



IBM® Tivoli® Software

IBM Process Content Package – Maximo Inventory Management

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None

REVISION HISTORY

Date	Version	Revised By	Comments
4 February 2014	1.0.0	Jean Bellefeuille	
19 November 2014	2.0.0	Jean Bellefeuille	Revised to reflect that this content pack is stand alone, i.e. it does not need the Work Management content pack.

1 Maximo Inventory Management Content

The inventory management process content package is focused strictly on base Maximo and not does take into account any industry solution, add-ons such as Service Provider, or additional licensed products such as Incident, Problem or Change Management. The inventory management process content package supports Inventory Movement and Inventory Replenishment.

The inventory management package contains the following:

- Basic workflow to handle the processing of Purchase Requisitions with supporting Roles and Person Groups.
- Start Centers.
- A change to an Inventory Option.
- Saved Queries.
- A Reorder Cron Task instance.
- Security Groups

Every effort was made to reduce configuration of the product there are however post configuration actions that must be accomplished. No customization to the product has been done, i.e., no Java class files have been added or modified and no scripting has been accomplished.

2 Installation Instructions

Note: All data installed by this content package is prefixed with IBM.

2.1 Prerequisites

1. Run the package as MAXADMIN.

2.2 Post Installation Tasks

See Section 4 for Post Installation tasks.

3 Content

The content provided has been designed to support the following standard Maximo activities; Inventory Movement and Inventory Replenishment.

3.1 Inventory Movement

Inventory movement consists of the following activities:

- Issuing Items
- Returning Items
- Transferring Items

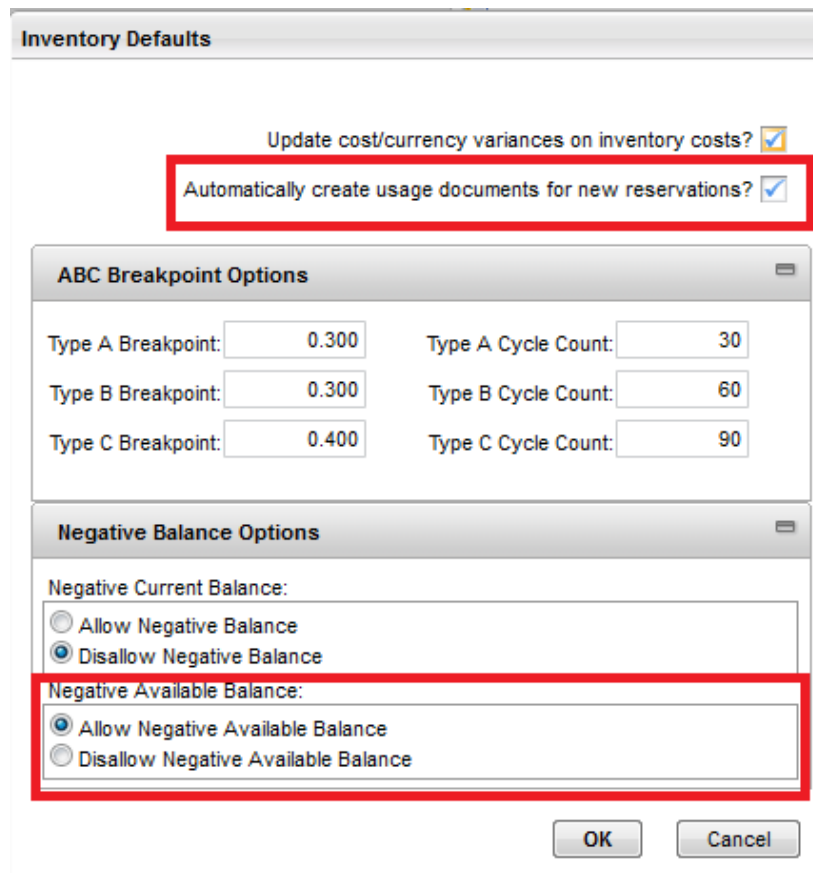
Usage records are used for these actions.

3.1.1 Issuing Items

Organization Options – Inventory Options – Inventory Defaults

This content package sets the 'Negative Available Balance' option to ALLOW. This will facilitate the reservation of items even when there are no items available.

If you will also be installing the Work Management Process Content Package it will set the 'Automatically create usage documents for new reservations?' option to YES (checked) this will automatically create a usage record of type ISSUE, status = ENTERRED, when items are reserved for work orders.
See figure below.



The image shows a software dialog box titled "Inventory Defaults". At the top, there are two checked checkboxes: "Update cost/currency variances on inventory costs?" and "Automatically create usage documents for new reservations?". Below these is a section titled "ABC Breakpoint Options" containing a table of values for Type A, B, and C breakpoints and cycle counts. Underneath is a section titled "Negative Balance Options" with two radio button groups. The first group, "Negative Current Balance", has "Disallow Negative Balance" selected. The second group, "Negative Available Balance", has "Allow Negative Available Balance" selected. This second group is highlighted with a red rectangle. At the bottom right are "OK" and "Cancel" buttons.

ABC Breakpoint Options	
Type A Breakpoint:	0.300
Type A Cycle Count:	30
Type B Breakpoint:	0.300
Type B Cycle Count:	60
Type C Breakpoint:	0.400
Type C Cycle Count:	90

Negative Balance Options	
Negative Current Balance:	
<input type="radio"/> Allow Negative Balance	
<input checked="" type="radio"/> Disallow Negative Balance	
Negative Available Balance:	
<input checked="" type="radio"/> Allow Negative Available Balance	
<input type="radio"/> Disallow Negative Available Balance	

Figure 1 - Inventory Defaults options dialog

The usage records will appear on the start center if the document status is ENTERRED, SHIPPED, or STAGED.
See figure below.

Everyplace

IBM Buyer

IBM Inventory Management

IBM Inventory Stockkeeper

IBM Purchasing Supervisor

Change Content/Layout

Display Settings

Create New Template

Modify Existing Template

Update Start C

Quick Insert

New Inventory Usage

New Item

New Requisition

New Service Request

New Tool

Favorite Applications

Inventory

Issues and Transfers

Inventory Usage

Receiving

Shipment Receiving

Stocked Tools

Bulletin Board

Filter

Subject

Message

Post Date

Expiration Date

Viewed

N

There are currently no bulletin board messages to view.

Work Orders Waiting for Material

Filter

Items Pending Issue, Staged or Shipped

Filter

Usage	Usage Type	Description	Status	Status Change Date
1016	TRANSFER		ENTERED	4/27/11 11:18 AM
1001	ISSUE	Created for WO - 27815.	ENTERED	2/18/11 1:42 PM
1002	ISSUE	Created for WO - 27816.	STAGED	2/18/11 2:03 PM
1003	ISSUE	Created for WO - 27817.	ENTERED	2/18/11 1:53 PM
1004	ISSUE	Created for WO - 27818.	ENTERED	2/18/11 1:56 PM
1005	MIXED		STAGED	2/18/11 2:00 PM
1006	TRANSFER		SHIPPED	2/18/11 2:10 PM
1011	TRANSFER	Ship re-stock to PKG storeroom	SHIPPED	3/11/11 1:59 PM
1012	MIXED	Pump replacement ship to Garage storeroom	SHIPPED	3/11/11 2:13 PM
1024	ISSUE	Created for WO - 1314.	ENTERED	6/3/14 3:28 PM

[Set Graph Options](#)

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Next Page

Open Purchase Orders without Receipts Complete

Filter

Mobile Start Center

Figure 2 - IBM Inventory Stockkeeper Start Center

3.1.2 Transferring and Returning Items

Usage documents for these activities are created manually. These usage documents will also appear on the start center if the document status is ENTERED, SHIPPED, or STAGED. See figure above.

3.2 Inventory Replenishment

Inventory replenishment consists of the following activities:

- Reorder items
- Create/review/approve Purchase Requisitions
- Receive Items

3.2.1 Reorder

The reorder process is initiated from the Inventory application with the REORDER select action. If automatic reordering is desired an instance, IBMREORDER, of the Reorder Cron Task is installed. See figure below.

The schedule is set for daily at 5:00 AM. Parameter setup must be completed before activating the cron task.

Review the Cron Task instance, make modifications as desired, then activate it.

The screenshot displays the IBM Maximo configuration interface for the Reorder Cron Task. At the top, the 'Cron Task' details are shown: Name 'Reorder Cron Task', Class 'psdi.app.inventory.ReorderCron', and Access Level 'FULL'. Below this is a table of 'Cron Task Instances' with one instance named 'IBMREORDER'. The instance has a schedule of '1d 00:05:00.000000', runs as 'MAXADMIN', is active, and has 1,000 history records. The bottom section shows the 'Parameters' for the task, including 'directissue', 'emailto', 'ignore reorder point', 'leadtime', and 'logfile'.

Cron Task Instance Name	Schedule	Run as User	Active?	Keep History?	Max Number of History Records
IBMREORDER	1d 00:05:00.000000	MAXADMIN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1,000

Parameter	Value	Description
directissue		A list of sites for which direct issue items will be processed
emailto		The e-mail address to whom the reorder result will be sent. T
ignore reorder point	0	Whether reorder cron task will ignore the reorder point of the
leadtime	0	The extra lead time that will be included by the reorder cron t
logfile		The complete path of the log file for reorder cron task result.

Figure 3 - Reorder Cron Task

You also determine the status that the PRs are created with from the Reorder process. This is configured post installation. See Section 4, Post Installation Tasks.

3.2.2 Create/Review/Approve Purchase Requisitions

Workflow

A simple workflow is provided for processing Purchase Requisitions, IBMINVPR.

The workflow is installed disabled and inactive. You should review the workflow and make any changes to meet your organizations needs before activation. See Section 4, Post Installation Tasks.

Roles

The Roles installed for use in the workflow are:

IBMINVMMGR - Inventory Manager

IBMINVVSUP – Inventory Supervisor

IBMINVSTOCKKP – Inventory Stockkeeper (Note: This role is currently not used in the workflow.)

Actions

The workflows use standard Maximo supplied actions. The Actions used are:

PRAPPR – PR approval action

PRCLOSE – PR close action

Workflow Design

IBMINVPR, IBM Inventory Management Purchase Requisition Workflow

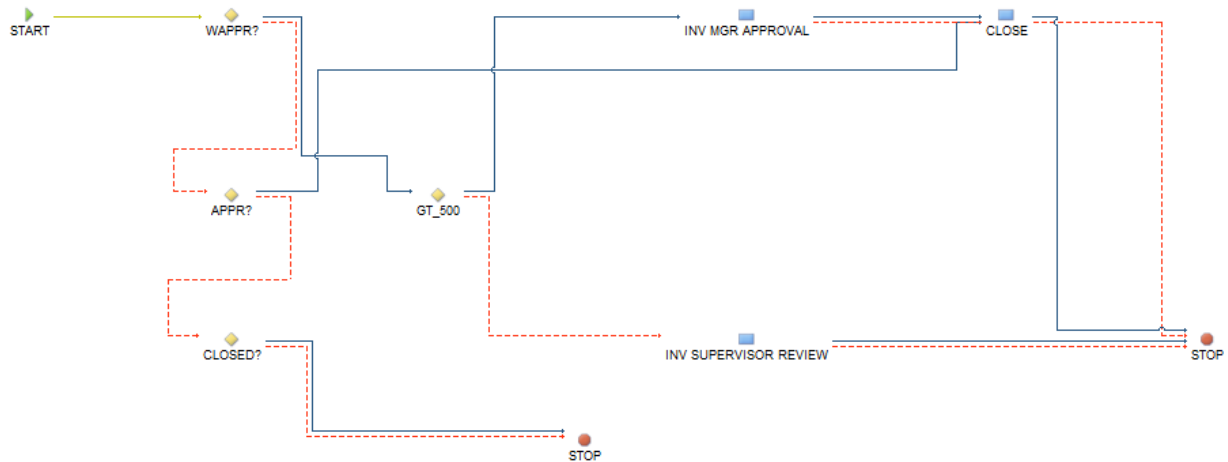


Figure 4 – IBM INVPUR Workflow

When PRs enter the workflow the record status is checked. If the status = WAPPR then the PR is new and the total cost of the PR is checked. If the total cost is less than or equal to \$500, the PR is assigned to the Inventory Supervisor for review and approval. If the total cost is greater than \$500, the PR is assigned to the Inventory Manager group for review and approval.

Approved PRs then await closure by the Inventory Manager group.

PRs that are neither Waiting for Approval or Approved are automatically closed if their status has not already been changed to CLOSE.

Workflow Initiation

The workflow has not been configured to initiate automatically. If automatic initiation is desired see Post Installation Tasks, Section 4.

Workflow Other

If you plan to also install the Purchasing Management Process Content Pack then configure and use the Purchase Requisition workflow installed with this process Pack. The process is slightly modified and includes a Buyer in the PR review and approval process.

Start Centers

Two start centers are installed.

IBM Inventory Stockkeeper:

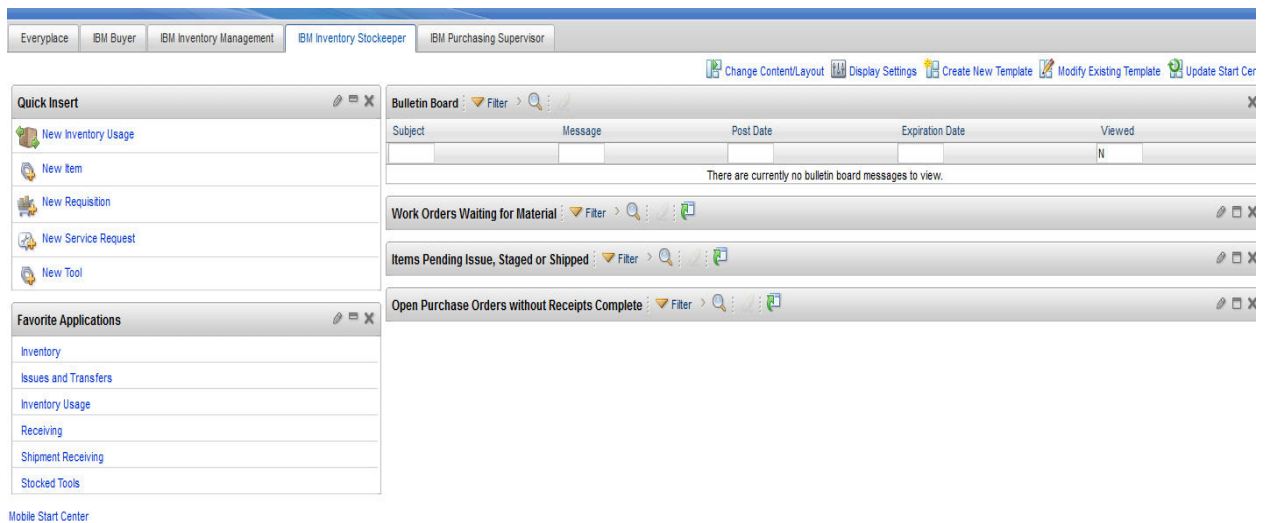


Figure 5 - IBM Inventory Stockkeeper Start Center

IBM Inventory Management:

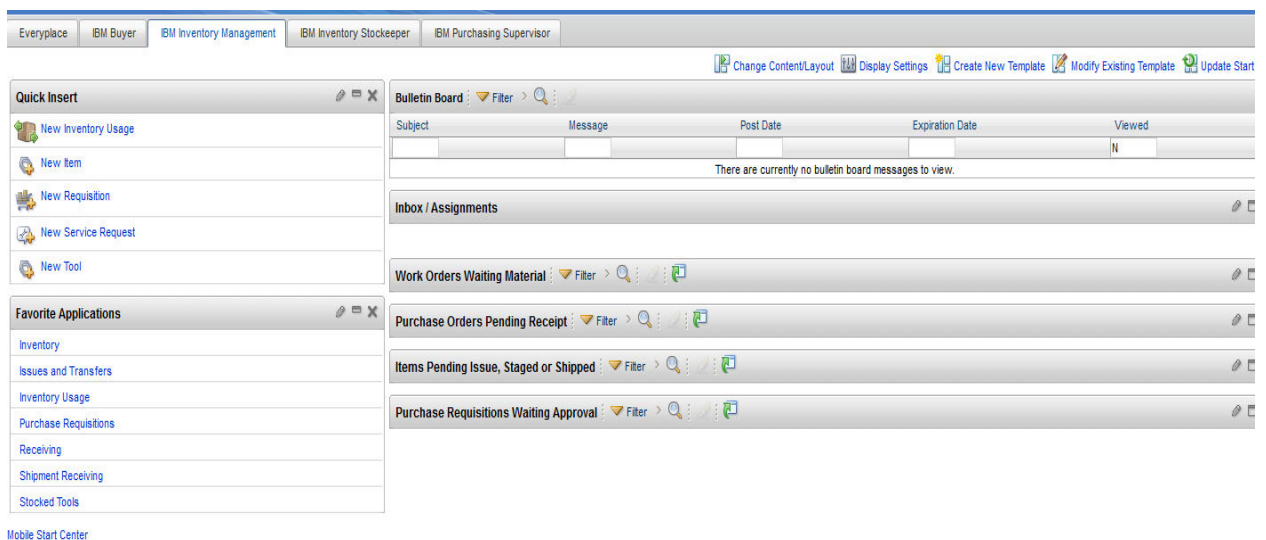


Figure 6 - IBM Inventory Management Start Center

In addition to the portlets on the IBM Inventory Stockkeeper start center the IBM Inventory Management start center also includes a Workflow Assignment Inbox and a Result Set for Purchase Requisitions waiting for approval.

This start center is designed for use by both the Inventory Manager and Inventory Supervisor security groups.

3.2.3 Receiving Items

Items requiring receipt are listed on the Open Purchase Orders without Receipts Complete portlet on the start centers.
See figure below.

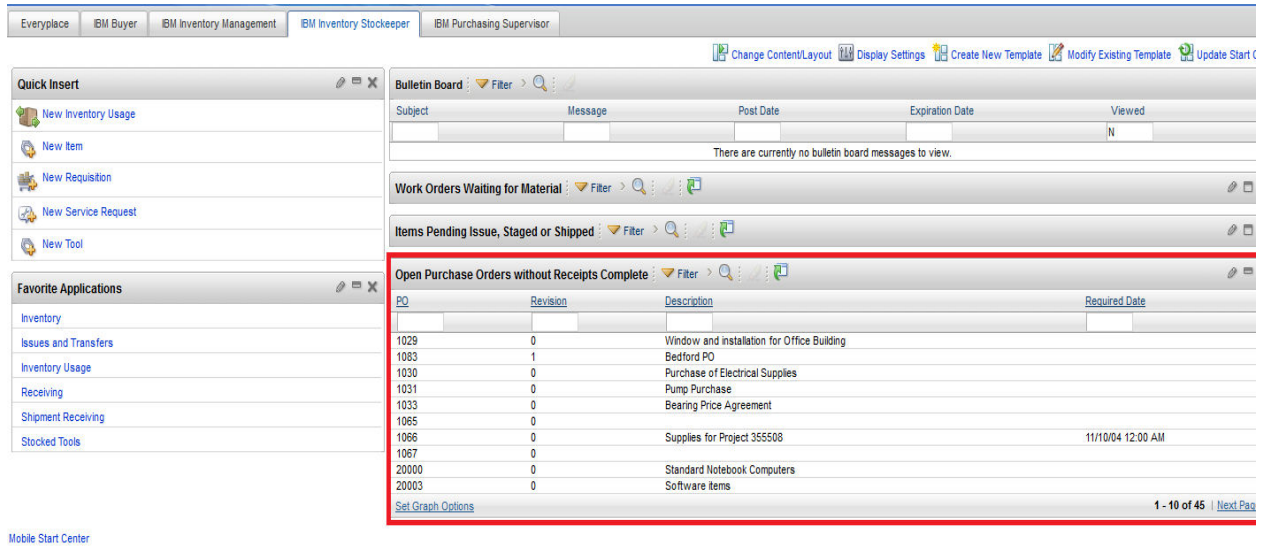


Figure 7 - IBM Inventory Stockkeeper Start Center

4 Post Installation Tasks

There are a few simple post installation tasks.

4.1 Security Groups

Review the Security Groups installed by this content pack and assign a start center if not already assigned. Also add users if necessary.

<u>Security group</u>	<u>Start Center</u>
IBMINVMGR	IBM Inventory Management
IBMINVSUP	IBM Inventory Management
IBMSTOCKPR	IBM Inventory Stockkeeper

4.2 PR Review and Approval by Workflow

If you plan to use the provided workflow for this process then there are a number of tasks to accomplish.

Review the workflow and accept as is or modify to match your organizations procedures.

4.2.1 Workflow Status Locking

Changing statuses outside of the workflow processes may cause an error for the user. For example, the Purchase Requisition status was changed to Approved outside of the workflow and the workflow attempts to change the status to Approved an error will occur.

There are a number of options, one is to remove or hide the Status change icon from the menu and select action dropdown. Another is to use the OKSTATUS and NOSTATUS actions to prevent users from changing the record while it is in the workflow. You will need to configure Action groups to replace the single actions in the workflow.

4.2.2 Add Workflow Support for PR Application

Enable and Activate the workflow.

Add workflow support to the Purchase Requisition application using the Select Action – Add Workflow to Applications in the Workflow Designer Application. See figure below for an example:

Add Workflow Support to Applications

?

This table displays applications for the object type of the process and the current state of workflow support in the applications. Click OK to add support to applications where the Add Support column is checked.

Object: PR

Filter > 1 - 2 of 2 Download

Application	Current Support	Add Support?
PLUSPR	none	<input type="checkbox"/>
PR	full	<input checked="" type="checkbox"/>

OKCancel

Figure 8 - Add Workflow to Applications dialog

4.2.3 Automatic Workflow Initiation

If you wish to have the PRs created from the reorder process be automatically inserted into workflow then identify the respective PR workflow in the Workflow Options of the Organization application.
See figure below:

The dialog box is titled "Workflow Options". It contains a table with two columns: "Site" and "Description". The table has one row with the value "PCPSITE" under "Site" and "PCP Site" under "Description". Below the table is a section titled "Workflow Processes to Initiate Automatically". This section contains four labels with corresponding text boxes and search icons: "Work Orders on PM Generation:" with the value "IBMPMWO", "Purchase Requisitions on Reorder:" (highlighted with a red box), "Purchase Orders on Reorder:" (highlighted with a yellow box), and "Work Orders on PO Approval:" with the value "IBMMAINWF". At the bottom right are "OK" and "Cancel" buttons.

Site	Description
PCPSITE	PCP Site

Workflow Processes to Initiate Automatically

Work Orders on PM Generation: IBMPMWO

Purchase Requisitions on Reorder:

Purchase Orders on Reorder:

Work Orders on PO Approval: IBMMAINWF

OK Cancel

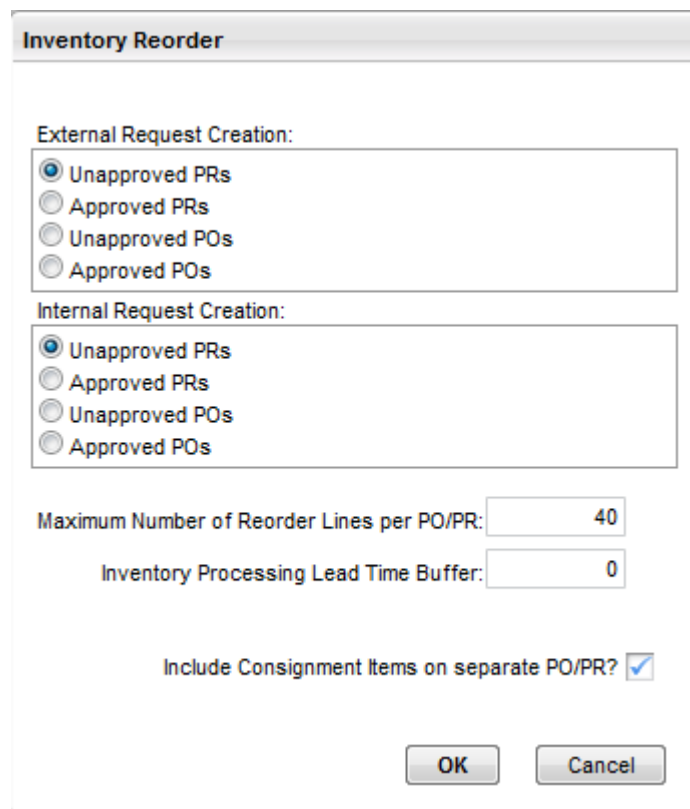
Figure 9 - Workflow Options dialog

4.3 Reorder

4.3.1 Reorder Document Creation

Decide what status the PRs will be created from the Reorder process.
Set this in the Organization application, Inventory Options, Inventory Reorder selection.

Out of the Box settings are as shown in the figure below.



The dialog box is titled "Inventory Reorder". It contains two sections: "External Request Creation:" and "Internal Request Creation:". Each section has four radio button options: "Unapproved PRs", "Approved PRs", "Unapproved POs", and "Approved POs". In both sections, "Unapproved PRs" is selected. Below these sections are two text input fields: "Maximum Number of Reorder Lines per PO/PR:" with the value "40" and "Inventory Processing Lead Time Buffer:" with the value "0". At the bottom, there is a checkbox labeled "Include Consignment Items on separate PO/PR?" which is checked. The dialog box has "OK" and "Cancel" buttons at the bottom right.

Figure 10 - Inventory Reorder Options dialog

4.3.2 Automatic Reorder Initiation

Review the IBMREORDER instance of the ReorderCron Task.

Change/accept the schedule.

Update the parameters to include Sites and Storerooms that have been created for your inventory.

Activate the cron task instance.

5 Appendix A

5.1 Using a local Content Source

By default the ISM Content Installer application includes a Content Source configured to read items from the IBM ISM Library. This requires the IBM Maximo Asset Management server to have Internet connectivity. This section outlines how to create a local Content Source so the Process Content Packs can be installed on an IBM Maximo Asset Management server without Internet connectivity.

Note: the examples shown below reference a Microsoft® Windows server, however the steps are identical on a Unix® or Linux® based server. Simply change the file path to reflect the correct path.

5.2 Download the Process Content Packs

Each Process Content Pack is listed on the IBM ISM Library. In the top-right corner is a link to download the item. From a computer with Internet connectivity, click on this download link to save the zip file which contains the components and documentation for each pack. Save one or more Process Content Pack zip files into a directory. Then copy the zip files to a directory on the IBM Maximo Asset Management server.

5.3 Create a local ContentSource.xml

In the same directory on the IBM Maximo Asset Management server where the zip files were placed, use a text editor to create a file with the text below. Save the file with the file name ContentSource.xml.

```
<?xml version="1.0" encoding="UTF-8"?>
<catalog infourl="" lastModified="" owner=""
  xmlns:tns="http://www.ibm.com/tivoli/tpae/ContentCatalog"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="ContentCatalog.xsd">
  <catalogItem>
    <version>7.5.0.0</version>
```

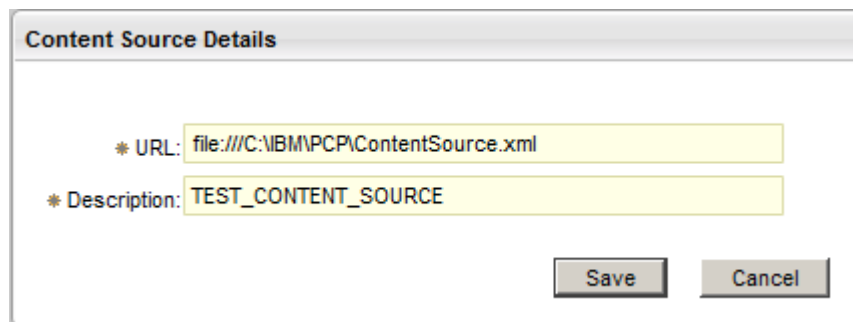
```
<type>mriu</type>
<name>Maximo Work Management Package</name>
<description>Maximo Asset Management Work Management
Package</description>
<homepage/>
<licenseurl/>
<category>Maximo Asset Management</category>
<url>file:///E:\MAMWorkMgt.zip</url>
<licenseurl/>
<category> IBM Maximo Asset Management </category>
<url> file:///E:\MAMWorkMgt.zip</url>

</catalogItem>
</catalog>
```

Replace the file paths with the path used on your server for each <URL> entry in the <catalogItem> section. If using Unix or Linux, replace \ with /.

5.4 Edit the ISM Content Installer Content Source

Log into IBM Maximo Asset Management with administrative rights and go to the ISM Content Installer application. Click on the default Content Source labeled IBM Maximo Asset Management. From the left-hand menu or the Select Action menu, choose the Edit Catalog action. Edit the file path similar to the image below, replacing the path with the path on your server where the ContentSource.xml file is stored.

A screenshot of a web-based dialog box titled "Content Source Details". It contains two input fields: "URL:" with the value "file:///C:\IBM\PCP\ContentSource.xml" and "Description:" with the value "TEST_CONTENT_SOURCE". At the bottom right are "Save" and "Cancel" buttons.

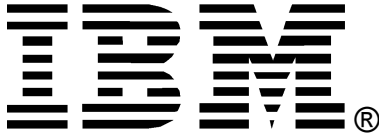
Content Source Details	
* URL:	file:///C:\IBM\PCP\ContentSource.xml
* Description:	TEST_CONTENT_SOURCE
<div>Save Cancel</div>	

Figure 11 - Content Source Details

Your Content Source entry should now read the local ContentSource.xml file, which will in turn display an entry for each Process Content Pack zip file and allow you to install the Pack into your IBM Maximo Asset Management environment.

REFERENCES

IBM Process Content Package – Maximo Purchase Order Management



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