Maximo works, you still need to go through all the hoops. At minimum, every Maximo implementation must have a single item set associated with one site which has one storeroom.

You've probably figured out now that a storeroom is just a warehouse at one of the sites. It's a place where you store inventory. Each storeroom must belong to a site, and one site can have zero, one, or many storerooms. If a site has more than one storeroom, they must all pull their items from the site's item set. In other words, you can't create a storeroom that pulls from another site's item set.

WARNING: It might be tempting to set up multiple storerooms for a site based on physical location. For example, a main storeroom, another one for the tool shed, and a third for those Conex boxes behind the cooling towers. This is a bad practice however, because it complicates reporting and movement of items between each storeroom. It would be better to have a single storeroom for the entire plant and indicate the physical location with a prefix to the bin location (see next section). For example: "MAIN-xxxx", "TOOL-xxxx", and "CNX-xxxx".

When considering the need for multiple storerooms, I recommend that you think about accounting function instead of physical proximity. A few legitimate reasons to create additional storerooms include (a) the inventory is owned by a different entity, (b) the inventory is taxed and/or accounted for differently (i.e. capital spares), and (c) the inventory is for decommissioned equipment and should not be visible to most employees.

Bins and Lots

Within each storeroom, inventory balances are assigned to bins. It's really up to you how to structure your bin codes. Just remember to be consistent. A typical bin code might include the area, row, shelf, and section. For example: MAIN-8-A-36.

Within bins, inventory can be even further split up by lots. A lot refers to a quantity of inventory that has an expiration date. This functionality is frequently used for chemicals.

Commodity Groups and Commodity Codes

Commodity groups associate similar types of items, tools, or service items. For even greater granularity, commodity groups can be broken down into commodity codes.

TIP: There are several sources of standardized commodity codes that can be either accessed for free or purchased. A few examples are UNSPSC and NATO Codification systems.

Classifications and Specifications

Classifications are something that you'll see all over Maximo. You can classify items, assets, work orders, employees, and a whole bunch of other things. To classify something means that you assign it to a group (classification) based on its attributes. For example, you could classify items as valves, pipes, transformers, temperature indicators, etc. You could classify work orders as safety, routine, mechanical, etc.

Classifications can also be hierarchical. For example, you could create a VALVE classification, then divide that classification up into GLOBE, GATE, CHECK, and SOLENOID.

After creating a classification, you can create specifications for each classification. A specification is a piece of information that Maximo asks for each time you use a classification. You might think of this as "nameplate data".

For example, you could create three specifications for all ball valves. Then each time you classify an item as VALVE/BALL, Maximo will show three new fields for you to fill out. POSITIONS would accept a numeric value between 1 and 10, MAXPRESSURE would accept any alphanumeric value, and REMOTELYACTUATED would be a checkbox. If an item is classified as a TI/THERMOCOUPLE, it might have completely different specifications, like MAXVOLTAGE, PRECISION, and COATING. You can designate specifications as required or optional.

You can use as much or little of these features as you'd like. It's perfectly fine to use classifications without specifications.

Unique Types of Items

There are a few special kinds of inventory that have unique behaviors.

Rotating Items

Regular inventory does not distinguish between individual units. If you have 10 of a specific fuel filter, for example, Maximo doesn't know or care which filter is which – it just knows that you have 10 of them. When you use one, it is consumed. Rotating items are different in that each unit has its own individual identity. That's because each unit is actually an asset from the *Assets* application. Instead of consuming by performing an issuance, you would move it into a production location in the plant. Basically, rotating items are assets that are stored temporarily in the storeroom. This is a complex subject, and I've actually written an entire whitepaper on the subject (you can get it on my website).

Capitalized Items

These are items that have been accounted for as assets. Capitalized items are always issued and returned as zero cost, no matter what the inventory cost is.

Consignment Items

Consignment Items are items that are stored on-site but owned by an external vendor. They are purchased through the regular procurement process, but they are not paid for until the items are issued. In other words, you pay the vendor when you use their items, not when you receive them.

Kits

Kits are groups of items that are purchased and/or issued together. For example, you could set up an item called "oil change kit" that includes an oil pan, filter, plug, and the appropriate volume of oil. Each of these items are purchased and stocked separately (and may even be sometimes *used* separately, or as components of other kits).

It's important to understand that, unlike all other items, kits represent only the sum of their parts. They do not have any value on their own. It should make sense then that kits must first be "assembled" before they can be issued.

A typical life cycle of a kit looks like this.

1. An item is created in the *Item Master* application. As part of the creation process, an "item assembly structure" is defined to identify other item numbers that comprise the kit, each with their respective quantities.
2. The Item is added to a storeroom with a quantity of zero. When the Kit item is added, if it contains sub-assembly items that aren't in the storeroom, those items will also be added.
3. Prior to issuance, the kit is assembled, both physically (the parts are gathered from various areas of the storeroom and staged for use) and in Maximo (the quantity on hand for the kit item is incremented while the various quantities for all component items are simultaneously decreased according to the specified quantity in the item assembly structure).
4. The kit is issued just like any other item. The issuance is represented by a single item with a unit cost equal to the total cost of all the kits components. This means that if the kit was issued to a work order, the *Actuals* tab of the *Work Order Tracking* application will not show each of the components as a separate line, but rather one line for the entire kit.

   or

   The kit is not used after all, and it is disassembled. Everything that happened in step 3 is reversed.

TIP: There is a system property (mxe.app.inventor.useSourceBinForInvKitAction, if you're curious) that controls where the component items go when a kit is disassembled. Your Maximo administrator can set this for you. If the property is set to '0', the items go to their own respective default bins, or else to the first bin listed. If the property is set to '1', they are put in the same bin as the kit.

Here are a few more important things to keep in mind about kits.

- When it comes to purchasing, you can either purchase the kit itself or each of the sub-assembly items separately. After purchasing a kit, you can leave it together or disassemble it and distribute the sub-assembly items.
- Sub-assembly items are still regular items in all respects. They can be purchased, counted, transferred, and issued independently. They can even belong to other kits.
- When a kit is assembled, many different inventory transactions could potentially be created. Negative transactions are created for each component included in the kit, and a positive transaction is created for the kit itself. The net value of all these transactions will be zero.
- If you really want to get fancy, you can make one kit part of another kit.

There are also a couple limitations of using kits.

- If a kit is issued, only the entire kit can be returned to the storeroom. You cannot return just a single component that was not used. You would need to return the entire kit, disassemble it, and then issue the components individually. (Yikes, that might take you a while!)
- Rotating, condition-enabled, capitalized, and lotted items cannot be used in kits. However, item assembly structures can be used for rotating items, but for a different purpose. (see the section on *Item Assembly Structures for Assets*.)

Inventory Costs

Costing Methods

In order to properly track your inventory costs, Maximo needs to know exactly how much each unit is worth. There are five different costing methods that can be used for inventory.

Each storeroom tracks inventory costs separately, so if an item is in two storerooms, it probably has a different cost for each one.

NOTE: Although one of the following methods is selected by your administrator as the default for new items, you can select a different cost method for each item as you are adding it to the storeroom.

FIFO (First In, First Out) – Maximo remembers the individual cost of each unit. The oldest cost is used first.

LIFO (Last In, First Out) – Maximo remembers the individual cost of each unit. The newest cost is used first.

Average – Maximo maintains a single value for the item based on the average of the unit values on hand.

Standard – You provide a cost, and Maximo just keeps it. It only changes if you manually change it.

Rotating – Each individual unit has its own value. This option is only (and always) used for rotating items.

The following table illustrates several sequential transactions for a hypothetical item. After each transaction, it shows what the unit cost would be if you were to perform an issuance at that moment, according to each of the main three costing methods (Standard and Rotating methods are excluded).

	TRANSACTION	QTY	UNIT PRICE	NEW QOH	NEXT ISSUANCE UNIT COST		
					FIFO	LIFO	AVG.
1	Item Receipt	10	$ 100	10	$ 100	$ 100	$ 100
2	Item Receipt	10	$ 200	20	$ 100	$ 200	$ 150
3	Issuance	-11		9	$ 200	$ 200	$ 150
4	Item Receipt	10	$ 300	19	$ 200	$ 300	$ 229

Average costing is the most common method, followed by FIFO, LIFO, and Standard.

Condition Codes

These will allow you to adjust the value of inventory based on its condition and a pre-defined percentage associated with that condition. For example, REFURBISHED = 60%, SCRAP = 5%, etc.

Interactions with Work Orders

Issuances and Returns

There are a few different ways to perform issuances. They can be performed from the *Inventory*, *Work Order Tracking*, or *Inventory Usage* applications. The best solution depends on your business processes and responsibilities. A dedicated warehouse administrator will probably find it easiest to perform issuances from the *Inventory* application (and in some cases, the *Inventory Usage* application), but if technicians themselves perform issuances, they might find it easier to do at the same time they make other updates in the *Work Order Tracking* application.

When an item is issued but then not used, it is returned as a separate transaction.

The 'Inventory Usage' Application

The *Inventory Usage* application is a unique beast that serves two purposes.

1. Issue many parts and/or tools simultaneously to different targets (usually work orders).
2. Ship materials from one storeroom to another, where the two storerooms are geographically distant. Using this method, you can track the shipment and receipt of the items. Items are shipped from one storeroom using the *Inventory Usage* application, and they are received in the other storeroom using the *Shipment Receiving* application.

Reservations

Item reservations can be made through the *Work Order Tracking* application, or from the *Inventory* application.

When adding a planned part to a work order, there are three types of reservations.

Hard reservations are time sensitive. They reduce the available quantity of an item.

Soft reservations are less urgent. They don't reduce the available quantity, which means they aren't taken into consideration when determining if the item should be reordered unless you specifically specify to consider soft reservations during the reorder process.

Automatic reservations allow Maximo to determine whether the reservation should be hard or soft. Maximo determines this by assessing the current date plus any required lead time (specified for each item/vendor combination) and the reserve buffer (set by your Maximo system administrator). If these three factors evaluate to a date that is greater than (before) the required date, then the reservation will be set to hard. If not, it will be set to soft.

> *IMPORTANT NOTE: If you want Maximo to automatically change reservations from soft to hard as the required date approaches, you'll need to ask your Maximo system administrator to set it up. Tell them to activate the 'InvReservationResTypeUpdateCronTask' cron task.*

When adding a reservation from the Inventory application, the options are slightly different. You can still select HARD or SOFT, but you won't have access to AUTOMATIC, and you'll also see

two other options: APHARD and APSOFT. Reservations of these ones that were set to AUTOMATIC, then determined by Maximo. When using these reservation types, the thing to remember is that Maximo may change either APHARD or APSOFT as they are reassessed, but HARD and SOFT will not be changed.

Interactions with Purchasing

Purchasing Items, Tools, and Services

Obviously one of the main reasons we create items in Maximo is so that they can be purchased. That doesn't mean that all purchased items must be received into the storeroom and tracked with your spare parts. Yes, that's the most common scenario, but you can also receive items directly to a work order, bypassing the storeroom. You can also have items in the storeroom with no bin location, which would indicate that you don't intend to monitor and control them. These would probably be consumables, like general-purpose light bulbs or boxes of cheap rags.

Tools can also be purchased and received into the storeroom. Also service items, although they can't be received to the storeroom for obvious reasons – service items must be received to GL debit account (in most cases, also to a work order).

Automatic Reordering

Items in the storeroom can be set up with a reorder point. When the available balance reaches this reorder point, it will be flagged for replenishment.

Depending on your procurement approval policy, your Maximo system administrator will configure Maximo to generate reorders as either requisitions or purchase orders, and then either automatically approve them or not. They can also set Maximo to automatically run the reorder process according to a defined schedule. Just keep in mind that if you automate it completely, you'll lose the chance to preview reorders first.

One purchase document (requisition or PO) will be created for each vendor included in the reorder.

The equation which flags items for reorder takes into account any open requisitions or purchase orders that haven't been received, any hard reservations, and any expired lots. (It's actually more complicated than that, taking into account projected lead times and so forth, but the definition I just gave you should be good enough for a general understanding). For all items, one vendor should be specified as the default, which will be used for reorders.

When you run the reorder, you have the option to preview before generating requisitions or purchase orders. From the preview screen, you'll be able to adjust order quantities or remove them from the batch altogether. (They'll come back next time you reorder, so don't be surprised.)

TIP: If you want to stop reordering an item, just uncheck the 'Reorder' box in in the 'Reorder Details' tab of the Inventory application.

"Direct issue" items and materials are goods required for a work order that are not intended to be pulled from the storeroom. In other words, items that are intended to be received directly from the PO to the work order without going through the storeroom. They are usually found on work plans for work orders, and there is a similar process to generate requisitions/POs for these items. There is also a checkbox on the reorder dialog to simply include these items in the same batch as your stock reorder, if you are OK mixing them together.

Vendors and Contracts

One or more vendor can be associated with items, tools, and service items, each with their own prices, lead times, etc. You can also set up different kinds of price, blanket, and purchase contracts to control specific pricing agreements with a vendor. For information on the differences between these contract types, you can go to my website and download my whitepaper on contracts.

Units of Measure and Conversions

Maximo uses a single list of measure units for many different applications, including inventory.

There are two different fields that you'll see in the Inventory applications that reference these measure units: *Order Unit* and *Issue Unit*. In most cases, they will be the same (and likely just EACH). But there may be instances where an item's order unit and issue unit are different. For instance, you might purchase sample bottles in boxes of 12, but then issue them as individual units. You could set the order unit as BOX and the issue unit as EACH. Then you would create a conversion of 12 between BOX and EACH. Now if you were to purchase a box for $24, Maximo will break up the box to create 12 individual bottles in the storeroom, each with a value of $2.

NOTE: One drawback of the way Maximo deals with conversions is that it wants you to have a single conversion between two given units, even though that conversion might be different from one item to another. How many items come in a box? Well, that depends on what you're buying, of course.

There are two ways to deal with this. The cleanest way is to specify specific items for conversions. In our example, you could create the BOX > EACH conversion three times: once for item '12345' with a conversion rate of 12, and again for item 'ABCDE' with a conversion rate of 15, and once for everything else with a conversion rate of 8 (you'd leave the item number blank). Note that this approach doesn't mean that you need to go specify items for all of your conversions – that would take forever. You only need to specify items where any ambiguity is involved.

The other approach is to create multiple versions of the same unit, appended with the conversion. For example: "BOX-12", "BOX-15", "BOX-8", etc.

WARNING: If you're not careful, you can create a scenario where Maximo doesn't know how to convert an order unit to an issue unit. This can impact stock reorders. If an item reaches its reorder point, it will trigger a reorder. But what if you forgot to create a conversion between the issue unit and the order unit? Maximo has no idea how many you need to order. So then it does something scary – it just skips the item without even alerting you that it's been skipped!

For this reason, it's best to keep things simply by avoiding conversions.

Interactions with Assets / Locations

Spare Parts

Items can be added as spare parts to one or more assets. This will help you when selecting items for a work order, because you'll be able to click the *Select Spare Parts* button and immediately view and select only the parts associated with that asset. Clearly, the bulk of the parts displayed will have nothing to do with the present work order, but it's still is a lot quicker and more convenient than the alternative of searching through the entire inventory list.

TIP: In the 'Item Master' application, there is an important checkbox for each item labeled 'Add as Spare Part?'. If this box is checked, Maximo will automatically add an item as a spare part to an asset whenever that item is used on a work order against the asset. This is very helpful because it builds a spare parts list over time without any extra effort. We highly recommend that you ask your Maximo system administrator to ensure that the default for this field is checked, and that all current items are set as well.

If you're starting from scratch and would like to build a spare parts list based on your inventory usage history, your administrator should be able to help you. That's a pretty simple bit of data surgery.

Meters

Meters are primarily a function of the *Assets* application, but there is an interesting tie-in with inventory as well. You can associate a single meter with an inventory item. Whenever the item is issued to an asset that has the same meter, the meter reading is automatically updated. For example, you could create an asset meter to track the total number of times an oil change has been performed. Each time an oil change kit is issued to the asset, the meter would be incremented.

This configuration only works effectively with continuous meters that take delta readings. That means meters that move continually in one direction instead of up and down and which accept incremental instead of cumulative readings. An example of this type of meter could be 'Total Oil Consumption'. The value will always go up, and each reading will reflect an increment to be added rather than the cumulative total.

Item Assembly Structures

Item assembly structures are usually used to define an inventory kit, but they also have another purpose. They can be used to create location hierarchies or rotating asset hierarchies. Let's say that you use Maximo to manage a fleet of often-rotating vehicles and you want each vehicle to be represented by its own asset. To track maintenance, you want each vehicle asset to have several child assets – motor, transmission, body, breaks, etc. Furthermore, you want these components to be interchangeable and repairable, meaning that they should all be rotating assets. The process of creating each new vehicle in this manner could easily take an hour, and it would be very prone to human error. To facilitate this process, you could create a rotating item with an item assembly structure representing each component off the vehicle. Then you could create a single rotating asset (the vehicle) and apply the item assembly structure to that asset. Maximo will automatically

create all the child assets and associate them properly with the parent asset and with their corresponding rotating items.

The same concept can be applied to create locations, although without all the rotating business (there's no such thing as a "rotating location"). For example, if you use locations in Maximo to track hundreds of identical office spaces, you could create an item assembly structure to represent an office with all its sub-locations (door, window, light fixture, etc.). Then you could apply the item assembly structure when new office locations are created, automatically creating the sub-locations.

Storeroom Control

Various "Balance" Fields

When you open an item in the *Inventory* application, you'll immediately see a whole bunch of different "balances" ("Current Balance", "Available Balance", "Hard Reserved Quantity Not Staged", "Balance Eaten by Goats", etc.). Most of these you probably don't care too much about, but here are the key ones.

Current Balance – the total quantity on the shelf.

Quantity Currently Reserved – the total quantity planned for approved work orders.

Hard Reserved Quantity and **Soft Reserved Quantity** – the total hard and soft reservations.

Quantity Available – the total quantity of items that are not reserved or expired.

Stock Movement

Moving items and/or tools from one place to another, either within the same storeroom or between storerooms, is usually a simple task performed through a single dialog. In some cases, items and tools might be shipped from one facility to another, and you might want to track their departure and receipt. There are two special applications that work together to do this: *Inventory Usage* (for the shipment) and *Shipment Receiving* (for receiving).

Physical Inventories and Cycle Counts

There are two different ways to adjust an inventory balance. We'll start with a typical scenario where you do a full or partial physical count of your inventory, obtain approval of the discrepancies, and then commit the counts to the database. There are a few different fields that come into play, and they can get a bit confusing.

Current Balance – the quantity that Maximo believes is currently in stock.

Physical Count – the quantity that was recently counted.

Reconciled? – a checkbox that indicates whether or not the *Physical Count* field has been changed but not applied. This will make more sense as we walk through the process.

Here is how it all plays out.

1. You pull up a dialog that shows all or part of your inventory list. This dialog has a special field called *Physical Count*. As you count each item, you enter your count into this field. Each time you enter a count, the *Reconciled* box will be unchecked, indicating that the count is not reconciled.
2. (Optional) You print a report to show the pending discrepancies, and you double-check them. If you find that one of your counts was incorrect, you fix it in the *Physical Count* dialog. Once you've verified/corrected your counts, you re-run the report and submit it to your manager for approval.

   NOTE: This is not a report that is included in Maximo. You will need to have it built for you.
3. You reconcile the balances for all the items you counted. When you do this, the *Current Balance* is updated to match the *Physical Count* field, and the *Reconciled* box is checked.

WARNING: You'll want to perform these steps in as quick succession as possible to reduce the time between counting and reconciling. If a receipt or issuance takes place during that delta, it will be overridden by the reconciliation (which was based on the count before the receipt/issuance). Otherwise, take measures to ensure that no other inventory transactions take place until the entire process is finished. This might mean asking issuances to be temporarily recorded on paper and for receipts to be delayed.

If you simply want to change a balance without going through all those hoops, you can simply do a current balance adjustment.

ABC Analysis

ABC Analysis is an inventory concept where items are prioritized, ranked, and grouped according to their YTD consumption and last purchase cost. High-priority and/or high-consumption items are assigned to group 'A', low-priority/low-consumption items into group 'C', and those that fall in the middle are assigned to group 'B'. Management then defines a different count frequency for each group. For example, you might count group 'A' every three months, group 'B' every six month, and group 'C' every year.

You Maximo system administrator can set the thresholds for each group. A typical configuration (and the default in Maximo) assigns the top 30% of inventory to group 'A', the next 30% to group 'B', and the bottom 40% to group 'C'.

To update ABC values, you simply run the 'ABC Analysis' report. That's right, this is one of the only reports in Maximo that makes changes to the underlying data each time it is run.

EOQ Analysis

Economic Order Quantity is the quantity of an item that is economically ideal to order. Ordering in small quantities is inefficient because it results in excessive freight and handling. Conversely, ordering to much of an item at a time may result in excessive holding costs.

EOQ analysis involves running the 'Inventory EOQ Analysis' report to calculate and update the *Economic Order Quantity* field for a set of inventory items. EOQ Analysis seeks to determine the appropriate economic order quantity for items by evaluating the economies of larger orders against the inventory carrying cost. To do that, the calculation considers two values that you'll be asked for when you run the report: an estimated carrying cost (as a percentage of the inventory value) and an estimated ordering cost (as a fixed value).

ROP Analysis

The reorder point for an item is likely a bit higher than the safety stock. This is because it's assumed that there is some lead time involved, and you don't want to fall below the safety stock while you are waiting for replenishment items to arrive.

When you run the 'EOQ Analysis' report, Maximo will consider different variables and set the reorder point accordingly.

Cost Adjustments

You can change the average or standard cost of an item. It is not possible to change LIFO or FIFO costs.

Tools

I don't need to explain to you what a tool is…I hope. But I will go over a few things about how Maximo allows you to control them.

Tools, like items, are part of an item set and can be kept in a storeroom. They can be issued to a work order, or simply checked out to a user.

You can set up tools so that only users with specific qualifications are allowed to use them. Usually these qualifications represent real-life certifications.

Like items, you can establish alternative tools which can be used in case the desired tool is not available.

Service Items

Service Items are codes associated with types of contract labor which will be procured on requisitions and purchase orders. Examples might include WELDING, NERC CONSULTING, JANITORIAL, or even FREIGHT.

On purchase documents, users can specify each service line as 'Service' or 'Standard Service'. If they specify 'Standard Service', they must enter a service item as the item number, whereas specifying 'Service' will allow them to type their own description without using any item number.

It is easy to get in the habit of avoiding standard services because it's quicker to just type the description instead of lookup up the service code, but you'll keep things cleaner if you use service items. If you allow users to simply type their own descriptions for services, they'll inevitably type something slightly different each time. Then when you need to run analysis or reports, you'll run into trouble. The same service might be described as "IT Services", "Network Maintenance", and "Server Configuration", depending on what each person was thinking when they wrote the requisition. Some users will tend more towards abbreviations, and some will probably mizppell stuff. Wouldn't it be nicer if you just standardized on the ITSERV service item?

Like items and tools, service items are associated with an item set and can have one or more available vendor, each with a different cost, lead time, etc.

Administrative Stuff

Organizational Options

In the *Organizations* application, there are several different settings that can be configured for each organization. After opening an organization, these settings are available by going to the *Actions* menu, then to *Inventory Options* and its various sub-menus.

Inventory Options > Inventory Defaults

Update cost/currency variances on inventory costs? – when checked, indicates that cost and currency variances will be copied to the variance accounts for the storeroom. This only applies if you use exchange rates. If you do, checking this box will create invoice transactions to account for differences between the exchange rate at the time of the purchase and the exchange rate at the time of receipt.

Automatically create usage documents for new reservations? – when checked, indicates that every time a work order is approved, an *Inventory Usage* record will be created for all reserved items. That can be nice because you can then simply complete the *Inventory Usage* record, issuing all the items to the work order in one step.

Type A/B/C Breakpoints – the threshold for each ABC group. For more details, see the section on ABC Analysis.

Type A/B/C Cycle Counts – the cycle count frequency for each ABC group. For more details, see the section on ABC Analysis.

Negative Current Balance: Allow or **Disallow** – specifies whether or not Maximo will allow items to be issued if the result will be a negative current balance. I recommend that you allow this, because it's very likely that at some point a user will need to check out a part that Maximo doesn't think is there, due to a previous error (perhaps someone returned it from another work order, but didn't record the return in Maximo). If you disallow negative balances, the user will probably get frustrated and take the item without performing an issuance, and the previous error will be compounded. Don't worry too much about negative balances. If nothing else, they will be addressed properly during the next cycle count or physical inventory.

Negative Available Balances: Allow or Disallow – specifies whether or not Maximo will allow users to create hard reservations if the result will be a negative available balance. Like the previous option, I recommend that you allow negative available balances.

Inventory Options > Inventory Reorder

External Request Creation: Unapproved or **Approved PRs** or **POs (4 options)** – defines what will be created when stock reorders are performed. This option exists because companies often allow some steps of the procurement approval process to be bypassed in the case of stock reorders.

Internal Request Creation: Unapproved or Approved PRs or **POs (4 options)** – similar to the previous option, but for internal requisitions. Internal requests are rarely used in Maximo and are not covered in this document.

Maximum Number of Reorder Lines per PO/PR – causes Maximo to break up PRs/POs for automatic reorders if they get too big.

Inventory Processing Lead Time Buffer – adds additional days to the lead time when calculating reorders based on future reservations. This is a bit complicated, but we'll do our best. Remember that Maximo determines the need to reorder based on the current available balance, but it adjusts for needs that are projected to arise in the near future. For example, if you have a soft reservation needed in 6 days, and the vendor's lead time is 7 days, Maximo will include this reservation in the calculation. If the lead time is only 4 days, it will not consider the reservation. So if you perform reorders every day (highly unlikely), then you will always have your items when you need them. If not, you might want to consider setting this value to the normal frequency of your reorders plus a day or two of buffer. For example, if you run reorders every Monday, then you might set the value to 8 or 9.

Include Consignment Items on Separate PO/PR? – when checked, indicates that Maximo will separate consignment items from regular items during reorders and create a different PR or PO for them.

Inventory Options > Inventory Costs

Issue Cost: Standard, Average, LIFO, or **FIFO Cost (4 options)** – the default cost method used for each site. Note that this default can be overwritten for individual items.

Non-Capitalized Rotating: Issue or **Average Cost** – the cost that will be used for issuances of rotating items. ("Non-capitalized" is specified because, remember, capitalized items are always issued at zero cost).

Inventory Options > Transfer Options

Requires Shipment: Across Organizations/Sites or **All Transfers (3 options)** – tells Maximo under which circumstances an inventory usage record is required instead of a simple transfer. Remember that the *Inventory Usage* and *Shipment Receiving* applications are used together to monitor shipments between distinct geographical locations.

Require Purchase Order: **Not Required** or **Across Organizations/Sites** – tells Maximo under which circumstances POs are required for internal requests. As I mentioned earlier, internal requests are rarely used in Maximo.

Item Set Options

The only thing that you might want to configure on an item set is the default status for new items (PLANNING, PENDING, or ACTIVE). This all depends on if there is an approval process for new items. If you want to allow authorized users to simply create items without any formal process, you should set the default to ACTIVE. Otherwise, set it to PLANNING or PENDING.

This setting can be changed in the *Sets* application (*Main Menu* > *Administration* > *Sets*).

Processes

Creating a New Item

1. From the main menu, navigate to *Inventory* > *Item Master*.
2. Click the *New Record* button and fill in all applicable fields.

*__Item__ – a unique code that identifies the item.

*__Description__ – a brief description of the item.

Commodity Group and **Commodity Code** – the applicable commodity group/code combination.

Meter – a meter which will be updated every time you issue an item to an asset with the same meter.

*__Lot Type__ – whether the item support lots (expiration dates) or not. specify LOT or NOLOT.

Maximum Quantity Issued – the maximum quantity that Maximo will allow you to issue to an asset.

*__Order Unit__ – the default unit of measure used on purchase documents. Note that the value you specify here may be overridden by a value specified later for the item/vendor, and even later for each individual purchase document.

*__Issue Unit__ – the default unit of measure used in the storeroom. This may be altered for each storeroom.

MSDS – a reference to the material safety data sheet.

Receipt Tolerance % - the percentage limit for over-receiving on purchase orders.

Rotating? – when checked, indicates that the item is a rotating asset.

Capitalized? – when checked, indicates that all issuances and returns will be performed at zero cost.

Inspect on Receipt? – when checked, an extra step to inspect the item will be required after receiving it but before moving it into the storeroom.

Add as Spare Part? – when checked, indicates that the item should be added automatically to the spare parts list for an asset when the part is issued to that asset. It is recommended to always check this box.

Attach to Parent Asset on Issue? – when checked, indicates that the item will be added as a sub-assembly when issued to an asset. This option is only available for rotating items.

Tax Exempt? – when checked, indicates that the item is not taxable. Tax will not be added to purchase documents.

3. (Optional) Add an attachment, like a spec sheet, or MSDS sheet.
    1. Click on the icon part of the 'Attachments' link (note: This is a two-part link. Do not click on the word "Attachments".)
    2. From the pop-up menu, select *Add New Attachments > Add New File*.
    3. In the dialog, click the *Choose File* button.
    4. Navigate to the file you wish to attach and click the *Open* button.
    5. Specify a name (recommended) and a description (optional).
    6. Leave the three checkboxes as they are and click the *OK* button.
    7. Repeat for additional attachments.
4. (Optional) Add an image of the item.
    1. From the *Actions* menu, select *Add/Modify Image*.
    2. Click the *Choose File* button.
    3. Navigate to the image file and click the *Open* button.
    4. Click the *OK* button.
5. (Optional) Add alternate items. These are different items which might be interchangeable with the present item.
    1. In the *Alternate Items* section of the main tab, click the *New Row* button.
    2. Specify the item number for a different item.
    3. (Optional) Add one or more vendors.
    4. Repeat for additional alternate items.
6. (Optional) Add vendors for the item.
    1. Move to the *Vendors* tab and click on the *New Row* button.
    2. Fill in all applicable fields.

        ***Vendor** – the ID for a vendor that sells the item.

        Manufacture, Model, and **Catalog #** – details relating to the item, as sold by the present vendor.

        ***Promised Lead Time (Days)** – the number of days required for the vendor to deliver the item. This will be taken into consideration when calculating automatic stock reorders.

        ***Tax Code** – the tax code that applies to the item when purchased from the vendor.

Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

***Default Vendor?** – when checked, indicates that the vendor should be the default for ordering. Only one vendor can be specified as the default for each item.

Last Price/Last Order Date – the most recent cost and date of purchase. In most cases, you'll leave this blank since this information will be automatically populated by future purchase orders.

***Order Unit** – the default measure unit used on purchase documents. Note that the value you specify here may be overridden by a value specified later for individual purchase documents.

Catalog Web Page – a web page where the item can be viewed in the vendor's catalog.

Tax Exempt? – when checked, indicates that the item is not taxable when purchased from the present vendor.

3. Repeat the steps for additional vendors.

7. (Optional) Classify the item. Classifications are item types, like VALVE, FLANGE, or PIPE.
    1. Move to the *Specifications* tab.
    2. Find the *Classification* field, open the lookup menu, and select *Classify*.
    3. Select the appropriate classification by clicking on the small, blue box next to it. If there are different levels of classification hierarchy (aka "Parent/Child classifications), you may be able to expand groups to find more detailed classifications.
8. Change the status of the item to ACTIVE. Depending on your configuration, this step may be performed automatically.

Changing the Capitalized Status of an Item

1. From the main menu, navigate to *Inventory* > *Item Master* and open an item record.
2. From the *Actions* menu, select *Change Capitalized Status*.
3. (Optional) Enter a memo to describe the reason for the change.
4. Click the *OK* button.

Creating a Kit

1. From the main menu, navigate to *Inventory* > *Item Master* and open an item record.
2. Check the *Kit?* Box.

NOTE: If the item has balance in any storeroom, this box will be read-only. In order to change it, you must ensure that no balances exist by either issuing the item or performing a current balance adjustment.

Also remember that rotating, condition-enabled, capitalized, and lotted items cannot be included in kits.

3. Move to the *Item Assembly Structure* tab.
4. Assign children to the item.
    1. In the *Children* section, click the *New Row* button.
    2. Fill in all applicable fields.

        *__Item__ – the item number of the child item.

        *__Quantity__ – the quantity required for this kit.

        Remarks – any additional comments.
5. Save the Item Master record.

Creating Commodity Groups and Codes

1. From the main menu, navigate to *Inventory > Item Master* and open an item record.
2. From the *Actions* menu, select *Add/Modify Commodity Codes*.
3. To create a new commodity group, go to the *Commodity* Groups section and click the *New Row* button. Fill in all applicable fields.

    *__Commodity Group__ – a unique code that identifies the commodity group.

    *__Description__ – a brief description of the commodity group.

    Service? – when checked, indicates that the group represents a service and can be used on service-type purchasing line items and service level agreements (SLAs).
4. To add a commodity code to the group, select a commodity group from the upper section and click the *New Row* button in the lower section. Fill in all the applicable fields, which are the same as the fields for commodity groups (see previous step).

Creating a New Condition Code

1. From the main menu, navigate to *Inventory > Condition Codes*.
2. In the upper section, select the desired item set (if more than one is displayed).
3. In the lower section, click the *New Record* button. Fill in all applicable fields.

Creating a Depreciation Schedule Template

NOTE: Just to be clear, you won't be creating individual depreciation schedules for assets here. Remember that you're working with rotating items, so all you're doing is creating a template for a depreciation schedules on future rotating assets.

1. From the main menu, navigate to *Inventory* > *Item Master* and open a rotating item record.
2. From the *Actions* menu, select *Depreciation Schedule* > *Manage Depreciation Schedules*.
3. Fill in all the applicable fields.

   *__Starting Cost__ – the initial cost unit cost of the item.

   *__Salvage Amount__ – the anticipated value of the item once it has been completely depreciated.

   *__Starting Point__ – the point at which the depreciation schedule will be created for future rotating assets. Select INVOICE or RECEIPT.

   Financial Schedule? – when checked, indicates that the depreciation schedule defines the financial value of the asset.

   Create GL Transactions? – when checked, indicates that Maximo will create journal entries each time a depreciation occurs.

   GL Debit Account/GL Credit Account – the account codes to be used for journal entries, if the previous box is checked.

4. In the lower section, click the *New Row* button.
5. Fill in all applicable fields.

   *__Method__ – the depreciation method. Select DDB (Double Declining Balance) or SL (Straight Line).

   *__Period Type__ – the type of unit associated with each depreciation period. Select DATE or METER.

   *__Periods__ – the number of depreciation periods.

   *__Ratio__ – this is an advanced option that allows you to have multiple schedules for a single rotating asset/item, as long as the sum of all the schedules' rations equals 100. In most cases, don't change the default value.

   *__Period Units (DATE type only)__ – Select MONTH, QTR, SEMIYEAR, or YEAR.

   *__Calculation Day (DATE type only)__ – The day of the period that calculations should take place. Select FIRST or LAST.

   *__Meter (METER type only)__ – a meter associated with the rotating item.

   *__Starting Reading (METER type only)__ – the beginning reading of the meter.

***Expected Life (METER type only)** – the anticipated meter reading at which the rotating asset will be fully depreciated.

6. (Optional) Fill in the *Start Date* temporary field. Click the *Refresh* button to preview the depreciation schedule.
7. Click the *OK* button.

Adding an Item to a Storeroom

1. From the main menu, navigate to *Inventory* > *Item Master* and open an item record.
2. From the *Actions* menu, select *Add Items to Storeroom*.
3. Select the correct storeroom (even if there is only one option) and click the *OK* button.
4. Fill in all applicable fields.

   Unit Cost/Current Balance – the quantity of the item that is already in your possession. If you have not yet received the item, you should leave these fields blank. The values will be derived from future PO receipts.

   ***Default Bin** – the default bin location where the item is (or will be) placed in the storeroom.

   ***Order Unit** – the default unit of measure used on purchase documents.

   ***Issue Unit** – the unit of measure used in the storeroom.

   Requires Hard Reservation? – when checked, indicates that *all* reservations for the item will be hard reservations (remember, that means that the available quantity is reduced).
5. Click the *OK* button.

Configuring an Item in the Storeroom

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. (Optional) Update all applicable fields.

   Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

   Owner or **Owner Group** – a person or person group who is primarily responsible for the item.

   ***Default Bin** – the default bin for the item when it moves in or out of the storeroom.

   Default Staging Bin – the default bin for the item when it is staged prior to a shipment or issuance using the *Inventory Usage* application.

   ***Order Unit** – the default unit of measure used on purchase documents.

NOTE: If the item has been placed in more than one storeroom, you will see multiple records. Make sure you open the correct one.

3. (Optional) Add a bin location.
    1. In the *Inventory Balances* section of the main tab, click the *New Row* button.
    2. Fill in all applicable fields

        *__Bin__ – the codified location where the item is stored.

        Lot – a lot number to associate the balance with. These lot numbers cannot be created from the *Inventory* application. They are created from the *Receiving* application when the item is received.

        Condition Code – the applicable condition code.

        Current Balance – the current quantity on hand. For item quantities that have not yet been purchased, you should leave the value as zero. The current balance will be automatically updated when the item is received from a purchase order.

        Unit Cost – the applicable unit cost for the item. Only provide a value if you also provided a value for the current balance, or if you intend to perform a positive stock adjustment before receiving the item on a purchase order.

        Shelf Life or **Expiration Date (lotted items only)** – the time before the item expires. Note that you only need to fill in one of these fields. When you save the record, Maximo will automatically calculate the other.

4. (Optional) Specify reorder information for automatic stock replenishment.
    1. In the *Reorder Details* tab, fill in all applicable fields.

        Reorder? – indicates whether the part should be included in the automatic reorder process.

        Safety Stock – the minimum stock that should be available for use.

        *__Reorder Point__ – the level at which the item should be reordered. Note that this level might be reached when reserved parts bring the available quantity below this threshold, even if the actual quantity on hand still exceeds the reorder point.

        NOTE: An item's reorder point is usually slightly higher than its safety stock. This is to prevent you from dipping below the safety stock while waiting for stock replenishment to be processed and delivered.

        *__Economic Order Quantity__ – the minimum quantity to order when the reorder point is reached.

        *__Primary Vendor__ – the vendor to be used for the requisitions or purchase orders that will be generated.

2. (Optional) Add additional vendors that apply only to the present storeroom.
    1. Navigate to the Vendors tab.
    2. Click on the *New Row* button.
    3. Fill in all applicable fields.

        *__Vendor__ – the ID for a vendor that sells the item.

        *__Default Vendor?__ – when checked, indicates that the vendor should be the default for ordering. Only one vendor can be specified as the default for each item.

        Condition Code, Manufacture, Model, and Catalog # – details relating to the item, as sold by the present vendor.

        Catalog Web Page – a web page where the item can be viewed in the vendor's catalog.

        Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

        *__Promised Lead Time (Days)__ – the number of days required for the vendor to deliver the item. This will be taken into consideration when calculating automatic stock reorders.

        *__Order Unit__ – the default measure unit used on purchase documents. Note that the value you specify here may be overridden by a value specified later for individual purchase documents.

        Last Price and Last Order Date – the most cost and date of purchase. In most cases, you'll leave this blank since this information will be automatically populated once you process a purchase order for the item.

        *__Tax Code__ – the tax code that applies to the item when purchased from the vendor.

        Tax Exempt? – when checked, indicates that the item is not taxable when purchased from the present vendor.

Changing the Cost Type

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. From the *Actions* menu, select *Change Cost Type*.
3. Provide a value for the *New Cost Type* field. Select AVERAGE, FIFO, LIFO, or STANDARD.
4. Click the *OK* button.

Configuring Consignment Items

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. Ensure that the current balance is zero and that the *Reconciled* box is checked.
3. From the *Actions* menu, select *View/Edit Consignment Details*.
4. Check the *Consignment* box.
5. Fill in all applicable fields.

    *__Consignment Vendor__ – the vendor that provides the item.

    Manufacturer, Model, and Catalog # - details relating to the item, as they related to the consignment agreement.

    *__Invoice Generation Type__ – how Maximo will know when to generate invoices.

        CONSUMPTION – invoices will be automatically generated each time an item is consumed.

        FREQUENCY – invoices will be automatically generated according to a schedule.

        MANUAL – invoices will not be automatically generated. You must generate them manually.

        Frequency, Frequency Units, and Next Invoice Date (FREQUENCY type only) – the frequency at which invoice will be generated, and the first invoice date.

IMPORTANT NOTE: In order for automatic invoice creation to occur, you must configure the 'ConsignmentInvoiceCronTask' cron task. Your Maximo administrator will be able to do this for you.

Manually Creating Invoices for Consignment Items

Manually creating consignment invoices is very similar to creating a regular invoice through the *Invoices* application. There are only two subtle differences.

- Instead of leaving the default value in the *Type* field, change it to CONSIGNMENT.
- On the *Invoice Lines* tab, you will see the *Select Consignment Transactions* button. This button is in the place of the *Select PO Lines* button you would normally see.

Changing the Average or Standard Cost

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. From the *Actions* menu, select *Inventory Adjustments* > *[Average or Standard] Cost*.
3. Specify a value for the *New Average Cost* field. Optionally, specify values for the *Control Account* and *Cost Adjustment Account*.

   or

   Specify a value for the *Cost %* field. Maximo will automatically calculate the new cost based on the value entered.

   NOTE: To decrease the value, provide a negative number percentage value. For example, if the current average cost is $100 and you enter a value of -25, the new cost will be $75. If you enter a value of 50, the new cost will be $150.

4. Click the *OK* button.

Making and Changing Reservations

Method 1: From the *Work Order Tracking* application

1. From the main menu, navigate to *Work Orders* > *Work Order Tracking* and open a work order record.
2. Move to the *Plan* tab and then to the *Materials* tab in the lower section.
3. To create a new reservation, click the *New Row* button. Fill in all applicable fields.

   Task – the work order task for which you are reserving the item.

   ***Item** – the item number to be reserved.

   ***Item Type** – specify "Item" or "Material". Items will be issued from the storeroom by default, whereas materials will be purchased as direct issues.

   ***Quantity** – the quantity to be reserved.

   TIP: The 'Quantity Available' field is read-only. It will show you how many are available, but not until you specify the storeroom (which I haven't gotten to yet).

   Unit Cost – the unit cost for the item. You should only modify this value if you are working with a direct issue.

   ***Storeroom** – the storeroom from which the item will be removed.

   ***Reservation Type** – specify HARD, SOFT, or AUTOMATIC. For more details, see the section on reservations.

   Direct Issue – when checked, indicates that the item will be purchased instead of issued from the storeroom.

Vendor – for direct issue items only, indicates the vendor from whom the item or material will be purchased.

Issue To – the person who will receive the part from the storeroom when it is issued.

TIP: Instead of repeatedly clicking the 'New Row' button, as just described, you can speed up the process of locating items by using the 'Select Materials', or 'Select Asset Spare Parts' buttons.

4. To delete a reservation, click the *Delete* icon to in the right-hand side column. The reservation will be removed from the work order.
5. To modify a reservation, make changes to any of the available fields.
6. Save the Work Order record.

Method 2: From the *Inventory* Application

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. From the *Actions* menu, select *Add/Modify Reservations*.
3. To create a new reservation, click the *New Row* button. Fill in all applicable fields.

   ***Item** – the item number to be reserved.

   Remarks – any additional comments.

   Condition Code – the condition code to reserve.

   ***From Storeroom** – the storeroom from which the item will be removed.

   ***To Storeroom, To Site, Work Order, Task, Asset, Location,** and **GL Debit Account -** the reservation target. At least one of these values must be provided, and Maximo will automatically populate additional fields, where possible. For example, if you provide a work order number, Maximo will automatically populate the location, asset, and GL debit account associated with that work order.

   ***Reservation Type** – specify HARD, SOFT, APHARD, or APSOFT. For more details, see the section on reservations.

   ***Reservation Quantity** – the quantity to be reserved.

   ***Required Date** – the date that the items will be required.

   NOTE: Remember that this value has implications on determining when a soft reservation may become a hard reservation. For more details, see the section on reservations.

   Requested By and **Requested Date** – the person requested the item, and the date it was requested.

4. To delete a reservation, click the *Delete* icon to in the right-hand side column. The reservation will be removed from the work order.
5. To modify a reservation, make changes to any of the available fields.
6. Click the *OK* button.

Issuing or Returning an Item

Method 1: From the *Inventory* Application

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. From the *Actions* menu, select *Issue Current Item*.
3. Fill in all the applicable fields.

   *__Storeroom, Bin,__ and __Lot__ – the location from which the item will be removed.

   *__Quantity__ – the quantity to be issued or returned. Always use positive numbers for both issuances and returns.

   *__Transaction Type__ – whether the transaction is an issuance or a return. Select ISSUE or RETURN.

   *__Work Order, WO Task, Asset, Location,__ and __GL Debit Account__ – the charge-to information for the issuance. At least one of these values must be provided, and Maximo will automatically populate additional fields, where possible. For example, if you provide a work order number, Maximo will automatically populate the location, asset, and GL debit account associated with that work order.

   __GL Credit Account__ – the GL credit account to be referenced on the transaction.

   __Issue To__ – the person receiving the part.
4. Click the *OK* button.

Method 1(a): To Multiple Assets or GL Accounts

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. From the *Actions* menu, select *Issue Current Item to Multiple Assets*.
3. Fill in all applicable fields.

   *__Storeroom, Bin,__ and __Lot__ – the location from which the item will be removed.

   *__Transaction Type__ – whether the transaction is an issuance or a return. Select ISSUE or RETURN.
4. For each Asset or GL Account, click the *New Row* button and fill in all applicable fields.

   __Asset__ and __GL Debit Account__ – the charge-to information for the issuance. At least one of these values must be provided.

GL Credit Account – the GL credit account to be referenced on the transaction.

***Quantity** – the quantity to be issued or returned. Always use positive numbers for both issuances and returns.

Issue To – the person receiving the part.

5. Click the *OK* button.

Method 2: From the *Work Order Tracking* Application

1. From the main menu, navigate to *Work Orders* > *Work Order Tracking* and open a work order record.
2. Move to the *Actuals* tab and then to the *Materials* tab in the lower section.
3. Click the *New Row* button. Fill in all applicable fields.

   Task – the work order task to which you are issuing the item.

   ***Item** – the item number to be issued.

   ***Storeroom, Bin,** and **Lot** – the location from which the item will be removed.

   ***Quantity** – the quantity to be issued or returned. Always use positive numbers for both issuances and returns.

   ***Transaction Type** – whether the transaction is an issuance or a return. Select ISSUE or RETURN.

   Issued To – the person using the part.

TIP: Instead of repeatedly clicking the 'New Row' button, as just described, you can speed up the process of locating items by using the 'Select Materials', 'Select Reserved Items', or 'Select Asset Spare Parts' buttons.

4. Save the Work Order record.

Method 3: From the *Inventory Usage* Application

1. From the main menu, navigate to *Inventory* > *Inventory Usage*.
2. Click the *New Record* button and fill in the *Description* field (optional).
3. For each item, click the *New Row* button and fill in all applicable fields.

   ***Usage Type** – whether the transaction is an issuance or a return.

   ***Item** – the item number to be issued or returned.

   ***From Bin, From Lot,** and **Condition Code** – the location from which the item will be removed.

   Rotating Asset – the rotating asset to be issued or returned.

   ***Quantity** – the quantity to be issued. Always use positive numbers for both issuances and returns.

***Work Order, WO Task, Asset, Location,** and **GL Debit Account** – the charge-to information for the issuance. At least one of these values must be provided, and Maximo will automatically populate additional fields, where possible. For example, if you provide a work order number, Maximo will automatically populate the location, asset, and GL Debit Account associated with that work order.

Issue To – the person receiving or returning the part.

TIP: Instead of repeatedly clicking the 'New Row' button, as just described, you can speed up the process of locating items by using the 'Select Items', 'Select Items for Return', 'Select Reserved Items', or 'Select Asset Spare Parts' buttons.

4. Save the Inventory Usage record.
5. Change the status of the Inventory Usage record to COMPLETE.

NOTE: The item(s) won't actually be removed from the storeroom until the status of the Inventory Usage record is COMPLETE.

Assembling or Disassembling a Kit

1. From the main menu, navigate to *Inventory > Inventory* and open a kit inventory record.
2. From the *Actions* menu, select *Assemble Kit* or *Disassemble Kit.*
3. Provide values for the *Assemble Quantity* or *Disassemble Quantity* field to indicate how many kits you would like to assemble or disassemble.

NOTE: When assembling a kit, the 'Possible Quantity' field tells you how many kits could be assembled based on the current balance of all components. If the possible quantity is less than the number of kits you want to assemble, it means that you don't have enough of one or more of the required parts.

4. Click the *OK* button.
5. Save the Inventory record.

Transferring an Item

Method 1: Simple Transfers

1. From the main menu, navigate to *Inventory > Inventory* and open an inventory record.
2. From the *Actions* menu, select *Transfer Current Item.*
3. Fill in all applicable fields.

***Quantity** – the quantity to be transferred.

***To Site** and **To Storeroom** – the site and storeroom to which the item will be transferred (even if they are the same as the current site/storeroom).

*__From Bin__ and __To Bin__ - the source and destination bins.

*__Conversion Factor__ – the conversion between the source and destination units. In nearly all cases, this will be one. An example of an exception would be if an item is issued in one warehouse in linear feet, but in the other warehouse it is issued in linear meters, "rolls", etc.

From Lot and **To Lot** – the source and destination lots, if the item is lotted.

From Condition Code and **To Condition Code** – the source and destination condition codes, if the item is condition-enabled.

Method 2: Controlled Inter-warehouse Transfers

Part 1: Shipping the Item(s)

This part is performed by the sending storeroom.

1. From the main menu, navigate to *Inventory > Inventory Usage*.
2. Click the *New Record* button and fill in the *Description* field (optional).
3. For each item, click the *New Row* button and fill in all applicable fields.

   *__Usage Type__ – specify TRANSFER.

   *__Line Type__ – specify "Item".

   *__Item__ – the item number to be issued.

   Inspection Required – when checked, indicates that an extra step to inspect the item will be required after receiving it but before moving it into the destination storeroom.

   From Bin, From Lot, and **Condition Code** – the location from which the item will be removed.

   Rotating Asset – if applicable, the rotating asset to be transferred.

   *__Quantity__ – the quantity to be transferred.

   *__To Storeroom, To Bin, To Lot,__ and __To Condition Code__ – the location to which the item will be sent.

TIP: Instead of repeatedly clicking the 'New Row' button, as just described, you can speed up the process of locating items by using the 'Select Items', 'Select Items for Return', 'Select Reserved Items', or 'Select Asset Spare Parts' buttons.

4. Save the Inventory Usage record.
5. (Optional) Change the status of the Inventory Usage record to STAGED.

NOTE: The 'Change Status' dialog has options to specify where the items should be placed for staging. (A) In the default staging bin for each item, (B) in a specific bin, which you will provide, or (C) left in their current bin.

6. Change the status of the Inventory Usage record to SHIPPED.

> *NOTE: The item(s) won't actually be removed from the storeroom until the status of the Inventory Usage record is SHIPPED.*
>
> *To cancel the shipment and return the items to their respective locations, you can change the status to CANCELED, even after it has shipped.*

Part 2: Receiving the Items

This part is performed by the receiving storeroom.

1. From the main menu, navigate to *Inventory* > *Shipment Receiving*.
2. Open the record for the shipment that was created in part 1 of this process.
3. Click the *Select Shipped Items* button.
4. Check the box for each item that you intend to receive.
5. Save the record.

> *NOTE: After they've been received, items can be returned by clicking either the 'Select Records to Void' or 'Select Records for Return' buttons. The subtle difference is that the first option (void) requires the entire quantity to be returned, whereas the second (return) allows you to return only a partial quantity.*

Performing a Physical Inventory

Part 1: Performing a Physical Count.

1. From the main menu, navigate to *Inventory* > *Inventory*.
2. (Optional) Apply a filter for the subset of inventory items to be included in your current count.
3. From the *Actions* menu, select *Inventory Adjustments* > *Physical Count*. Press the *OK* button to accept the warning about the transaction affecting x number of records.
4. Provide values in the *New Count* column.

> *TIP: Leaving the 'New Count' column blank is different than specifying a value that represent no change (the current quantity on hand). For example, if an item has a current balance of 5 and you specify a new count of 5, Maximo will still show that you counted it and confirmed that the current balance was correct (no adjustment necessary). If you leave it blank, Maximo will not show that it was counted.*

> *WARNING: In the 'Physical Count Adjustment' dialog, there is a field called 'Physical Count'. Do not confuse this to be the current balance. This field simply tells you what the most recent physical count value was. For example, if the last physical count was taken 3 years ago, then this column will tell you what the count was at that time.*

(Optional) Part 2: Review

If you have a pre-reconciliation report, now is the time to print it and review/double-check any discrepancies before reconciling them.

Part 3: Reconciling the Balances

1. From the main menu, navigate to *Inventory* > *Inventory*.
2. (Optional) Apply a filter for the subset of inventory items which are included in your current count.
3. From the *Actions* menu, select *Inventory Adjustments* > *Reconcile Balances*. Press the *OK* button to accept the warning about the transaction affecting x number of records.

Performing a Current Balance Adjustment

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. From the *Actions* menu, select *Inventory Adjustments* > *Current Balance*.
3. Specify a value in the *New Balance* field.
4. Optionally provide or change the values for the *Control Account* (for positive adjustments) and *Shrinkage Account* (for negative adjustments) fields.
5. Click the *OK* button.

Viewing an Item's Transaction History

1. From the main menu, navigate to *Inventory* > *Inventory* and open an inventory record.
2. From the *Actions* menu, select *View Inventory Transactions*.
3. Review data in all three tabs.

Executing an Automatic Stock Reorder

1. From the main menu, navigate to *Inventory* > *Inventory*.
2. (Optional) Apply a filter for the subset of inventory items to be included in your reorder.
3. From the *Actions* menu, select *Reorder* > *Reorder Items*. Press the *OK* button to accept the warning about the transaction affecting x number of records.
4. In the *Reorder Items* dialog, fill in all applicable fields. In most cases, you can accept all the default values.

   Additional Lead Time – the days to be added to the vendors lead time. This field relates to the *Required By Date* field for materials required in the work plans. For example, if an item has a current balance of 5 and a reorder point of 3, then the item would not trigger a reorder. But if an approved work order requires 2 of the item, this reservation would be counted against the available balance and trigger a

reorder, unless the required by date for the item (in *Work Order Tracking*) is later than today's date plus the vendor's lead time. The *Additional Lead Time* field adds even more buffer to this calculation.

Ignore Reorder Point? – when checked, tells Maximo to reorder the item, even if it is not otherwise due for reorder.

Consider Contracts When Creating PRs/POs? – when checked, tells Maximo to apply purchase contract terms and pricing to any PRs or POs that are generated.

Include Soft Reservations? – when checked, tells Maximo to include soft reservations in the reorder calculation. Typically, only hard reservations are considered.

Reorder Direct Issue Items and Services? – when checked, tells Maximo to also order materials and services specified on work orders that are not reserved from the storeroom.

5. Un-check the *Run Reorder in Background* box, unless you are very concerned about the time the reorder will take to process (unlikely).
6. (Optional) Click the *Preview* button to view and adjust reorder quantities prior to running the reorder.
7. Click the *Run Reorder* button.

Reordering Direct Issue Items and Services

1. From the main menu, navigate to *Inventory* > *Inventory*.
2. (Optional) Apply a filter for the subset of inventory items to be included in your reorder.
3. From the *Actions* menu, select *Reorder* > *Reorder Direct Issue Items and Services*. Press the *OK* button to accept the warning about the transaction affecting x number of records.
4. In the dialog, fill in all applicable fields. In most cases, you can accept all the default values.

   Consider Contracts When Creating PRs/POs? – when checked, tells Maximo to apply purchase contract terms and pricing to any PRs or POs that are generated.

   Additional Lead Time – the days to be added to the vendors lead time. This field relates to the *Required By Date* field for materials required in the work plans. For example, if an item has a current balance of 5 and a reorder point of 3, then the item would not trigger a reorder. But if an approved work order requires 2 of the item, this reservation would be counted against the available balance and trigger a reorder, unless the required by date for the item (in *Work Order Tracking*) is later than today's date plus the vendor's lead time. The *Additional Lead Time* field adds even more buffer to this calculation.

5. Un-check the *Run Reorder in Background* box, unless you are very concerned about the time the reorder will take to process (unlikely).
6. (Optional) Click the *Preview* button to view and adjust reorder quantities prior to running the reorder.
7. Click the *Run Reorder* button.

Making an Item Obsolete

1. From the main menu, navigate to *Inventory > Item Master* and open an inventory record.

   NOTE: If you want to limit the change to a single warehouse, go to the 'Inventory' application instead of the 'Item Master' application.

2. Change the status to PNDOBS (Pending Obsolescence). In the *Change Status* dialog, ensure to check the *Roll New Status to Organizations and Inventory?* box.
3. Perform any necessary transactions to ensure that the current balance for the item is zero.
4. Change the status to OBSOLETE.

TIP: This process can also be performed on multiple records by either applying a filter or using the 'Select Records' option.

Creating a Unit of Measure

1. Open any of the Inventory applications, go to the *Actions* menu and select *Unit of Measure and Conversion > Add/Modify Units of Measure*.
2. Click the *New Row* button and fill in all applicable fields.

Creating a Unit Conversion

1. Open any of the Inventory applications, go to the *Actions* menu and select *Unit of Measure and Conversion > Add/Modify Conversions*.
2. Click the *New Row* button and fill in all applicable fields.

   ***From Unit of Measure** and ***To Unit of Measure** – the source and destination units.

   ***Conversion Factor** – the number which should be multiplied by the source quantity to produce the destination quantity.

   Item Number – an inventory item number, if you would like to limit the scope of the conversion to a single item.

   NOTE: You only need to specify an item number if you want to restrict the application of the conversion to a single item. This topic is explained in greater detail in the section on Units of Measure and Conversions.

Performing ABC Analysis

1. From the *Reports* menu, select *Inventory* > *Inventory*.

   or

   From the *Inventory* application, open the *Actions* menu and select *Run Reports*.
2. Select the *Inventory ABC Analysis* report.
3. Specify a storeroom and site and click the *Submit* button.
4. After the report is run, the *ABC Type* field will be updated for all items in the storeroom.

Performing EOQ Analysis

1. From the *Reports* menu, select *Inventory* > *Inventory*.

   or

   From the *Inventory* application, open the *Actions* menu and select *Run Reports*.
2. Select the *Inventory EOQ Analysis* report.
3. Specify a storeroom, site, carrying cost percentage, and ordering cost and click the *Submit* button.
4. After the report is run, the *Economic Order Quantity* field will be updated for all items in the storeroom.

Performing ROP Analysis

1. From the *Reports* menu, select *Inventory* > *Inventory*.

   or

   From the *Inventory* application, open the *Actions* menu and select *Run Reports*.
2. Select the *Inventory ROP Analysis* report.
3. Specify a storeroom, site, and start date and click the *Submit* button.
4. After the report is run, the *Reorder Point* field will be updated for all items in the storeroom.

Creating Assets or Locations from an Item Assembly Structure

1. From the main menu, navigate to *Assets* > *Assets* or *Assets* > *Locations* and open a rotating asset or a location.
2. Ensure that the item whose item assembly structure you wish to use as a template is specified in the *Rotating Item* field.
3. From the *Actions* menu, select *Apply Item Assembly Structure.*
4. The *Apply Item Assembly Structure* dialog will show the locations or rotating assets which will be created. Either provide an asset number/location for each new record, or else click the *Autonumber* button.
5. Click the *OK* button to create the assets or locations.

Adding a Spare Part to an Asset

1. From the main menu, navigate to *Assets* > *Assets* and open an asset record.
2. Move to the *Spare Parts* tab.
3. In the *Spare* Parts section, click the *New Row* button. Fill in all applicable fields.

   *__Item__ – the item to be added as a spare part.

   *__Quantity__ – the quantity typically issued at a time.

   Remarks – any additional comments.

Creating a New Tool

1. From the main menu, navigate to *Inventory* > *Tools*.
2. Click the *New Record* button and fill in all applicable fields.

   *__Tool__ – a unique code that identifies the tool.

   *__Description__ – a brief description of the tool.

   Commodity Group and **Commodity Code** – the applicable commodity group/code combination.

   Meter – a meter which should be read every time the tool is issued to an asset.

   *__Lot Type__ – whether the tool support lots (expiration dates) or not. specify LOT or NOLOT.

   *__Issue Unit__ – the measure unit used in the storeroom (may be different than the order unit).

MSDS – a reference to the material safety data sheet.

Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

Rotating? – when checked, indicates that the tool is a rotating asset.

Outside? – when checked, indicates that the tool belongs to a contractor and is used on consignment. You will be charged for its use.

Inspect on Receipt? – when checked, requires an extra step to inspect the tool after receiving it but before moving it into the storeroom.

Tax Exempt? – when checked, indicates that the tool is not taxable.

Crew? – when checked, indicates that the tool can be specified as a "required tool" for crews.

3. (Optional) Add an attachment, like a user manual or specification sheet.
    1. Click on the icon part of the 'Attachments' link (note: This is a two-part link. Do not click on the word "Attachments".)
    2. From the pop-up menu, select *Add New Attachments > Add New File*.
    3. In the dialog, click the *Choose File* button. Navigate to the file you wish to attach and click the *Open* button.
    4. Specify a name (recommended) and a description (optional).
    5. Leave the three checkboxes as they are and click the *OK* button.
4. (Optional) Add an image of the tool.
    1. From the *Actions* menu, select *Add/Modify Image*.
    2. Click the *Choose File* button.
    3. Select an image file and click the *Open* button.
    4. Click the *OK* button.
5. (Optional) Add alternate tools. These are different tools which could be used if the present tool is unavailable for required work.
    1. In the *Alternate Tools* section of the main tab, click the *New Row* button.
    2. Specify a different tool.
6. (Optional) Specify required qualifications that an employee must have before the tool can be issued to them.
    1. In the *Required Qualifications* section, click the *New Row* button.
    2. Provide a value for the *Qualification* field.

TIP: Qualifications can be created and managed in the 'Qualifications' applications, which may only available to your Maximo system administrator.

7. (Optional) Add vendors for the tool.
    1. Move to the *Vendors* tab.
    2. Click on the *New Row* button. Fill in all applicable fields.

        *__Vendor__ – the ID for a vendor that sells this tool.

        Manufacture, Model, and **Catalog #** – details relating to the tool, as sold by the present vendor.

        ***Promised Lead Time (Days)** – the number of days required for the vendor to deliver the item**.**

        Catalog Web Page – a web page where the tool can be viewed in the vendor's catalog.

        Last Price/Last Order Date – the most recent cost and date of purchase. In most cases, you'll leave this blank since this information will be automatically populated once you process a purchase order for the item.

        Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

        ***Order Unit** – the default measure unit used on purchase documents. Note that the value you specify here may be overridden by a value specified later for each individual purchase document.

        ***Tax Code** – the tax code to be applied when the tool is purchased from this vendor.

        Default Vendor? – when checked, indicates that the vendor should be the default for ordering. Only one vendor can be specified as the default for each tool.

        Tax Exempt? – when checked, indicates that the tool is not taxable when purchased from the present vendor.

        Organization and **Site** – the organization and site to which the tool is restricted. If a site is specified, then the tool will only be available for use at that site.

    3. Repeat the steps for additional vendors.
8. (Optional) Classify the **tool**. Classifications are item types, like DRILL, WRENCH, or WELDER.
    1. Move to the *Specifications* tab.
    2. Find the *Classification* field, open the lookup menu, and select *Classify*.
    3. Select the appropriate classification by clicking on the small, blue box next to it. If there are different levels of classification hierarchy (aka "Parent/Child

classifications), you may be able to expand groups to find more detailed classifications.

9. Change the status of the tool to ACTIVE. Depending on your configuration, this step may be performed automatically.

Adding a Tool to a Storeroom

1. From the main menu, navigate to *Inventory* > *Tools* and open a tool record.
2. From the *Actions* menu, select *Add Tools to Storeroom*.
3. Specify the correct storeroom (there may be only one) and click the *OK* button.
4. Fill in all applicable fields.

   *__Default Bin__ – the default bin location where the tool is (or will be) placed in the storeroom.

   Current Balance – should be filled in only if the tool is already in your possession. If you are going to purchase the tool on a purchase order in Maximo, you should leave this field blank. The balance will be updated with the tool is received.

   *__Issue Unit__ – the unit of measure for the tool.

5. Click the *OK* button.

Configuring a Tool for a Storeroom

1. From the main menu, navigate to *Inventory* > *Stocked Tools* and open a tool record.

   NOTE: If the tool has been placed in more than one storeroom, you will see multiple records. Make sure you open the correct one.

2. (Optional) Add a bin location.
   1. In the *Balances* section of the main tab, click the *New Row* button.
   2. Fill in all applicable fields

      *__Bin__ – the codified location where the tool is stored.

      Lot – a lot number to associate the balance with. These lot numbers cannot be created from the *Stocked Tools* application. They are created from the *Receiving* application when the tool is received.

      Condition Code – the applicable condition code.

      Current Balance – the current quantity on hand. For tool quantities that have not yet been purchased, you should leave the value as zero. The current balance will be automatically updated when the tool is received from a purchase order.

Unit Cost – the applicable unit cost for the tool. Only provide a value if you also provided a value for the current balance, or if you intend to perform a positive stock adjustment before receiving the tool on a purchase order.

Shelf Life or **Expiration Date (lotted items only)** – the time before the tool expires. Note that you only need to fill in one of these fields. When you save the record, Maximo will automatically calculate the other.

3. (Optional) Add additional vendors that apply only to the present storeroom.
    1. Move to the *Vendors* tab.
    2. Click on the *New Row* button and fill in all applicable fields.

        ***Vendor** – the ID for a vendor that sells this tool.

        Manufacture, Model, and Catalog # – details relating to the tool, as sold by the present vendor.

        ***Promised Lead Time (Days)** – the number of days required for the vendor to deliver the tool**.**

        Catalog Web Page – a web page where the tool can be viewed in the vendor's catalog.

        Last Price/Last Order Date – the most recent cost and date of purchase. In most cases, you'll leave this blank since this information will be automatically populated once you process a purchase order for the item.

        Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

        ***Order Unit** – the default measure unit used on purchase documents. Note that the value you specify here may be overridden by a value specified later for each individual purchase document.

        ***Tax Code** – the tax code to be applied when the tool is purchased from the present vendor.

        Tax Exempt? – when checked, indicates that the tool is not taxable when purchased from the present vendor.

        Default Vendor? – when checked, indicates that the vendor should be the default for ordering. Only one vendor can be specified as the default for each tool.

Issuing or Returning a Tool

1. From the main menu, navigate to *Inventory > Stocked Tools* and open an inventory record.
2. From the *Actions* menu, select *Issue Current Tool*.
3. Fill in all the applicable fields.

   *__Storeroom__ and __Bin__– the location from which the tool will be removed.

   *__Quantity__ – the quantity to be issued or returned. Always use positive numbers for both issuances and returns.

   *__Transaction Type__ – whether the transaction is an issuance or a return. Select ISSUE or RETURN.

   *__Work Order, WO Task, Asset,__ and __Location__ – the charge-to information for the issuance. At least one of these values must be provided, and Maximo will automatically populate additional fields, where possible. For example, if you provide a work order number, Maximo will automatically populate the location and asset associated with that work order.

   __Issue To__ – the person using the tool.
4. Click the *OK* button.

Using a Tool on a Work Order

1. From the main menu, navigate to *Work Orders > Work Order Tracking* and open a work order record.
2. Move to the *Actuals* tab and open the *Tools* tab in the lower section.
3. Click the *New Row* button. Fill in all applicable fields.

   __Task__ – the work order task to which you are issuing the tool.

   *__Tool__ – the tool to be issued.

   __Outside?__ – when checked, indicates that the tool is supplied by an outside vendor.

   __Location/Asset__ – the location and asset where the tool was used. Usually, this is the main location/asset for the work order.

   __Rotating Asset__ – when applicable, the specific tool asset that was used.

   *__Quantity__ – the quantity to be issued or returned. Always use positive numbers for both issuances and returns.

   __Tool Hours__ – the number of hours that the tool was used.

   __Rate__ and __Line Cost__ – the cost for usage of the tool.

***Transaction Type** – whether the transaction is an issuance or a return. Select ISSUE or RETURN.

Issued To – the person using the tool.

TIP: Instead of repeatedly clicking the 'New Row' button, as just described, you can speed up the process of locating items by using the 'Select Tools', 'Select Planned Tools', or 'Select Issued Tools' buttons.

4. Save the Work Order record.

Transferring a Tool

Method 1: Simple Transfers

1. From the main menu, navigate to *Inventory* > *Stocked Tools* and open an inventory record.
2. From the *Actions* menu, select *Transfer Current Tool*.
3. Fill in all the applicable fields.

   ***Quantity** – the quantity to be transferred.

   ***To Site** and **To Storeroom** – the site and storeroom to which the tool will be transferred (even if they are the same as the current site/storeroom).

   ***From Bin** and **To Bin -** the source and destination bins.

   From Lot and **To Lot** – the source and destination lots, if the tool is lotted.

   From Condition Code and **To Condition Code** – the source and destination condition codes, if the tool is condition-enabled.

Method 2: Controlled Inter-warehouse Transfers

Part 1: Shipping the Item(s), Performed by the Sending Storeroom

This part is performed by the sending storeroom.

1. From the main menu, navigate to *Inventory* > *Inventory Usage*.
2. Click the *New Record* button and fill in the *Description* field (optional).
3. For each item, click the *New Row* button and fill in all applicable fields.

   ***Usage Type** – specify TRANSFER

   ***Line Type** – specify "Tool".

   ***Item** – the tool to be issued.

   Inspection Required – when checked, indicates that an extra step to inspect the tool will be required after receiving it but before moving it into the storeroom.

   ***From Bin, From Lot,** and **Condition Code** – the location from which the tool will be removed.

Rotating Asset – if applicable, the rotating asset tool to be transferred.

***Quantity** – the quantity to be transferred.

***To Storeroom, To Bin, To Lot,** and **To Condition Code** – the location to which the tool will be sent.

4. Save the Inventory Usage record.
5. (Optional) Change the status of the Inventory Usage record to STAGED.

NOTE: The 'Change Status' dialog has options to specify where the items should be placed for staging. (A) In the default staging bin for each item, (B) in a specific bin, which you will provide, or (C) left in their current bin.

6. Change the status of the Inventory Usage record to SHIPPED.

NOTE: The tool(s) won't actually be removed from the storeroom until the status of the Inventory Usage record is SHIPPED.

To cancel the shipment and return the tools to their respective locations, you can change the status to CANCELED, even after it has been shipped.

Part 2: Receiving the Tools

This part is performed by the receiving storeroom.

1. From the main menu, navigate to *Inventory* > *Shipment Receiving*.
2. Open the record for the shipment that was created in part 1 of this process.
3. Click the *Select Shipped Items* button.
4. Check the box for each tool that you intend to receive.
5. Save the record.

NOTE: Tools can be returned by clicking either the 'Select Records to Void' or 'Select Records for Return' buttons. The subtle difference is that the first option (void) requires the entire quantity to be returned, whereas the second (return) allows you to return only a partial quantity.

Making a Tool Obsolete

1. From the main menu, navigate to *Inventory* > *Tools* and open a tool record.

   NOTE: if you want to limit the change to a single warehouse, go to the 'Stocked Tools' application instead of the 'Tools' application.

2. Change the status to PNDOBS (Pending Obsolescence). In the *Change Status* dialog, ensure to check the *Roll New Status to Organizations and Inventory?* box.
3. Perform any necessary transactions to ensure that the current balance for the tool is zero.
4. Change the status to OBSOLETE.

Creating a New Service Item

1. From the main menu, navigate to *Inventory* > *Service Items*.
2. Click the *New Record* button and fill in all applicable fields.

   ***Service Item** – a unique code that identifies the service item.

   ***Description** – a brief description of the service item.

   Commodity Group and **Commodity Code** – the applicable commodity group/code combination.

   Tax Exempt? – when checked, indicates that the item is not taxable.

   Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

   Prorate? – when checked, indicates that the services may be prorated. Note that this field is for reference only and does not affect any other functionality.

   Inspection Required? – when checked, requires an extra step to inspect the tool after receiving it but before moving it into the storeroom.

3. (Optional) Add an attachment, like a contract or rate sheet.
   1. Click on the icon part of the 'Attachments' link (note: This is a two-part link. Do not click on the word "Attachments".)
   2. From the pop-up menu, select *Add New Attachments* > *Add New File*.
   3. In the dialog, click the *Choose File* button. Navigate to the file you wish to attach and click the *Open* button.
   4. Specify a name (recommended) and a description (optional).
   5. Leave the three checkboxes as they are and click the *OK* button.
4. (Optional) Add vendors to the service item.
   1. In the *Vendors* section, click the *New Row* button.

2. Fill in all applicable fields.

   *__Vendor__ – the ID for a vendor that provides this service.

   Catalog # – a catalog number for the service, provided by the service provider.

   ***Promised Lead Time (Days)** – the time required for the vendor to deliver the service.

   ***Tax Code** – the tax code to be applied when the service is purchased from this vendor.

   Tax Exempt? – when checked, indicates that the service is not taxable when purchased from the present vendor.

   Default Vendor? – when checked, indicates that the vendor should be the default for ordering. Only one vendor can be specified as the default for each service item.

   Receipt Tolerance % – the percentage limit for over-receiving on purchase orders.

   Last Price/Last Order Date – the most recent cost and date of purchase. In most cases, you'll leave this blank since this information will be automatically populated once you process a purchase order for the item.

   ***Order Unit** – the default measure unit used on purchase documents. Note that the value you specify here may be overridden by a value specified later for each individual purchase document.

   Organization and **Site** – the organization and site to which the service is restricted. If a site is specified, then the service item will only be available for use at that site.

5. (Optional) Classify the service item. Classifications are groups of service types.
   1. Move to the *Specifications* tab.
   2. Find the *Classification* field, open the lookup menu, and select *Classify*.
   3. Select the appropriate classification by clicking on the small, blue box next to it. If there are different levels of classification hierarchy (aka "Parent/Child classifications), you may be able to expand groups to find more detailed classifications.

6. Change the status of the service to ACTIVE. Depending on your configuration, this step may be performed automatically.

    Condition Code – A unique code that identifies the condition.

    Description – a brief description of the condition.

    Condition Rate – the value percentage for the condition. Remember that at least one condition should be 100(%).

Creating a New Item Set for a Site

Part 1: Creating a New Item Set

1. From the main menu, navigate to *Administration* > *Sets*.
2. Click the *New Record* button and fill in all applicable fields.

    ***Set** – a unique code that identifies the item set.

    ***Description** – a brief description of the item set

    ***Type** – specify ITEM.

    ***Default Item Status** – the initial status for new items created for the item set.
3. Save the record.

Part 2: Associating the Item Set with an Organization.

1. From the main menu, navigate to *Administration* > *Organizations* and open an inactive or new organization record.
2. Specify the new item set in the *Item Set* field.
3. Save the record.

INDEX / GLOSSARY

Commodity Group ---------- **12, 30**

A group of inventory items that share similar characteristics.

Commodity Type ---------- **12, 30**

A subset of a commodity group.

Condition Code ---------- **6, 16, 30**

A code associated with a percentage value signifying the that the item or tool has a reduced value because it is not new. The value is specified as a percentage, relative to the "new" value of the item/tool. Condition codes can be applied to items and tools.

Condition Codes Application ---------- **6, 16, 30**

A Maximo application that contains condition codes signifying various reduced values due to items not being new. Values are indicated as a percentage relative to the "new" cost.

Consignment Item ---------- **14, 35, 35**

A special kind of item that is owned by a vendor, even though it is kept in your storeroom. The item will be paid for when it is consumed, rather than when it is received.

Consumable ---------- **10**

A generic term for an inventory item that is not tracked and issued by unit, likely because it is frequently used and has very low unit value.

(Unit) Conversion ---------- **19, 45**

The conversion rate between order units and issue units.

Current Balance ---------- **21, 43**

An item's current quantity on hand.

Current Balance Adjustment ---------- **43**

The event that occurs when an item's balance is adjusted without a formal physical count taking place.

Cycle Count ---------- **21, 42**

A generic term which refers to the process of partially counting and reconciling inventory quantities so that the entire storeroom is accounted for over an extended period of time.

Default Bin ---------- **12**

The default location for an item in the storeroom.

Default Staging Bin ---------- **12, 27, 47**

The default location where an item will be staged (see Stage).

Direct Issue (item) ---------- **18, 44**

A PO line item that bypasses the storeroom when received, being charged directly to a work order, asset, location, and/or GL account.

Economic Order Quantity ---------- **18, 33, 43**

The quantity of an item that will be purchased when the item is included in a reorder.

EOQ Analysis ---------- **23, 46**

The process of determining the appropriate economic order quantity for items by evaluating the economies of larger orders against the inventory carrying cost.

FIFO Costing Method ---------- **16, 34**

A costing method whereby new issuance is charged at the unit value of the oldest receipt cost for the item or tool. FIFO is an acronym for "First In, First Out".

HARD Reservation ---------- **17, 36**

A reservation that is critical and time sensitive. Hard reservations reduce the available quantity of an item, ensuring that they are available when required.

Inventory Application ---------- **6, 32, 32**

A Maximo application that contains the items that have been selected to reside in a storeroom. This application is the main place where inventory control takes place.

Inventory Usage Application ---------- **6, 39, 41, 53**

A Maximo application that facilitates bulk movement of inventory out of a storeroom, either by issuance or transfer. When used with the Shipment Receiving application, shipments to remote storerooms can be tracked while the items are in transit and receiving.

Inventory Usage Record ---------- **39, 41, 53**

A group of items that can be issued, shipped, and received together through the Inventory Usage and/or Shipment Receiving applications.

Issuance ---------- **17, 36, 52**

The event that occurs when an item or tool is removed from the storeroom and charged to a work order, asset, location, or GL account.

Issue Unit ---------- **19, 45**

The unit by which an item or tool is issued from the storeroom. In rare cases, this may be different than the order unit for the same item or tool.

Item ---------- **10**

Any part that can be ordered on a purchase order, stocked in the storeroom, and/or issued to a work order.

Item Assembly Structure ---------- **14, 20, 29, 47**

The definition of a bill of materials that is associated with a single item. Item assembly structures are used for two purposes (a) defining item kits and (b) creating asset or location hierarchies.

Item Master Application ---------- **6, 27**

A Maximo application that contains the full list of all inventory items available to storerooms across all sites. This application can be compared to an item catalog. From here, sites select items to add to their own storeroom(s).

Item Set ---------- **11, 26, 57**

A group of inventory items that are available to the storerooms at one or more organizations. Each organization has access to a single item set.

Kit ---------- **14, 20, 29, 40**

A special kind of item that represents a bill of materials (see Item Assembly Structure). Instead of representing a single item in its own right, a kit represents the sum of all its sub-components, which are other items (or other kits). Kits must be assembled before they can be issued.

LIFO Costing Method ---------- **16, 34**

A costing method whereby each issuance is charged at the unit value of the most recent receipt cost for the item or tool. LIFO is an acronym for "Last In, First Out".

Lot ---------- **12**

A quantity of an item that has a fixed expiration date.

Meter ---------- **20**

A measurement mechanism associated with an asset. Some types of meters can be configured to automatically update when specific items are issued against their asset.

OBSOLETE Status ---------- **8, 45, 55**

The item has been retired and is no longer available for use. It cannot be brought back to ACTIVE status.

Order Unit ---------- **19, 45**

The unit by which an item, tool, or service item is ordered. The order unit may vary between items, vendors, and even purchase orders.

PENDING Status ---------- **8, 26**

The item or tool is not available for use or inventory control, except that you may add it to a storeroom with an initial quantity. It is not visible on lookups from other applications.

Physical Count ---------- **21, 42**

The event that occurs when an item is counted, prior to the current balance being updated. A physical count is part of a controlled process.

Physical Inventory ---------- **21, 42**

A generic term referring to a process to fully account for all inventory items and reconcile any differences.

PLANNING Status ----------**8, 26**

Similar to the PENDING status, except that (a) full inventory control (physical counts, cost changes, and current balance adjustments) and purchase receipts are allowed and (b) the item/tool is visible from lookups in other applications. It cannot be reserved or issued.

PNDOBS Status ---------- **8, 45, 55**

The item or tool is pending obsolescence. It cannot be purchased, but it can be issued and adjusted. The item can be brought back to ACTIVE status.

Purchase Contract ----------**19**

An agreement between the buyer and seller dictating pricing and terms of goods or services. Maximo has several different kinds of purchase contracts.

Purchase Document ----------**18, 43, 44**

Any of various documents involving procurement. Usually, this term refers to either a requisition or a purchase order.

Qualification ----------**47**

A requirement that must be met by a user before they will be allowed to use a tool.

Reconcile Balances---------- **21, 42**

The event that occurs when physical counts (see Physical Count) have been approved and are applied to adjust items' current balances.

(Stock) Reorder---------- **18, 43**

The event that occurs with a user causes Maximo to evaluate the available balance of items against their reorder points to automatically generate purchasing documents.

Reorder Point ----------**18, 27, 43**

The balance at which Maximo will flag an item to be automatically replenished in the storeroom.

Reservation ---------- **17, 36**

An indication that an item or tool is planned for use on a work order.

Return ----------**17, 36, 52**

The event that occurs when an item or tool is returned to the storeroom after being charged to a work order, asset, location, or GL account.

ROP Analysis ---------- **23, 46**

The process of determining the appropriate reorder point by evaluating lead times to ensure that typical consumption will never allow the available balance to fall below the safety stock level.

Rotating Asset ---------- **13, 47**

A special kind of asset that is associated with a rotating item (see Rotating Item), allowing it to be moved in and out of the storeroom.

ROTATING Costing Method ----------**16**

A costing method used exclusively for rotating items, where each individual unit retains a different unit cost associated with its rotating asset.

Rotating Item ----------**13**

A special kind of item in which each individual unit represents a rotating asset (see Rotating Assets).

Safety Stock ---------- **18, 32**

The minimum quantity of an item that must be available for use at any time.

Service Item ---------- **6, 23, 55**

A code representing a specific type of contract service.

Service Items Application ---------- **6, 23, 55**

A Maximo application that contains codes that are used for procuring services. Each code represents a type of contract service.

Shipment Receiving Application----------**6, 21, 41, 53**

A Maximo application that works with the Inventory Usage application to facilitate receipt of items in a remote storeroom.

SOFT Reservation ----------**17, 21, 36**

A reservation that is not critical or time sensitive. Soft reservations do not reduce the available quantity of an item, allowing the item to be used for other purposes and possibly not available when required.

Spare Parts (a)----------**10**

A generic term for an inventory item that is tracked and monitored in the storeroom.

Spare Part (b)---------- **20, 47**

An item that is flagged as being associated with a specific asset and therefor more likely to be used in the future for maintenance on that asset.

Specification----------**13, 27, 47**

A specific attribute or characteristic of an object that is applied only to objects of a given classification (see classification). Items, as well as many other objects in Maximo, can be given specifications.

Stage ---------- **41, 53**

To move an item into a temporary location prior to transferring it to another storeroom.

Staging Bin ----------

The temporary location of an item prior to it being transferred to another storeroom.

STANDARD Costing Method ---------- **16, 23, 34, 36**

A costing method whereby each issuance is charged at a cost which is assigned to the item and which does not change, even as the purchase cost of the item changes over time.

Stocked Tools Application ---------- **6, 50, 50**

A Maximo application that contains the tools that have been selected to reside in a storeroom. This application is the main place where tool control takes place.

Storeroom----------**11**

A warehouse where items and tools are stored.

Storerooms Application ---------- **6**

A Maximo application that allows users to create and configure storerooms.

Tool ---------- **23, 47**

Similar to an item, but used for performing work rather than installing or consumption.

Tools Application ---------- **6, 23, 47**

A Maximo application that contains the full list of all tools available to storerooms across all sites. This application can be compared to an tool catalog. From here, sites select tools to add to their own storeroom(s).

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