

maximo enterprise suite

Release 6.0
July 2005

What's New

mro software™

make it *all* count

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About This Guide

The guide summarizes new features and user interface enhancements introduced in Maximo Enterprise Suite.

Who Should Read This Guide?

Read this guide if you're a Maximo customer who wants to learn about the new features and user interface (UI) enhancements introduced in Maximo Enterprise Suite (MXES).

If your business is planning an Maximo upgrade you should also consult the appropriate Upgrade Planning Guide:

- ▼ *Upgrade Planning Guide Maximo 4.1.1 to MXES*
- ▼ *Upgrade Planning Guide Maximo 5 to MXES*

NOTE The bulk of the information in this document appears in the *MXES Upgrade Planning* guides. This document provides additional information about IT Asset Management, Service Desk, and Service Management features that does not appear in the *Upgrade Planning* Guides.

Notation Conventions

This guide uses the following typographical conventions:

Bold type indicates the following elements of the user interface:

- ▼ Buttons
- ▼ Check boxes
- ▼ Field names
- ▼ Select Action menu options

Italic type indicates a documentation title.

Related Documentation

The Product Update Release Notes describe new features added during product updates to Maximo. You can find release notes on the MRO Software Support Online Web site:

support.mro.com

For information about using the applications in the following Maximo modules, consult the *Maximo System Administrator's Guide*:

- ▼ Administration Module
- ▼ Configuration Module
- ▼ Financial Module
- ▼ Security Module

For additional information about using the applications in the following Maximo module, consult the *Maximo Report Administration Guide*:

- ▼ Reporting Module

For information about using the applications in the following Maximo module, consult the appropriate *Maximo Enterprise Adapter Guide*:

- ▼ Integration Module

For information about using the applications in the following Maximo modules, consult the *Maximo User's Guide*.

- ▼ Assets Module
- ▼ Contracts Module
- ▼ Deployed Assets Module
- ▼ Inventory Module
- ▼ Planning Module
- ▼ Preventive Maintenance Module
- ▼ Purchasing Module
- ▼ Resources Module
- ▼ Safety Module
- ▼ Self-Service Module (Desktop Requisitions and Service Requests)
- ▼ Service Desk Module
- ▼ Service Management Module
- ▼ Work Orders Module

What's New for MXES?

This document provides an overview of the new features introduced in Maximo Enterprise Suite (MXES). The information in this guide is grouped by function into the following categories:

- ▼ Multisite and Multilanguage
- ▼ Interface and Navigation
- ▼ Administration and Set Up (Configuration, Security)
- ▼ Asset Management
- ▼ Contract Management
- ▼ IT Asset Management
- ▼ Materials Management
- ▼ Maximo Enterprise Adapter (MEA)
- ▼ Purchasing
- ▼ Service Desk
- ▼ Service Management
- ▼ Workflow
- ▼ Work Management (Resources, PMs, Planning, Safety)
- ▼ Reporting

Multisite and Multilanguage

MXES includes several enhancements that support companies that want to implement Maximo at multiple locations or in multiple languages.

Maximo 5 introduced the concept of Multisite to meet the needs of larger organizations. Multisite allows different companies or business units to share a single Maximo database while maintaining separate financial and business processes for each Organization and Site. Organizations and Sites are logical divisions of a company determined by the financial and business processes that are used at each location.

While a company might need only a single Organization and Site when implementing Maximo, Multisite allows larger enterprises greater flexibility in their Maximo implementation.

The benefits of a Multisite implementation include:

- ▼ Multiple Sites can share data from a single database.
- ▼ Centralized reporting across all Sites.
- ▼ Centralized contracts and purchasing.
- ▼ Ability to move/share assets, inventory, and labor between Sites.

Multisite Levels

In Maximo 5, Multisite divided data storage into three levels: System, Organization, and Site. In MXES, Multisite now divides data storage into four levels:

- ▼ **System** or database — A System is an instance of the Maximo database. Data that is stored at the system level can be accessed by all users who are connected to the Maximo database. You also might hear this level referred to as "enterprise level."
- ▼ **Set** — A Set is a means for multiple Organizations to share data about vendors and items. Data that is stored at the Company Set or Item Set level can be accessed by users in the Organizations that share the Company or Item Set. Each Organization can have only one Company Set and one Item Set, but more than one Organization can share the same Company or Item Set. An administrator uses the Sets application to define Company and Item Sets.
- ▼ **Organization** — An Organization represents a major financial division of a company, one that might have separate General Ledger accounts, financial periods, or tax codes. Data that is stored at the Organization level can only be accessed by users within a specific Organization. An Organization can contain one or more Sites. Organization level data cannot be shared with other Organizations. An administrator uses the Organizations application to define Organizations.
- ▼ **Site** — A Site is a work location, for example a plant or facility. Data that is stored at the Site level can only be accessed by users at the specified Site. Site level data cannot be shared with other Sites or Organizations. An administrator uses the Organizations application to define Sites.

When you install Maximo, you must create at least one Company Set, Item Set, Organization, and Site. That might be all you need to meet the needs of your business.

New Company and Item Sets

A Multisite implementation for MXES includes a new level, Sets, which exists below the System level, but above the Organization level. Using Sets allows Organizations to share data. You use the Sets application in the Administration module to create both Company Sets and Item Sets.

A **Company Set** defines a list of vendors. In Release 5.2 company data was stored at the Organization level. Using Company Sets allows more than one Organization to share the same list of vendors. In MXES, you define Company Master records at the Company Set level, then create Company records at the Organization level that contain Organization specific information about the company, such as contacts and branches.

An **Item Set** defines a list of item records that can be used by an Organization or Site. In Release 5.2 item master records were stored at the Organization level. Using Item Sets lets you transfer items between Organizations that share the same Item Set and issue items across Sites within the same Organization. In MXES, you define the following data at the Item Set level:

- ▼ Condition Codes
- ▼ Commodity Codes
- ▼ Conversion Values (order unit to issue unit)
- ▼ Item Master
- ▼ Service Catalog
- ▼ Service Items (standard services)
- ▼ Tools

Multisite Changes in MXES

Most applications and functions that existed in Maximo 5 remain at the same Multisite level in MXES. The following table lists those applications or functions that are at a different Multisite level in MXES.

Application or function	Previous level (Maximo 5.2)	Current level (MXES)
Attached Document Library	Site	System
Bookmarks	Site	System
Classifications	Asset Catalog = Organization	SystemOrgSite *
Default Query	Site	System
Failure Codes	Site	Organization
Item Master	Organization	Item Set
Job Plans	Site	SystemOrgSite *
Person Groups	Labor Groups = Site	System
Security (Security Groups, Users)	Signature Security = Site	System
Service Contracts	Site	Organization
Tools	Organization	Item Set

* Records at the SystemOrgSite level are at the System level by default, but you can specify an Organization or Site.

NOTE For a list of which applications and functions are defined at each Multisite level, refer to Chapter 1, "Maximo Overview," of the *Maximo User's Guide*.

Multisite Enhancements

In Maximo 5.2 users who had access to records at more than one Site had to change Sites every time they wanted to enter, view, or modify records for a different Site. With MXES you no longer need to change Sites. When you log into Maximo you log into the Maximo database and have access to all Sites to which you have been granted security permissions.

Maximo users have a **Default Insert Site** listed on their user record. When users create records, they are created for the Site and Organization that contains their **Default Insert Site**. Maximo also uses the **Default Insert Site** to filter which records are displayed to the user.

Users who create records for more than one Site can use the Profile link in the Maximo navigation bar to access the Default Information dialog box and change their **Default Insert Site**. Users who want to view all records that they have access to can clear the **Use Default Insert Site as a Display Filter?** check box to view all records.

Maximo Navigation Bar



Multilanguage

MXES includes several enhancements for companies that want to implement Maximo in two or more languages.

The following table lists the table and columns that are Multilanguage-enabled by default. This means that they have a secondary language table upon installation. These tables are indicated by "L_" at the beginning of the table name.

TABLES	COLUMNS
ALNDOMAIN	DESCRIPTION
COMPANIES	<ul style="list-style-type: none"> ▼ NAME ▼ NAME_LONGDESCRIPTION
ITEM	<ul style="list-style-type: none"> ▼ DESCRIPTION ▼ DESCRIPTION_LONGDESCRIPTION
MAXAPPS	DESCRIPTION
MAXDOMAIN	DESCRIPTION
MAXSERVICE	DESCRIPTION
MAXMENU	HEADERDESCRIPTION
MAXMESSAGES	<ul style="list-style-type: none"> ▼ BUTTONTTEXT ▼ VALUE
MAXOBJECTCFG	DESCRIPTION
MAXOBJECT	DESCRIPTION

TABLES	COLUMNS
MAXLABELS	VALUE
MAXMODULES	DESCRIPTION
MAXATTRIBUTE	<ul style="list-style-type: none"> ▼ REMARKS ▼ TITLE
MAXATTRIBUTECFG	<ul style="list-style-type: none"> ▼ REMARKS ▼ TITLE
REPORT	DESCRIPTION
REPORTLABEL	<ul style="list-style-type: none"> ▼ COLUMNWIDTH ▼ FONTNAME ▼ FONTSIZE ▼ LABELVALUE
SIGOPTION	DESCRIPTION
SYNONYMDOMAIN	DESCRIPTION

MXES includes four utilities to facilitate and manage a multi-language implementation:

- ▼ **exportlang.bat** — Exports translatable strings into an .xml file.
- ▼ **importlang.bat** — Imports the translated strings from the .xml file into the multi-language tables of the Maximo database.
- ▼ **deletelang.bat** — Removes a specific language from the Maximo application.
- ▼ **resetbaselang.bat** — Sets the base language to a different language.

For more information about configuring Maximo with multiple languages, refer to the *Maximo System Administrator's Guide*.

Interface and Navigation

The following enhancements have been made to the user interface and navigation for MXES.

Start Centers

MRO Software introduced the Maximo Dashboard as a product extension for Maximo 5.2. The Dashboard uses portlets to allow end-users to personalize their Start Center to display information relevant to their jobs.

Start Centers in MXES consist of two columns, which can be configured to display one or more portlets, or windows, which display data, links, or reports that are available in a specific Maximo application. The portlets that make up a specific Start Center can be chosen to support a particular job function, and can include any of the following:

- ▼ **Bulletin Board** — Displays Bulletin Board messages.
- ▼ **Favorite Applications** — Displays links that allow you to launch specific Maximo applications.
- ▼ **Inbox/Assignments** — Displays your Workflow Inbox, which contains records that have been routed to you and that require some sort of action, for example, review and approval.
- ▼ **KPI Graph** — Displays one or more Key Performance Indicator (KPI) graphs.
- ▼ **KPI List** — Displays a list of links to one or more Key Performance Indicator (KPI) records in the KPI Manager application.
- ▼ **Quick Insert** — Displays a list of links that allow you to launch an application and add a new record into the database, for example create a new work order.
- ▼ **Result Set** — Displays the result set from a saved query.

A user can have more than one Start Center if they belong to more than one Security Group. If a user has more than one Start Center, Maximo displays each one as a separate tab.

MXES Tabbed Start Center

The screenshot displays the MXES Tabbed Start Center interface. The top navigation bar includes the user name 'Welcome, Mike Wilson' and links for 'Bulletins: (2)', 'Go To', 'Reports', 'Start Center', 'Profile', and 'Sign Out'. The left sidebar contains tabs for 'Administration' and 'Purchasing'. The main content area is organized into several sections:

- Quick Insert:** Contains 'New Person' and 'New User' buttons.
- Security, Users and Groups:** A section for user management.
- Workflow Configuration:** Includes 'Workflow Designer', 'Roles', 'Actions', 'Communication Templates', 'Workflow Administration', and 'Escalations'.
- Bulletin Board (2):** Shows two messages: 'East Stairwell Painting' (8/10/04 9:15 PM) and 'Email server upgrade ADVISORY' (8/10/04 9:10 PM).
- Inbox / Assignments (11):** A table with columns: Description, Due Date, Priority, Start Date, DESCRIPTION, and Route. It lists several assignments with due dates around 4/26/05.
- Average Response & Resolution Times by Priority:** A section for performance metrics.
- KPI Graph:** A gauge chart for 'Open Work Orders Waiting Approval' with a scale from 0 to 200. The needle points to approximately 178. A table to the right shows:

Status KPI	Actual	Target	Variance
Open Work Orders Waiting Approval	178	25	153

New Applications

MXES includes many new applications designed to support information technology (IT) asset management and Service Desk functions. It also features new applications that support existing Maximo functions, such as Workflow and the Maximo Enterprise Adapter (MEA).

- ▼ **Activities** — Used to report work on activity class work orders.
- ▼ **Actions** — Used to create and manage actions and action groups for use with Workflow, escalation, and service level agreement (SLA) processes.
- ▼ **Adapter Conversion** — Used to specify how Maximo Fusion should translate adapter names, both media adapter (such as video and sound cards) and network adapter names.
- ▼ **Application Designer** — Used to create new applications (clones and custom applications) or to tailor the pages of an existing Maximo application.
- ▼ **Assets** — Used to create and store asset numbers and corresponding information, such as parent, location, vendor, up/down status, and maintenance costs for each asset. Previously known as the Equipment application.
- ▼ **Bulletin Board** — Used to create, post, and view messages and to broadcast information to all Maximo users.

- ▼ **Changes** — Used to create records to track changes made to information technology (IT) assets.
- ▼ **Classifications** — Used to create classifications, specify attributes, and define the classification hierarchy. Replaces the Asset Catalog Setup application.
- ▼ **Communication Templates** — Used to create and manage generic communication templates that can be used to generate e-mail communications with Escalations, Service Level Agreements, and Workflow processes and to create the Communications Log for ticket and work order records.
- ▼ **Company Master** — Used to define companies that belong to a Company Set that can be shared by one or more Organizations.
- ▼ **Comparison Rules** — Used to identify objects or attributes of a child or parent IT asset to compare with objects or attributes of a child or parent deployed asset when Maximo executes a reconciliation task.
- ▼ **Computers** — Used to view data about specific computers deployed at your company.
- ▼ **Condition Codes** — Used to define the codes used to describe the condition of items.
- ▼ **Create Requisition (Desktop Requisitions)** — Used to create desktop requisitions (material requisitions).
- ▼ **Create Service Request (Self-Service Service Requests)** — Used by self-service users to enter a service request.
- ▼ **Cron Task Setup** — Used to manage cron tasks. A cron task is a software command to execute a task at a scheduled time.
- ▼ **Currency Codes** — Used to define currency codes and to specify which codes are currently active. Replaces the Currency Management application.
- ▼ **Domains** — Used to create and manage lists of defined values (value lists) associated with Maximo fields.
- ▼ **E-Mail Listener Configuration** — Used to create and configure e-mail listeners, and to receive and process incoming e-mail messages.
- ▼ **Escalations** — Used to define escalation processes. An escalation is a mechanism for automatically monitoring time-sensitive records, which can take actions or send notifications when a record reaches a defined escalation point.
- ▼ **Exchange Rates** — Used to set up exchange rates used for converting currencies in Maximo.
- ▼ **External Systems** — Used to define the external systems that will exchange data with Maximo via the Maximo Enterprise Adapter (MEA).
- ▼ **Incidents** — Used to create records of incidents that result in an interruption to or reduction in the quality of a service.

- ▼ **Integration Interfaces** — Used to define the integration points that are used to send data from Maximo to an external system via the Maximo Enterprise Adapter (MEA).
- ▼ **Integration Objects** — Used to define the Maximo business objects (MBOs) and integration points used to exchange data between Maximo and an external system via the Maximo Enterprise Adapter (MEA).
- ▼ **KPI Manager** — Used to create Key Performance Indicators (KPIs) to track critical performance variables over time.
- ▼ **Labor Rate Contracts** — Used to define labor rates to be paid to specific crafts and skills when hiring workers.
- ▼ **Labor Reporting** — Used to report hours worked by labor (employees) or contractors. Replaces the existing Labor Reporting application.
- ▼ **Lease/Rental Contracts** — Used to define the terms and conditions and payment information for lease or rental agreements for rotating assets, including information technology (IT) assets.
- ▼ **Link Results** — Used to view successful one-to-one links established between a top-level IT asset and a computer, network device, or network printer during a reconciliation task.
- ▼ **Link Rules** — Used to define the objects and attributes of IT assets that should be compared to deployed asset records during reconciliation tasks.
- ▼ **Manufacturer Conversion** — Used to specify how manufacturer names should be translated by Maximo Fusion.
- ▼ **Master Contracts** — Used to define the contractual relationship with a vendor. A master contract links all contracts with the vendor, as well as containing the terms and conditions that apply to associated contracts.
- ▼ **Master PM** — Used to create generic preventive maintenance templates.
- ▼ **Meters** — Used to define meters that can be used to track asset and location performance.
- ▼ **Meter Groups** — Used to create groups of meters that can then be applied to assets or locations at the same time.
- ▼ **Network Devices** — Used to view information about deployed network devices such as routers, switches, and hubs.
- ▼ **Network Printers** — Used to view information about deployed network printers.
- ▼ **Operating System Conversion** — Used to specify how operating system names should be translated by Maximo Fusion.
- ▼ **Organizations** — Used to create Organizations and Sites, and to manage System, Organization, and Site level settings. Replaces the Multisite Setup application.
- ▼ **People** — Used to create and manage records for people who are listed on Maximo records in any capacity.

- ▼ **Person Groups** — Used to create and manage person group records that can be used on Escalation, Workflow process, and other records. Replaces the Labor Groups application.
- ▼ **Processor Conversion** — Used to specify how processor (CPU) names should be translated by Maximo Fusion.
- ▼ **Problems** — Used to create records of the underlying problems that cause incidents and service requests.
- ▼ **Purchase Contracts** — Used to create, modify, and view contracts for items or services with outside vendors. You can include detailed information about a contract's shipping and financial terms, contact information, item and service pricing, and delivery times.
- ▼ **Qualifications** — Used to create and manage certificate and qualification records.
- ▼ **Reconciliation Results** — Used to view and delete the results generated by a reconciliation task.
- ▼ **Reconciliation Tasks** — Used to create and manage reconciliation task records.
- ▼ **Releases** — Used to create records to plan and record the release of changes to information technology (IT) assets.
- ▼ **Report Administration** — Used to create reports, generate and preview request pages, add parameters, display reports as toolbar icons, e-mail reports, or specify a schedule for running a reports.
- ▼ **Roles** — Used to create and manage roles which are used with escalations, service level agreement (SLA), and Workflow processes.
- ▼ **Search Solutions** (Self-Service Service Requests) — Used to search the Solutions library.
- ▼ **Security Groups** — Used to create and manage security groups, which are used to grant access to Sites, applications, and actions, and to determine a user's security privileges and restrictions. Replaces the Signature Security application.
- ▼ **Service Catalog** — Used to create service groups and catalog the services provided by those groups.
- ▼ **Service Items** — Used to define services that your company requisitions, either as part of the purchasing process, or as part of a work order.
- ▼ **Service Level Agreements** — Used to define agreements between service providers and customers, documenting agreed upon levels of service.
- ▼ **Service Requests** — Used to create records of customer calls or e-mail requesting service.
- ▼ **Sets** — Used to define Company and Item Sets, which are used to share data between Organizations.

- ▼ **Software Conversion** — Used to specify how software application names should be translated by Maximo Fusion.
- ▼ **Software Suite Setup** — Used to define which software applications belong to a software suite.
- ▼ **Software Usage Setup** — Used to define how Maximo displays software usage frequency information collected by an asset discovery tool.
- ▼ **Solutions** — Used to create a library of reusable solutions which can be applied to incident and problem records.
- ▼ **Stocked Tools** — Used to manage tool inventory.
- ▼ **Task Filters** — Used to define a subset of either assets or deployed assets that should be used during a reconciliation task.
- ▼ **Ticket Templates** — Used to create templates for common service desk calls.
- ▼ **Tools** — Used to define tools and add them to storerooms. Replaces the existing Tools application.
- ▼ **Users** — Used to add and manage Maximo users.
- ▼ **View Drafts (Desktop Requisitions)** — Used to view draft desktop requisitions (material requisitions).
- ▼ **View Requisitions (Desktop Requisitions)** — Used to view submitted desktop requisitions (material requisitions).
- ▼ **View Service Requests (Self-Service Service Requests)** — Use to view submitted service requests.
- ▼ **View Templates (Desktop Requisitions)** — Used to view template desktop requisitions (material requisitions).
- ▼ **Warranty Contracts** — Used to create warranty and service contracts where vendors maintain one or more assets for a fixed fee, or regularly scheduled payment over a time period; or to track warranty information for multiple assets or locations by time or meter.
- ▼ **Workflow Administration** — Used to view and modify assignments and active instances of Workflow processes.
- ▼ **Work View** — Used to create and manage queries to both the ticket and work order tables. These queries can be displayed in the Result Set portlet of a Maximo user's Start Center.

Sections that appear later in this guide describe the new applications in more detail.

Application Types

All Maximo applications share a similar look and feel. MXES includes three general types of applications:

- ▼ Single page applications
- ▼ Power applications
- ▼ Self-service applications

Single Page Applications

Single page applications contain a single application page. Records are displayed in table windows, and searches are performed using the table filter. A Search Toolbar may or may not appear on the application page.

The following MXES applications are single page applications:

- ▼ Assignment Manager
- ▼ Condition Codes
- ▼ Currency Codes
- ▼ Exchange Rates
- ▼ Labor Reporting
- ▼ Terms and Conditions

Power Applications

The majority of Maximo's applications are power applications. A *power application* is an application that contains the following:

- ▼ a standard navigation bar and toolbar
- ▼ a List tab and Search toolbar to search the database for records
- ▼ a main record tab
- ▼ as many additional tabs as are required by the type of record

Self- Service Applications

Self-service applications are designed to guide Maximo users through the process of creating a record. The user interface for the self-service applications has been redesigned for MXES.

MXES contains a new Self-Service module, which contains two modules designed for the self-service user:

- ▼ Service Requests Module
 - Search Solutions
 - Create Service Requests
 - View Service Requests
- ▼ Desktop Requisitions Module
 - Create Requisition
 - View Requisitions
 - View Templates
 - View Drafts

General User Interface Enhancements

MXES includes several enhancements to navigation and the user interface including:

- ▼ All application action pages have been converted to dialog boxes.
- ▼ The Go To and Select Action menus now include cascading menus.
- ▼ User messages now include Yes, No, and Cancel options.
- ▼ Maximo now displays pop-up messages for some messages that were previously displayed in the Navigation Bar, for example "At last record."
- ▼ There are now two Date lookups, a Date lookup and a Date/Time lookup. The Date lookups now display a single month.
- ▼ Maximo now displays confirmation dialog boxes for actions that do not require user entry in a dialog box, for example **Delete Work Order**.

Search Enhancements

In Release 5.2 Maximo's Search tab contained five subtabs:

- ▼ Find — Used to create a query by example (QBE).
- ▼ Advanced — Used to create an SQL query.
- ▼ Saved Queries — Used to manage saved queries.
- ▼ Bookmarks — Used to manage bookmarked records.
- ▼ Results — Used to view the results of a query.

In MXES, the Search tab has been replaced by the List tab, which displays the results of a user's default query. The new Search toolbar provides access to Maximo's search functionality.





- ▼ QBE searching is now available via the **Advanced Search** button.
- ▼ SQL searching is now available via the **WHERE Clause** menu option.
- ▼ Saved Queries are now available via the **Save Current Query** and **View/Manage Queries** menu options.
- ▼ Bookmarks are now available via the **Bookmarks** button.

Table Window Enhancements

Table windows appear throughout the Maximo applications as part of the following user interface elements:

- ▼ List tab
- ▼ application tabs
- ▼ dynamic value lists
- ▼ Select Action dialog boxes

MXES includes several enhancements to table windows.

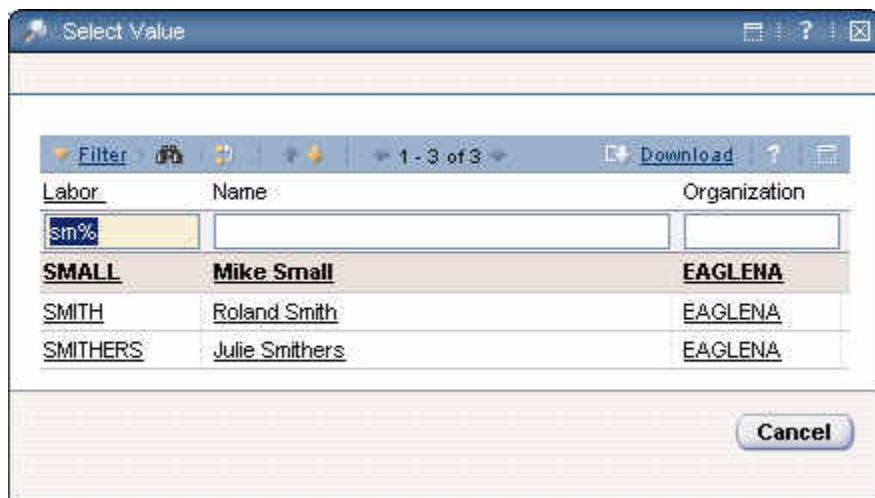
- ▼ The fields in the Table Filter now includes field lookups (**Detail Menu**, **Long Description**, **Select Date**, **Select Date and Time**, **Select Value**).
- ▼ Table windows can now be hidden or revealed using the **Hide Table**  and **Show Table**  buttons in the table header.
- ▼ Table windows now contain a **Download**  button which allows users to download the data in a table window to a spreadsheet in a separate browser session. You can save the data in several different formats.
- ▼ The **Done** and **Delete** buttons have been removed from the Row Details. Table rows can still be deleted using the **Mark Row for Delete**  button.

New Auto-Complete in Data Entry Fields

MXES includes a new feature on many fields that allows users to enter partial values in a field and have Maximo complete the entry. When a user enters a partial value and exits a field, Maximo attempts to complete the data entry.

- ▼ If Maximo finds a valid value that exactly matches the portion that was entered, Maximo completes the entry.
- ▼ If Maximo finds more than one valid value that matches the portion entered, a Select Value dialog box appears displaying the possible matches. You can use the table filter in the Select Value dialog to search for additional values if Maximo did not match the value exactly.

Partial Value Entered in a Labor Field




Drilldown Enhancements

Because users can view records for multiple Sites in MXES, the Drilldown has been enhanced.

- ▼ A **Site** field has been added to both the Locations and Assets tab to allow users to specify the Site where they want to view locations or assets.
- ▼ A **Show All Systems** button has been added to the Locations tab to allow users to view systems other than the Primary system.


Attached Documents Enhancements

In Maximo 5.2, most applications included an Attached Documents tab, allowing users to associate documents outside of the Maximo database to Maximo records.

For MXES the Attached Documents tab has been removed. The following Attached Documents actions are now accessible via an **Attachments** field and the paperclip icon  in the record heading:


- ▼ View Attachments
- ▼ Add New Attachment
 - Add New File
 - Add New Web Page
- ▼ Add From Library

Work Order Tracking - Attachments Field and Paperclip Icon

List	Work Order	Plans	Related Records	Actuals	Safety Plan	Log	Failure Reporting
Work Order	2006	Check-out Alignment of Steel Support Bracket		Site	BEDFORD	Attachments 	
Location	BPM3100	#1 Liquid Packaging Line		Class	WORKORDER	Status	WAPPR
Asset	13143	Chain Wash Assembly		Work Type	CM	Status Date	12/31/98 9:00 AM
Parent WO				GL Account	6400-300-???	Inherit Status Changes?	<input checked="" type="checkbox"/>
Classification				Failure Class	PKG	Accepts Charges?	<input checked="" type="checkbox"/>
Description				Problem Code		Is Task?	<input type="checkbox"/>

Maximo underlines the **Attachments** field to indicate that there are documents associated with a record.

Work Order Tracking - Underlined Attachments Field

List	Work Order	Plans	Related Records	Actuals	Safety Plan	Log	Failure Reporting
Work Order	2005	Check-out Leaking		Site	BEDFORD	<u>Attachments</u> 	
Location	BPM3100	#1 Liquid Packaging Line		Class	WORKORDER	Status	WAPPR
Asset	13145	Indexing Drive Assembly		Work Type	CM	Status Date	12/31/98 9:00 AM
Parent WO				GL Account	6400-300-???	Inherit Status Changes?	<input checked="" type="checkbox"/>
Classification				Failure Class	PKG	Accepts Charges?	<input checked="" type="checkbox"/>
Description				Problem Code	LIFT	Is Task?	<input type="checkbox"/>

The following administrative actions are available from the Select Action menu of applications that have been enabled for Attached Documents:

- ▼ **Attachment Library/Folders > Manage Library**
- ▼ **Attachment Library/Folders > Manage Folders**
- ▼ **Attachment Library/Folders > Associate Folders**

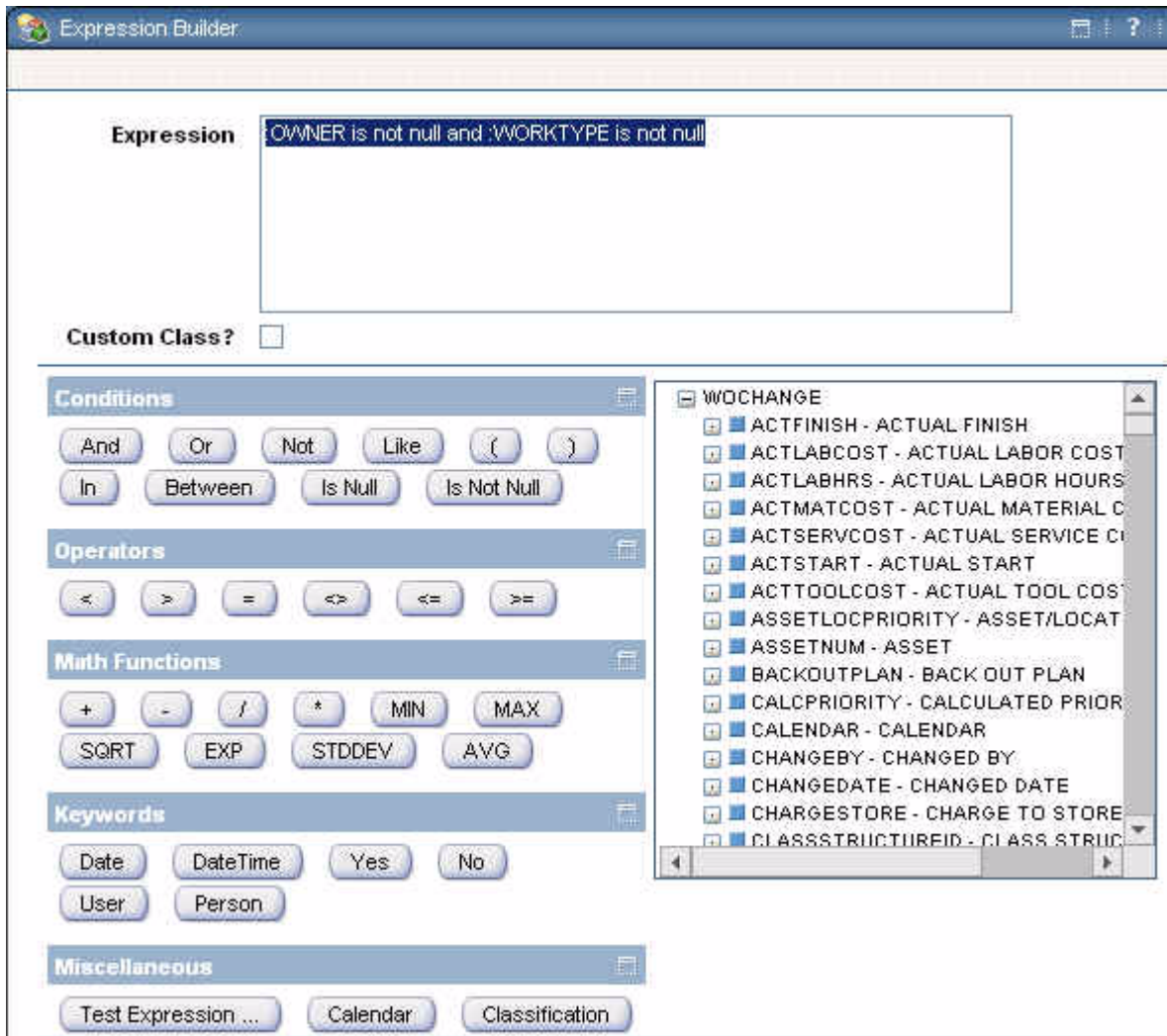
New SQL Expression Builder

MXES includes a new tool for building structured query language (SQL) statements. The expression builder includes common SQL conditions, operators, mathematical functions, keywords, a calendar look up, and a link to Classifications. The expression builder also includes an integrated properties tree that allows you to drill down through the fields and relationships for the specified object or application and select a value.

The expression builder appears in the following Maximo applications:

- ▼ Escalations application
- ▼ Service Level Agreements application
- ▼ Workflow Designer application

SQL Expression Builder Dialog Box



New Application Designer Application

Maximo 4.x used Centura's Object Nationalizer to customize Maximo, and Maximo 5.x used the MRO Software Design Studio to customize Maximo.

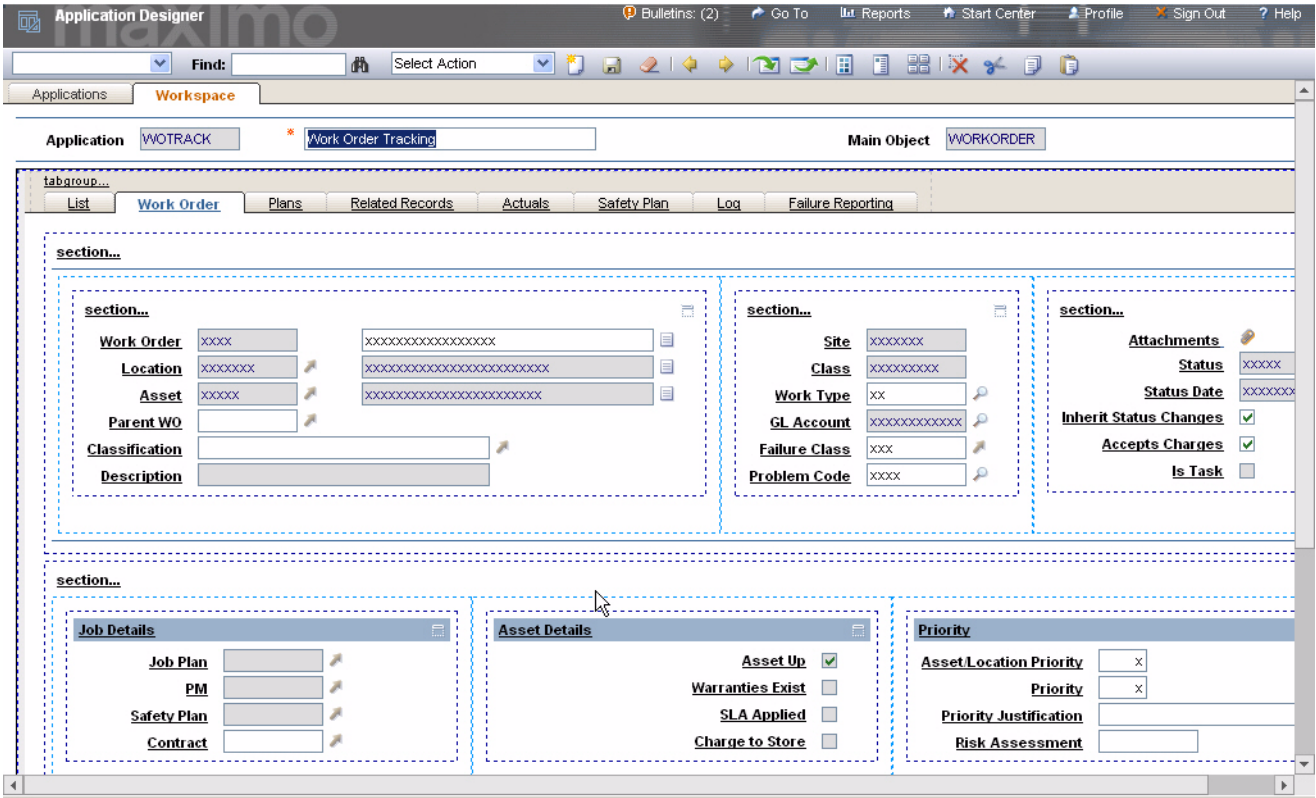
The Configuration module for MXES includes the new Application Designer application. The Application Designer is a "What you see is what you get" (WYSIWYG) interface that allows administrators to configure existing Maximo screens without direct coding or the use of a text editor. The Application Designer allows administrators to drag and drop UI elements, further simplifying the customization process.

Some common configuration tasks that can be accomplished using the Application Designer include:

- ▼ changing labels on fields, sections, tabs, etc.
- ▼ creating or removing fields, tables, or tabs
- ▼ moving fields and sections
- ▼ creating or duplicating (cloning) applications
- ▼ defining search and toolbar options (signature options)

- ▼ editing the Maximo toolbar
- ▼ editing the Select Action menu

Application Designer Application



Help Enhancements

MXES includes several enhancements to the Help.

- ▼ The *Maximo User's Guide* is now available in HTML as part of the main Maximo Help. The PDF version of the *Maximo User's Guide* is still available as part of the Documentation CD.
- ▼ The main Maximo Help index includes all applications and the *Maximo User's Guide*. In previous releases the main Maximo Help index only included index entries for the main Maximo Help and common help topics; it did not include index entries for the application help.
- ▼ The main Maximo Help search is now a full text search across all applications and the *Maximo User's Guide*. In previous releases the main Maximo Help only searched the Maximo Help and common topics; it did not search the application help.
- ▼ The main Maximo Help now includes tips for searching and using the Help system.
- ▼ Context sensitive field help can now be accessed via Alt + F1 from any field or check box.

Administration and Set-up

In Maximo 5.2, the administrative applications were part of the Maximo Control Center. For MXES, Control Center applications are now integrated with Maximo's Web architecture. Maximo now has four administrative modules:

- ▼ Administration Module — Administration applications, including Deployed Asset administration and Reconciliation
- ▼ Configuration Module — Configuration related applications, including Workflow applications
- ▼ Financial Module — Financial applications
- ▼ Security Module — Security applications

New Bulletin Board Application

MXES includes a new feature known as the Bulletin Board. The Bulletin Board application lets you create and send broadcast messages to Maximo users. Messages can be routed to all users, or just selected Organizations, Sites, or person groups. You can specify the dates and times when a bulletin board message should be displayed to users.

Users can see Bulletin Board messages in the Start Center. In addition, Maximo displays an icon in the Maximo Navigation Bar if bulletin board messages exist that displays the number of messages. Users can click the Bulletin Board link to view messages.

Creating and posting broadcast messages can help minimize the creation of duplicate tickets and work orders by alerting Maximo users to problems or planned interruptions in services.

Calendars Enhancements

You can apply a calendar to a labor record, then modify the calendar using the **Modify Person Availability** action in the Assignment Manager and People applications. You can use this action to indicate vacations, religious holidays, parental leave, or other instances where an individual's availability differs from their standard calendar.

New Classifications Application

Maximo 5.2 had a feature known as the Asset Catalog. The Asset Catalog was a structured way of organizing items and equipment. Once an item or equipment was added to the Asset Catalog, you could define attributes such as type, size, color, etc. The Asset Catalog allowed you to organize your assets into hierarchies so that

- ▼ Items, locations, and equipment could be located easily.
- ▼ Naming conventions in descriptions were standardized.

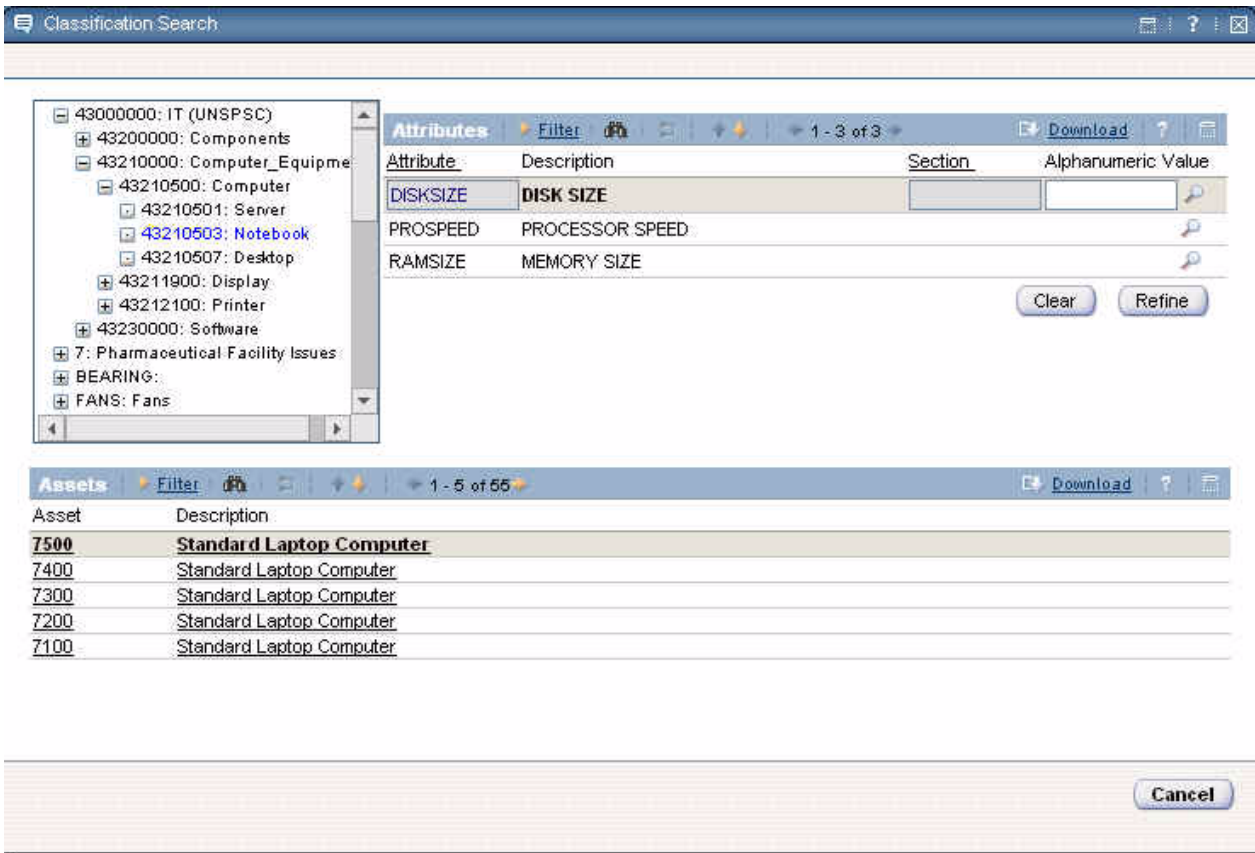
In MXES, the Asset Catalog is now Classifications. This new application retains the existing functionality. In addition Classifications expands the concept of the Asset Catalog, allowing you to classify and search the following types of records:

- ▼ assets
- ▼ items
- ▼ locations
- ▼ solutions
- ▼ tickets (service requests, incidents, problems)
- ▼ work orders (activities, changes, releases, work orders)

When you create a Classification you can specify the type(s) of record the Classification should be used with, and which Organization and Site should have access to the Classification. Maximo uses these settings to filter which classification records are displayed when classifying and searching records. For example, you would see a different classification structure when classifying inventory items than you would see when classifying a service request.

In Maximo 5.2, the Asset Catalog was limited to five classification levels. In MXES, you can create any number of levels within a Classification hierarchy. MXES also includes a new user interface that allows users to view all levels of the hierarchy while searching.

Classification Search Dialog Box - Classify Assets



New Communication Templates Application

The Administration module for MXES includes a new Communication Templates application. The Communication Templates application is discussed with the Workflow enhancements. For more information, see “New Communication Templates Application” on page 67.

New Multisite Applications

In Maximo 5.2, one application defined Multisite records: Multisite Setup. In MXES, the Multisite Setup application has been replaced by two new applications for defining Multisite records: Sets and Organizations. For more information about Multisite and MXES, see “Multisite and Multilanguage” on page 1.

New Sets Application

You use the Sets application to define Company Sets and Item Sets. These Sets exist above the Organization level to allow Organizations to share vendor and item data. Grouping companies into Sets ensures that all Sites and Organizations use consistent names for vendor companies, and that accurate consolidated vendor reporting can be performed. Grouping items into Sets allows users to transfer items among Sites within different Organizations.

The Sets application includes the following features:

- ▼ Ability to create, view, modify, and delete Company and Item Set records.
- ▼ Ability to view the Organizations associated with a Set. You associate Organizations with Sets in the Organizations application.
- ▼ Ability to specify that Maximo should automatically add company records to the Company Masters application. This setting allows companies whose Multisite implementation consists of a single Company Set to create all company records via the Companies application.

New Organizations Application

A new Organizations application replaces the Multisite Setup application that existed in Maximo 5.2.

In MXES, the following new fields are now part of Organization records:

- ▼ **Item Set** — Specifies the Item Set used by the Organization. You define Item Sets in the Sets application.
- ▼ **Company Set** — Specifies the Company Set used by the Organization. You define Company Sets in the Sets application.
- ▼ **Clearing Account** — Specifies the default GL clearing account to be used for transfers between Organizations.

- ▼ The **Disabled?** check box is now the **Active?** check box. This check box is selected by default.
- ▼ Optional **Site Contact** and **Site Contact Group** fields have been added to the Sites tab.

The Organizations application includes the following new actions:

- ▼ **Safety Plan Options** — Used to specify whether Maximo should display the work asset's hazards when a user selects the **Select Hazards** action in the Safety Plans application. You can set this option separately for each Site in an Organization.
- ▼ **Purchasing > Contract Options** — Used to associate terms with a contract, clone or modify contract types, and define the default values for contract properties as well as specify if the property should be editable.
- ▼ **Purchasing > Tax Options** — Used to specify default tax GL accounts and to define tax codes for Maximo to use in calculating the tax that is due on a PR, RFQ, PO, or invoice. You can define up to five different tax types. Each type can have any number of tax codes.
- ▼ **SLA Options** — Used to specify whether Maximo should apply one or more SLAs to a record, and whether multiple SLAs should be applied based on ranking or commitment stringency.
- ▼ **Autonumber Setup > System Level** — Used to specify autonumber seeds and prefixes for applications at the System level.
- ▼ **Autonumber Setup > Set Level** — Used to specify autonumber seeds and prefixes for applications at the Set level.
- ▼ **System Settings** — Used to set the following System-level MAXVARS:
 - Specify the character to display for unspecified GL accounts components.
 - Specify a delimiter to be used to separate the components of an asset's classification.
 - Specify whether to show a confirmation dialog box where a user can confirm or change the time recorded by the Timer before the labor transaction is written.
 - Specify the display sequence for Person names.

New Report Administration Application

The Administration module for MXES includes a new Report Administration application. The Report Administration application is discussed with Maximo's reporting capabilities. For more information, see "New Report Administration Application" on page 82.

New Work View Application

The Work View application is a single-page application that lets users query against both the ticket and work order tables. Maximo's Work View application ships with one query: WORKVIEW. This query includes all non-historical tickets and work orders that are owned by the user or by the group that the user belongs to, listed in order of priority. You can use this default query, or create another query and use that as your default query.

The Result Set portlet on the Start Center can be configured to display the results of the Work View query in the Result Set portlet. The Work View results set synchronizes with the database to accurately reflect the current status and information stored in the ticket and work order tables.

Work View generates a read-only result set. Users cannot create, modify, or delete ticket or work order records.

New Application Designer Application

The Configuration module for MXES includes a new Application Designer application. The Application Designer application is discussed along with the user interface enhancements. For more information, see “New Application Designer Application” on page 17.

New Cron Task Setup Application

The Configuration module for MXES includes a new Cron Task Setup application. A cron task is a software command to execute a task at a particular time. Maximo 5.2 included two cron tasks: inventory reorder and preventive maintenance work order generation. System administrators defined the properties for these cron tasks in the MXServer.properties file.

The new Cron Task Setup application lets you manage and modify cron tasks. Note that you cannot create a cron task using this application. Cron task classes still must be written by developers, packaged and deployed in the EAR file.

The Cron Task Setup application includes the following features:

- ▼ Cron task parameters are now stored in the database rather than in the maximo.properties file. It also simplifies the process of running cron tasks on different servers.
- ▼ Ability to create one or more instances of a cron task; for example, if you want to run the same cron task at different Sites, or at different time intervals.
- ▼ Ability to schedule cron tasks at a variety of different intervals via the Set Schedule dialog box. You can schedule a cron task to run every N seconds, minutes, hours (at a specified minute), days (at set time), or weeks (on a specified day), months (at a specified date and time), or years (at a specified date and time).
- ▼ Ability to reschedule a cron task without stopping and starting the server.

- ▼ Ability to make a cron task instance active/inactive without stopping or restarting the server.
- ▼ Ability to define different parameters for each instance of the cron task. Different instances of the same cron task can be run on different servers.
- ▼ Ability to modify the parameters for a cron task and reload it without stopping and starting the server.
- ▼ Ability to delete a cron task if it meets the requirements for deletion.

MXES ships with a set of default cron tasks, including the following:

- ▼ Condition Monitoring work order generation
- ▼ Interface table polling
- ▼ Inventory reorder
- ▼ KPI cron task
- ▼ LDAP synchronization
- ▼ Preventive Maintenance work order generation
- ▼ Reconciliation cron task
- ▼ Software suite identification
- ▼ Update Bulletin Board cron task

Database Configuration Enhancements

The Database Configuration application contains the following enhancements:

- ▼ The Database Configuration application is now integrated with Maximo's Web architecture, and is available through a browser.
- ▼ The Database Configuration application now configures the database based on objects and attributes instead of tables. MXES no longer has a one to one relationship between records and database tables. Some objects relate to more than one table, while others are not related to any database tables.

NOTE By default the application filters out objects that should not be changed. The Advanced Search function provides access to view (but not edit) these objects.

- ▼ Ability to create user-defined objects. An object can be either a table or a view, both of which can be either persistent or non-persistent. Only table objects can be audit-enabled.
- ▼ Ability to enable an object for multiple languages.
- ▼ Ability to enable text search for any character based attribute associated with the object.
- ▼ Ability to create database views.
- ▼ Ability to specify electronic audit settings. In previous Maximo releases, e-Audit and e-Signature actions were part of Signature Security.

- ▼ Ability to display, create, and modify attributes, and attach domains to attributes.
- ▼ Ability to display, create, and modify indexes.
- ▼ Ability to define parent-child relationships between objects.

New Domains Application

In Maximo 5.2, you used the Asset Catalog Setup application to add and modify domains, and the Application Setup application to create and modify value lists and create synonyms. In MXES, you use the new Domains application in the Configuration module to create and manage domains, synonym values, and value lists. The Domains application includes the following features:

- ▼ Domains are created at the System level, but you can create Organization or Site specific domains.
- ▼ Ability to create the following types of domains:
 - **ALN** — used to create domains that use an alphanumeric data type (alphanumeric, mixed case, upper, etc.).
 - **CROSSOVER** — used to create a domain that instructs Maximo to bring a value from a field in one application to a field in another application.
 - **NUMERIC** — used to create domains that use a numeric data type (amount, decimal, integer, etc.).
 - **NUMERIC RANGE** — used to create domains that use one of the numeric data types, but for which you specify a range rather than specific values. You can specify continuous or discrete ranges.
 - **SYNONYM** — used to add new synonym values. You cannot add new synonym domains.
 - **TABLE** — used to create domains that draw their values directly from a column in the database. Unlike the other domains, this one does not involve a list of values, but rather a particular value, if it exists, from another record.

NOTE Once you create a domain in the Domains application, you need to complete tasks in one or more of the following applications before you can use the domain:

- ▼ Classifications application to assign domains to Classification attributes
- ▼ Database Configuration application to associate domains with attributes
- ▼ Application Designer to associate a **Select Value** button with a field to support a new domain or create a new field to support a new crossover domain

New E- Mail Listener Configuration Application

The Configuration module of MXES includes a new E-mail Listener Configuration application that lets you create and configure e-mail listeners and to receive and process incoming Service Desk e-mail messages.

The E-Mail Listener Configuration application is discussed with the Service Desk applications. For more information, see “New E- Mail Listener Configuration Application” on page 54.

New Escalations Application

The Configuration module of MXES includes a new Escalations application that lets you monitor critical records automatically by defining the conditions under which a Maximo record needs immediate action. An escalation can take actions or send notifications when a record reaches a defined escalation point.

While escalations are primarily used with Service Desk, Service Management, and Workflow processes, they can potentially be applied to any application. You can create escalations for past events (for example close all non-historical tickets that have had a status of RESOLVED for more than 10 days) or future events (for example, notify users and managers 30 days before an asset’s lease expires). Some examples of activities that Maximo can perform automatically via escalations include the following:

- ▼ Ensure conformity to commitments listed on Service Level Agreements.
- ▼ Approve contracts once their **Start Date** has been reached.
- ▼ Provide notification of contract renewals or expirations.
- ▼ Change the status of invoices for scheduled payments once their **Due Date** has been reached.
- ▼ Reassign Workflow assignments if they are not completely promptly. This replaces the escalation cron task that existed in Maximo 5.2.

The Escalations application includes the following features:

- ▼ Ability to create escalations at the System, Organization, or Site level
- ▼ Ability to apply an escalation to almost any Maximo business object
- ▼ Ability to specify a condition (written as an SQL statement) that must be met before the escalation can be applied to a record, for example that the record not be a history record
- ▼ Ability to set a time limit interval or schedule for how often Maximo should check the database for records that require escalation
- ▼ Ability to define one or more escalation points that will trigger the escalation

- ▼ Ability to define one or more actions or notifications for each escalation point
- ▼ Ability to build and validate escalations while they are inactive, and activate them after validation

MXES includes several predefined escalations which you can tailor to suit your business needs.

Chart of Accounts Enhancements

The Chart of Accounts application includes the following enhancements:

- ▼ The **Deactivate GL Validations, Validate GL Component Combinations**, and **Validate Financial Periods** options have been moved from the Database Configuration application to the **Validation Options** action in the Chart of Accounts application.
- ▼ MXES now supports variable GL Account component lengths. Maximo no longer validates the field length for GL components. The field length is now the maximum length rather than the required length.
- ▼ MXES always writes delimiters to the database. The MAXVAR for this option has been removed.
- ▼ The **Disabled?** check box is now the **Active?** check box. This box is checked by default.
- ▼ Global Rotating Expense accounts are now modified via the **Organization Default Accounts** action.
- ▼ Tools Control Accounts are now set in the new Tools application via the **Tool/Organization Details** action.
- ▼ The **External Labor Control Accounts** action has been added, allowing you to set up default control account codes for labor hired from outside vendors.

New Currency Management Applications

Maximo 5.2 had a single Currency Management application. MXES uses two new applications in the Financial Module for currency management:

- ▼ **Currency Codes** application — Used to define currency codes and to specify which codes are currently active for use in Maximo. Currency Codes are defined at the System or database level and are available for all Organizations.
- ▼ **Exchange Rates** application — Used to define exchange rates used for converting from one currency to another. Exchange Rates are defined at the Organization level. Each Organization defines and maintains separate exchange rates.

General Security Enhancements

MXES includes three new security-related applications:

- ▼ People (located in Resources module)
- ▼ Users
- ▼ Security Groups

The following general changes have been made to how MXES handles security:

- ▼ Personal information about laborers and users has been removed from the LABOR table. Maximo now stores all personal information about laborers and users in the PERSON table.
- ▼ Security permissions are granted, not assumed. A new security group has no permissions by default, and all permissions must be granted. In previous releases, a new security group had all permissions by default, and permissions were removed as needed.
- ▼ Any Maximo user can be assigned as a system administrator.
- ▼ Any user can be given administrative rights within a security group.
- ▼ MXES supports Lightweight Directory Access Protocol (LDAP) with Microsoft Active Directory®.
- ▼ MXES supports sophisticated passwords, including numbers, special characters, case sensitivity, and expiration rules.
- ▼ A user can belong to multiple security groups.

New People Application

MXES includes a new People application in the Resources module. A Person record is a record of an individual who may appear somewhere on a Maximo record. This application serves as a storehouse of personal and official information for individuals such as Maximo users, laborers, asset owners, supervisors, and individuals who receive Workflow notifications.

For more information about the new People application, see “New People Application” on page 72.

New Security Groups Application

In Maximo 5.2, you created security groups using the Signature Security application and specified group restrictions using an SQL editor. In MXES, you create security groups using the Security Groups application.

The Security Groups application includes the following features:

- ▼ Ability to assign a default Start Center to a group.
- ▼ Ability to specify that a group's permissions should be independent of other groups. Maximo combines permissions for non-independent groups to make up a user's security profile when a user belongs to more than one security group. Permissions for independent groups cannot be combined with those of other groups.
- ▼ Ability to authorize the group for no Sites, one or more specified Sites, or All Sites. In MXES, you do not grant access to Organizations. Maximo derives the Organization access from the Site authorizations.
- ▼ Ability to grant Read, Insert, Save, and/or Delete access to one or more applications, and grant access to each action available from the application. MXES includes check boxes that allow you to grant a group authorization to
 - All Sites
 - All storerooms
 - All labor
 - All labor in their same crew
 - All labor in their same person group
 - All labor they supervise
 - Their own labor
 - All GL component types
- ▼ Ability to specify purchasing limits and tolerances. In Maximo 5.2, these limits were specified in the Multisite Setup application.
- ▼ Ability to specify record restrictions within an application.
- ▼ Ability to add or delete users from a group at any time.
- ▼ Ability to set System-level settings for new users, login tracking, and password requirements via the **Security Controls** action.

New Users Application

In Maximo 5.2, you used the Signature Security application to create user records. MXES has a new Users application for creating and managing user records and their associated security privileges.

The Users application includes the following features:

- ▼ In MXES, user records no longer are required to be associated with a Labor record. User records are now required to have an associated Person record. Person records are created in the new People application or can be created automatically when you create a new user record.
- ▼ Ability to set or update security profiles and security controls for multiple users via the List tab using the **Set Security Profile** action.
- ▼ Ability to create a user ID as a system account via the **System Account?** check box. MXES has three system users out-of-the-box, (MAXADMIN, MXINTADM, and MAXREG), but includes the capability to add others.
- ▼ Ability to specify a default insert Site, storeroom Site, and default storeroom for a user.
- ▼ Ability to grant a user access to the database via the **Database Access** action. When you grant database access you create a native database user.
- ▼ Ability to indicate a **Status** for the user. A user can have one of the following statuses: ACTIVE, BLOCKED, DELETED, INACTIVE, or NEWREG (new user created via self-registration). You can use the **View History** action to view the status change history for a user.
- ▼ Ability to set and change user passwords, and set a password expiration date.
- ▼ Ability to grant users the right to assign new or existing users to security groups.
- ▼ In Maximo 5.2, security access was based on groups, and each user could be a member of one and only one group. MXES includes the ability to assign users to one or more security groups to create their security profile. Maximo determines the security profile of a user by combining the permissions of each security group that a user belongs to.
- ▼ Ability to view the security profile for a user on the Security Profile tab of a user record. This tab provides a drill down through the combined security permissions granted by the groups listed on the Groups tab.
- ▼ Users now can manage a limited amount of the data in their user profile via the new Profile link.

New Profile Link

MXES includes a new feature that allows Maximo users to manage a limited amount of data in their user profile and person record. The Profile link in the Navigation Links includes the following options:

- ▼ **Default information** — Allows users to manage information that controls several aspects of working with Maximo including:
 - How Maximo filters records displayed in an application, and the user's **Default Insert Site**.
 - The default **Site** and **Storeroom** values that Maximo uses when the user creates records.
 - Settings for language, locale, and time zone that determine system wide settings such as how currencies and dates are displayed.
- ▼ **Personal information** — Allows users to manage information on their Person record including contact information (primary phone and e-mail), workplace information, and procurement card information.
- ▼ **Password information** — Allows users to change their password and select a question to be used to verify their identity to an administrator if they become blocked from using Maximo.

Asset Management

MXES includes several enhancements and new features for asset management. For more information about new features for information technology (IT) asset management, see "IT Asset Management" on page 38.

Maximo 5.2 included a feature known as the Asset Catalog. In MXES, the Asset Catalog is replaced by Classifications. For more information about Classifications, see "New Classifications Application" on page 19.

Assets Enhancements

The Equipment application that appeared in previous Maximo releases is now the Assets application to better reflect the wide range of assets that can be managed using MXES. All references to "equipment" in the user interface are now "asset."

The Assets application has several enhancements:

- ▼ In previous Maximo releases an equipment record could have only two meters associated with it. In MXES, an asset record can have an unlimited number of meters associated with it. A new Meters tab has been added to support multiple meters on assets.
- ▼ The read-only Measurement tab has been removed. Condition Monitoring measurement points are now defined as a meter on an asset.

- ▼ The following actions have been added to support meters:
 - **Enter Meter Readings** — Used to enter meter readings for an asset.
 - **Manage Meter Reading History** — Used to update the meter history on an asset record.
 - **Reset/Replace Meters** — Used to reset or replace the meter on an asset record.
- ▼ A **Status** field and **Change Status** action have been added. An asset can have one of three statuses: NOT READY, OPERATING, or DECOMMISSIONED.
- ▼ The **View Status History** action is now **View Asset Downtime History**.
- ▼ The new **View Contracts** action lets users view all of the contracts associated with an asset record.
- ▼ The new **Associate Services** action lets you associate a service or service group with an asset.
- ▼ The **Move Equipment** action has been removed. Two new actions allow you to perform asset moves:
 - **Move/Modify Assets** action — Use to change the location of one or more assets, modify the Users and Custodians for an asset, or modify the attributes for an asset.
 - **Swap Assets** action — Use to replace one asset with another. You can swap a single pair or assets, or multiple pairs of assets using this action.

Asset Enhancements for IT Asset Management and Service Desk

The Assets application includes several enhancements for managing information technology (IT) assets.

For MXES the following fields are now part of an asset record:

- ▼ **Type** field — Used to filter asset records when multiple asset types are being tracked using Maximo.
- ▼ **Maintain Hierarchy?** check box — Used to bundle assets and maintain the asset hierarchy when assets are moved.

For MXES the following actions are now part of the Assets application:

- ▼ **Asset Details** action — Use to compare asset and deployed asset records for IT assets, and to view reconciliation details.
- ▼ **Associate Users and Custodians** action — Use to designate one or more people as a Primary owner, Custodian, or User of an asset.

- ▼ **Move/Modify Assets** action — Use to change the location of one or more assets, modify the Users and Custodians for an asset, or modify the attributes for an asset.
- ▼ **Swap Assets** action — Use to replace one asset with another. You can swap a single pair or assets, or multiple pairs of assets using this action.

Condition Monitoring Enhancements

Condition Monitoring measurements points are now defined as a meter on an asset or location. Additional fields have been added to the Condition Monitoring application to accommodate the different types of meters that can be associated with measurement points.

In previous releases of Maximo, you could specify a single preventive maintenance record to be used when an upper or lower action limit was reached. In MXES, you can specify separate job plans and PMs for upper and lower limits.

MXES ships with a predefined cron task (MeasurePointWoGenCronTask) that you can use to generate condition monitoring work orders.

Location Enhancements

The Locations application has several enhancements:

- ▼ There is no longer a separate screen used for adding a new location. Locations are now added using the same screen format that is used for viewing and modifying locations.
- ▼ Several enhancements have been made to locations to allow users to view and manage location records for multiple Sites, including the following:
 - A **Site** field has been added to location records.
 - A **Site** field has been added to the List tab to allow users to search for locations at multiple Sites.
 - The Manage Systems dialog box has been redesigned to allow users to manage systems for multiple Sites.
 - A **Site** field has been added to the location Select Value dialog box to allow users to select from locations at multiple Sites.
- ▼ The Equipment tab is now the Assets tab.
- ▼ A Meters tab has been added to support multiple meters on locations.

- ▼ The following actions have been added to support meters:
 - **Enter Meter Readings** — Used to enter meter readings for a location.
 - **Manage Meter Reading History** — Used to update the meter history on a location record.
 - **Reset/Replace Meters** — Used to reset or replace the meter on a location record.
- ▼ There are now business rules associated with a location's status. A location can have one of three statuses: NOT READY, OPERATING, or DECOMMISSIONED.
- ▼ The **View Status History** action is now **View History**.
- ▼ The **View Contracts** action has been added, allowing users to view all of the contracts associated with a location record.
- ▼ The **Associate Users and Custodians** action has been added, allowing you to associate one or more Person records with a location.
- ▼ The **Associate Services** action has been added, allowing you to associate one or more services or service groups with a location.

New Meters Application

MXES includes a new Meters application that lets you define meters that can be used to track asset and location performance. A meter record is a virtual identifier that is used to record measurements. A meter record may or may not be associated with an actual physical meter or gauge.

You can create three types of meter records:

- ▼ **Characteristic** — Meters where an observed state is being tracked, for example a color change. These meters might be used to track Brick/Refractory Color (Yellow, orange, white), or oil color (Clear, Turbid, Dark).
- ▼ **Continuous** — Meters where the readings increase continuously, for example odometers. These meters might be used to track miles, hours, engine starts, pieces produced, fuel consumed, and other continuous readings.
- ▼ **Gauge** — Meters where the readings may fluctuate, for example thermometers or pressure gauges. These meters might be used to track temperature, pressure, noise levels, oil levels, and other readings that fluctuate.

Meter records can be associated with assets, condition monitoring measurement points, items, locations, and preventive maintenance records.

New Meter Groups Application

In addition to the new Meters application, MXES includes a new Meter Groups application which is used to create groups of meters. You can then apply the meter group to Maximo records, rather than applying each meter individually.

Meter group records can be associated with assets, locations, and rotating item records.

Contract Management

In Maximo 5.2, blanket agreements, pricing agreements, and quantity agreements were managed in the Purchase Orders application and service contracts were managed in the Service Contracts application.

MXES includes a new module and several new applications for managing contracts. You can now create and manage the following types of contracts:

- ▼ Blanket (volume) contracts
- ▼ Labor contracts
- ▼ Lease contracts
- ▼ Master contracts
- ▼ Pricing contracts
- ▼ Purchase contracts
- ▼ Rental contracts
- ▼ Service contracts
- ▼ Software license contracts
- ▼ Warranty contracts

MXES includes the following new features and settings available via the **Contract Options** action in the Organizations application:

- ▼ Ability to clone or modify contract types.
- ▼ Ability to associate terms and conditions with a contract type via the **Associate Terms** button.
- ▼ Ability to define default values for contract properties as well as specify if the property should be editable. These settings are available via the **Associate Properties** button.

New Terms and Conditions Application

MXES includes a new Terms and Conditions application that is available from both the Contracts and Purchasing modules. Terms and conditions are requirements that are defined for contracts and purchasing records, often by a legal department. You use the Terms and Conditions application to enter and maintain a library of terms and conditions that can be added to a contract or purchasing record (PR, RFQ, PO). These terms can contain information such as liability concerns, shipping and handling details, or delivery time expectations.

The Terms and Conditions application includes the following features:

- ▼ Option to enter a user defined **Type** for the term which can be used to filter term records.
- ▼ Ability to associate terms with one or more contract types in the Organizations application.
- ▼ Ability to specify whether the term can be edited when accessed from a contract or purchasing application via the **Editable?** check box.
- ▼ Ability to specify whether the term will automatically appear on new purchase orders by default via the **Default on PO?** check box.

New Master Contracts Application

MXES includes a new Master Contracts application. A master contract is an optional means of creating one document that defines your relationship with a vendor for all contract types. A master contract also provides a means of viewing all of your contracts with the vendor.

New Labor Rate Contracts Application

MXES includes a new Labor Rate Contracts application. A labor rate contract is a way to define the rates that will be paid for craft and skill combinations, and also rates to be paid to specific contract laborers.

New Lease/Rental Contracts Application

MXES includes a new Lease/Rental Contracts application. A lease contract is an agreement to lease one or more assets from a vendor that may specify a lease period, payment schedules, and other conditions. A rental contract specifies the time period for the rental, payment schedules, and other conditions of the contract. Unlike a lease, a rental contract can be terminated at will, and does not include a buy-out option in the terms of the contract.

New Purchase Contracts Application

In Maximo 5.2, blanket agreements, pricing agreements, and quantity agreements were created and managed in the Purchase Orders application. In MXES, you use the Purchase Contracts application to create and manage these contracts.

You can create the following types of contracts using the Purchase Contracts application:

- ▼ **PRICE** — A price agreement contract specifies the prices to be paid for specific items purchased from a specific vendor. Typically a price agreement is used to purchase services and/or materials at agreed upon prices and terms.
- ▼ **BLANKET** — A blanket contract is an agreement that specifies a vendor, a total dollar amount, and valid dates for the agreement. Typically a

blanket is used to purchase services and/or materials at an agreed upon price and terms. You can create release purchase orders in the Purchase Orders application that reference the blanket contract.

- ▼ SWLICENSE — A software license contract specifies the terms of the license agreement for computer software use including named users, license keys, maintenance fees, and if the software is transferable.
- ▼ PURCHASE — A purchase contract specifies the terms and conditions for a purchase.

New Warranty Contracts Application

In Maximo 5.2, service contracts were created in the Service Contracts application. In MXES, you use the Warranty Contracts application to create both service and warranty contracts.

A warranty contract is created in conjunction with the purchase of an asset and generally has no cost associated with it. If a warranty contract is purchased, this is considered an extended warranty by Maximo.

A service contract is similar to a warranty except that you have the ability to define a schedule of payments for the service. This contract contains the details of the services to be provided, and if a payment schedule is associated with the contract.

The Warranty Contracts application includes the following features:

- ▼ Ability to define contract coverage by time and/or by multiple meters.
- ▼ Ability to specify contract payment as either a fixed fee, or regularly scheduled payments over a time period.
- ▼ Ability to associate one or more assets or locations with the contract, and indicate individual coverage dates and or meter readings for each asset or location.
- ▼ Maximo automatically associates warranty contracts with work orders when the asset or location is under warranty.
- ▼ Service contracts can be manually associated with work orders using the **Contract** field on a work order record.

IT Asset Management

MXES now includes several new applications that allow you to use Maximo to manage information technology (IT) assets. Maximo maintains two distinct sets of data about IT assets.

- ▼ **Assets Module** –Maximo maintains asset records for purchased or leased IT assets in the Assets application.
- ▼ **Deployed Assets Module** – Maximo maintains data collected directly from assets connected to a network in the three applications in the Deployed Assets module.

The process for using MXES to manage IT assets involves the following components:

- 1 Applications in the administrative Deployed Assets module — used to set up naming conventions and conversions for imported data.
- 2 Maximo Discovery or another network device interrogator — used to collect data about deployed assets.
- 3 Maximo Fusion — used to import collected data and create deployed asset records.
- 4 Computers, Network Devices, and Network Printers applications in the Deployed Assets module — used to view deployed asset records.
- 5 Applications in the administrative Reconciliation Module — used to configure the process for reconciling your assets with your deployed assets.

The Administrative Deployed Assets Module

Because the discovery tools collecting deployed asset data do not always use consistent naming conventions, Maximo provides an administrative Deployed Assets module. The applications in this module allow you to standardize naming conventions and control how Maximo displays deployed asset data.

The administrative Deployed Assets module includes the following applications which allow you to configure how inconsistent data should be standardized:

- ▼ **Adapter Conversion** – Used to translate adapter names, both media adapters (such as video and sound cards) and network adapters.
- ▼ **Manufacturer Conversion** – Used to translate manufacturer names.
- ▼ **Operating System Conversion** – Used to translate operating system names.
- ▼ **Processor Conversion** – Used to translate processor (CPU) names.
- ▼ **Software Conversion** – Used to translate software application names.

- ▼ **Software Suite Setup** – Used to define which software applications belong to a software suite.
- ▼ **Software Usage Setup** – Used to define how Maximo displays software usage frequency information collected by an asset discovery tool.

Each record in a conversion application specifies a target name and a variant or a set of variants. A variant is a variation of a name that Maximo translates to the target name each time data is displayed.

Administrators can use the conversion applications to review the names assigned to imported data and, if necessary, modify the conversions. Administrators can also create new conversion records in the conversion applications.

Maximo Discovery

Information about your IT assets can be collected by conducting a physical inventory or by using a network-based inventory tool to collect the data. MXES includes the option to purchase Maximo Discovery.

Maximo Discovery provides you with a complete record of your network devices and PC hardware and software. Hardware identification includes details about the computer, such as manufacturer, total memory, memory slot configuration, and disk space. Maximo Discovery also performs a comprehensive software inventory, including manufacturer, product name, version, serial number (if available), and license counts for each product.

Maximo Discovery can automatically audit local and remote PCs, servers, and other network devices. Maximo Discovery can audit PCs on a local area network (LAN), across a wide area network (WAN), through remote access servers, and across the Internet.

Maximo Fusion

Data collected by Maximo Discovery or another network device interrogator must be imported into Maximo. Maximo Fusion is the integration tool developed by MRO Software that lets you transform data from the asset discovery tool's format to the Maximo format and import the data into Maximo.

MRO Software offers optional Maximo Fusion Adapters that convert and import data provided by some of the most commonly used asset and systems management tools. The adapters provide pre-defined mapping designed to transform data in the asset discovery tool's data source to the format required by the deployed assets tables in the Maximo database.

MRO Software offers the following optional Maximo Fusion Adapters:

- ▼ Maximo Fusion Adapter for Altiris Inventory Solution®
- ▼ Maximo Fusion Adapter for Hewlett Packard's Inventory Manager using Radia®
- ▼ Maximo Fusion Adapter for MainControl i.collect
- ▼ Maximo Fusion Adapter for Maximo Discovery
- ▼ Maximo Fusion Adapter for Microsoft SMS
- ▼ Maximo Fusion Adapter for IBM's Tivoli® Configuration Manager

Using Maximo Fusion, you can combine data collected by different asset discovery tools, or data in multiple databases created by a single discovery tool, and import it into Maximo, creating a central repository for IT asset management, reporting, and decision making.

Deployed Assets Module

The Deployed Assets Module includes three applications that let you view hardware and software data collected by an asset discovery tool and imported into Maximo with Maximo Fusion. The Deployed Assets Module consists of the following applications:

- ▼ **Computers** – Displays data about specific computers deployed at your company. The specific data collected might vary depending on the asset discovery tool used, but it generally includes information about the following components:
 - General data about the computer, including data about the manufacturer, RAM, BIOS, and motherboard
 - Software installed on the computer, including applications, application suites, operating systems, and files
 - Storage devices, such as hard disks, floppy drives, USB removable storage, and logical drives
 - Processors (that is, CPUs)
 - Media adapters, such as sound and video cards
 - Communication devices, such as modems and network adapters
 - Network settings for TCP/IP and IPX protocols
 - Image devices, such as printers and scanners
 - Displays and monitors
 - User information
- ▼ **Network Devices** – Displays information about deployed network devices such as routers, switches, and hubs. Data about computers and network printers is not included in the Network Devices application.
- ▼ **Network Printers** – Displays information about deployed network printers. Note that only network-based printers are included in this application; you can view information about printers installed locally on specific computers on the Image Devices tab in the Computers application.

Reconciliation Module

Once you have imported deployed asset data into Maximo, you can use Maximo's Reconciliation module applications to compare the data in the Assets module applications with the data in the Deployed Assets module applications to determine whether or not the information technology assets actually deployed in your enterprise correspond to the authorized assets maintained in the Assets application. Maximo displays reconciliation results in Reconciliation module applications and in reports. Maximo also displays reconciliation results via the **Asset Details** action in the Assets application.

The Reconciliation module includes the following applications:

- ▼ **Reconciliation Tasks** – This application combines a link rule and, if necessary, a task filter and one or more comparison rules into a reconciliation task. This application also lets you specify how Maximo reports results for comparison rule evaluations: all results, failed reconciliations, or successful reconciliations.
- ▼ **Task Filters** – This application defines a subset of either assets or deployed assets to reconcile. If you do not define a task filter for a reconciliation task, Maximo compares all top-level IT assets with all deployed assets when it processes the reconciliation task.
- ▼ **Link Rules** – This application establishes a relation between a top-level IT asset and a computer, network printer, or network device in deployed assets. The link rule establishes the basis of the comparison by identifying the object and attribute in IT assets to link to a specific attribute in deployed assets.
- ▼ **Comparison Rules** – This application identifies objects or attributes of a child or parent IT asset to compare with objects or attributes of a child or parent deployed asset when Maximo executes a reconciliation task.
- ▼ **Link Results** – This application lists successful one-to-one links Maximo establishes between a top-level IT asset and a computer, network printer, or network device in deployed assets.
- ▼ **Reconciliation Results** – This application lists link failures that occur when Maximo does not find a successful one-to-one link between an IT asset and a deployed asset specified in a link rule; failures occur when the reconciliation process finds no link or finds multiple links. In addition, the application lists results of comparison rule evaluations.

Additional Documentation

MXES includes the following documentation to support these deployed asset management features:

- ▼ *Maximo Fusion System Administrator's Guide*
- ▼ *Maximo Fusion Installation Guide*
- ▼ *Reconciliation Module Implementation Guide*
- ▼ *Maximo Fusion Adapter for Altiris Inventory Solution Implementation Guide*
- ▼ *Maximo Fusion Adapter for Maximo Discovery Implementation Guide*
- ▼ *Maximo Fusion Adapter for HP Radia Implementation Guide*
- ▼ *Maximo Fusion Adapter for MainControl i.collect Implementation Guide*
- ▼ *Maximo Fusion Adapter for Microsoft SMS Implementation Guide*
- ▼ *Maximo Fusion Adapter for Tivoli Configuration Manager Implementation Guide*

Materials Management

MXES includes several enhancements and new features for materials management.

- ▼ MXES introduces the concept of Item Sets. You can now transfer items between Organizations that share the same Item Set. You can now issue items across Sites within the same Organization. Item Sets are discussed in “New Company and Item Sets” on page 2.
- ▼ The **Add/Modify Order Unit Values** action has been replaced by the **Add/Modify Units of Measure** and **Add/Modify Conversions** actions. These actions are available in the following applications:
 - Inventory
 - Item Master
 - Meters
 - Purchase Contracts
 - Purchase Orders
 - Purchase Requisitions
 - Receiving
 - Request for Quotations
 - Service Items
 - Stocked Tools
 - Tools
- ▼ You can now specify measure unit conversion values that can be used for multiple items, or that are for individual item records. Maximo uses conversion values to convert order units to issue units.
- ▼ Ability to specify commodity codes for items. Commodity codes are discussed in “New Commodity Codes Feature” on page 48.

New Condition Codes Application

MXES includes a new Condition Codes application that lets you create a master list of condition codes for an Item Set. Condition codes allow you to specify that an item record has a different value depending on the physical condition of an item. A condition code has a rate associated with it, which can be used to calculate the value of non-new inventory items.

When you are managing a condition-enabled item record Maximo requires that you enter a condition code when using the following inventory actions:

- ▼ **Issue Current Item**
- ▼ **Transfer Current Item**
- ▼ **Inventory Adjustments > Current Balance**
- ▼ **Inventory Adjustments > Physical Count**

You are also required to enter a condition code when using condition-enabled items on work order plans and actuals.

For more information about condition codes, refer to the *Maximo User's Guide*.

Inventory Enhancements

There are several enhancements to the Inventory application in MXES.

- ▼ The read-only **Condition Enabled?** check box has been added, allowing you to see if the cost of the item record is tracked using condition codes. An Inventory Costs table window has been added, allowing you to enter and view the condition codes associated with the item record. Item records default to a 100% condition rate if they are not condition-enabled.
- ▼ MXES includes the ability to assemble items into kits. A kit is a collection of items that can be issued as a single unit. A kit record is defined in the Item Master application, and managed *as a unit* in the Inventory application. Once assembled into a kit, individual items are no longer tracked separately; they are considered part of the kit. The read-only **Kit?** check box has been added, allowing you to see if the item is a kit. The **Assemble Kit** action has been added, allowing you to view the potential number of kits that can be assembled and select how many to create. The **Disassemble Kits** action has been added, allowing you to view the number of assembled kits and select how many to disassemble into its component items.
- ▼ The **Reorder Direct Issue Items** action is now **Reorder Direct Issue Itms/Svcs**. You can now use this action to reorder direct issue services (standard services) that have been defined in the Service Items application for use on work orders.
- ▼ The **Add/Modify Units of Measure** action has been added, allowing you to create and modify units of measurement.
- ▼ The **Add/Modify Conversions** action has been added, allowing you to create and manage the conversions between order units and issue units.
- ▼ The **Current Balance Adjustment** button has been relocated to the Select Action menu.

- ▼ The **Physical Count** button has been relocated to the Select Action menu.
- ▼ The **Add to Bookmarks** action has been added, allowing you to mark an inventory record for quick access.

Issues and Transfers Enhancements

The Issues and Transfers application includes the following enhancements:

- ▼ You can now transfer items between all Organizations that share the same Item Set.
- ▼ The Meter Reading fields have been removed. MXES now supports multiple meters on assets, items, and locations. Maximo automatically records metered materials if the item and asset have matching meters, for example if fuel and a vehicle both have a fuel gauge meter.

Item Master Enhancements

The Item Master application includes the following enhancements:

- ▼ The read-only **Item Set** field has been added, allowing you to view which Item Set an item record belongs to. When creating new records, the **Item Set** field defaults to the Item Set specified for user's default insert Site.
- ▼ **Commodity Group** and **Commodity Code** fields have been added, allowing you to associate commodity codes with the item record. The **Add/Modify Commodity Codes** action has been added, allowing you to create and manage the library of commodity codes.
- ▼ The **Meter** field has been added, allowing you to associate a meter with non-rotating items.
- ▼ A **Meter Group** field has been added, allowing you to associate a meter group with rotating items. When you create rotating asset records, Maximo automatically copies the meters in the meter group to the asset record.
- ▼ **Order Unit** and **Issue Unit** fields have been added, allowing you to specify the unit of measure that should be used when ordering and issuing the item. For example, you might order gloves by the case or gross, but issue them in pairs.
- ▼ The **Condition Enabled?** check box has been added, allowing you to specify that the cost of the item record should be tracked using condition codes. Condition codes are defined in the new Condition Codes application.
- ▼ Ability to assemble items into kits. A kit is a collection of items that can be issued as a single unit. A kit record is created in the Item Master application, and consists of a parent item record, and associated child item records that are listed on the Item Assembly Structure tab. The **Kit?** check box is used to indicate that the item record is a kit. Kits are assembled and disassembled in the Inventory application.

- ▼ The **Attach to Parent Asset on Issue?** check box has been added, allowing you to specify that when a rotating item is issued to an asset or a work order listing an asset, it should be added as a subassembly under the parent asset.
- ▼ The **Add/Modify Commodity Codes** action has been added, allowing you to create and manage the library of commodity codes.
- ▼ The **View Contracts** action has been added, allowing users to view all of the contracts associated with an item record.
- ▼ The **Item/Organization Details** action has been added, allowing you to specify hazards and tax codes for the item for each Organization.
- ▼ The **Add/Modify Units of Measure** action has been added, allowing you to create and modify units of measurement.
- ▼ The **Add/Modify Conversions** action has been added, allowing you to create and manage the conversions between order units and issue units.

New Service Items Application

In Maximo 5.2, standard services were defined and managed via the **Add/Modify Standard Services** action.

In MXES, you use the new Service Items application to define service items (standard services). A service item is a special type of item used to define services that your company utilizes. Service items can be listed as part of job plans, work orders, and can be used in the purchasing applications when creating purchase requisitions, purchase orders, and so forth.

Storerooms Enhancements

The following modification has been made to the Storerooms application for MXES:

- ▼ The **Add Storeroom as Company** action has been replaced by the **Use in PO/PR?** check box. For more information about how MXES handles internal purchases, see “Purchase Orders Enhancements” on page 51.

New Tools and Stocked Tools Applications

Maximo 5.2 included a Tools application that allowed users to maintain a limited amount of information about tools.

MXES includes an entirely new Tools application that lets you create tools records which are managed in the new Stocked Tools application, similar to how item records are managed in the Inventory application. These two new applications include the following functionality:

- ▼ Ability to track balances, issue tools, and transfer tool inventory using the Stocked Tools application.
- ▼ Ability to create rotating tool records in the Tools application. Like rotating item records, rotating tools can be used to create asset records, allowing you to track tools as inventory in the Stocked Tools application, and as assets in the Assets application.
- ▼ Ability to associate qualifications with tools.
- ▼ Addition of a Storerooms tab to the Tools application, allowing you to view a read-only list of storerooms that stock the tool.
- ▼ Addition of a Vendors tab to the Tools application, allowing you to create and manage a list of vendors who supply the tool.

Maximo Enterprise Adapter

The Maximo Enterprise Adapter (MEA) is a set of applications and predefined integration points that help you to integrate Maximo with your enterprise applications and create business flows between Maximo and your other enterprise applications.

MXES includes three new applications for configuring the MEA:

- ▼ External Systems
- ▼ Integration Interfaces
- ▼ Integration Objects

New External Systems Application

MXES includes a new External Systems application that is used to define the external systems that will exchange data with Maximo via the Maximo Enterprise Adapter (MEA).

You use the External Systems application to name the external applications or systems that will exchange data with Maximo; specify how Maximo will exchange data with those systems; and identify the specific inbound and outbound interfaces to be processed between Maximo and each system. The configuration process includes identifying adapters, end points, and queues, and setting the value of interface controls.

New Integration Interfaces Application

MXES includes a new Integration Interfaces application that is used to expose the integration points that are used to send data from Maximo to an external system and vice versa.

Before you configure an interface, you use the Integration Objects application to configure the integration object and integration points that you will associate with the interface. After you configure an interface, you use the External Systems application to associate the interface with external systems.

New Integration Objects Application

MXES includes a new Integration Objects application that is used to identify the Maximo business objects (MBOs) and data fields that make up an integration object, and the inbound and outbound integration points for that integration object.

Integration objects and integration points are the building blocks of the Maximo integration. An integration object defines data content needed for the execution of a particular Maximo business activity, and an integration point makes the integration object available in a specific direction and allows for the application of additional processing, if necessary.

Each integration object can have many integration points in either direction. You must define integration points in order to use an integration object.

Purchasing

MXES includes several enhancements and new features for purchasing. This section describes the additions and enhancements made to various purchasing applications. The new contracts module is discussed in “Contract Management” on page 35.

General Purchasing Enhancements

Several of the purchasing enhancements appear in more than one application.

The Purchase Requisitions, Request for Quotations, Purchase Orders, Receiving, and Invoices applications include the following enhancements:

- ▼ The **Add/Modify Standard Services** action has been removed. In MXES, you use the Service Items application to define standard services.
- ▼ The **Add/Modify Order Unit Values** action has been replaced by the **Add/Modify Conversions** action.

The Purchase Requisitions, Request for Quotations, Purchase Orders, and Invoices applications include the following enhancements:

- ▼ The Terms and Conditions tab has been added, containing **Select Terms** and **View PO Terms** buttons. This tab lets you add, view, and delete terms and conditions that have been associated with the record.
- ▼ The **View Status/Workflow History** action is now **View History**. You now use the **View Workflow History** action to view the Workflow history for a record.

The Purchase Requisitions, Request for Quotations, Purchase Orders, and Receiving applications include the following enhancement:

- ▼ The **Add/Modify Units of Measure** action has been added, allowing you to add a unit of measure, for example feet or gallons, to the database, or modify an existing unit of measure.

The Purchase Requisitions, Request for Quotations and Purchase Order applications include the following enhancement:

- ▼ The **Create Contract** action has been added, allowing you to create a blanket, pricing, or purchase contract from the PR, RFQ, or PO record.

The Purchase Requisitions and Purchase Orders applications include the following enhancements:

- ▼ The **Contract Items** button has been added to the PR Lines and PO Lines tabs, allowing you to view a list of items under contract with the specified vendor.
- ▼ The **View Contracts** button has been added to the PR Lines and PO Lines tabs, allowing you to view a list of contracts for the specified line item. If you do not have a specified vendor for the PR/PO, the dialog box lists all vendors with whom you have a contract for that line item. If you do have vendor specified for the PR/PO, the View Contracts dialog box lists only contracts for that item/vendor combination.

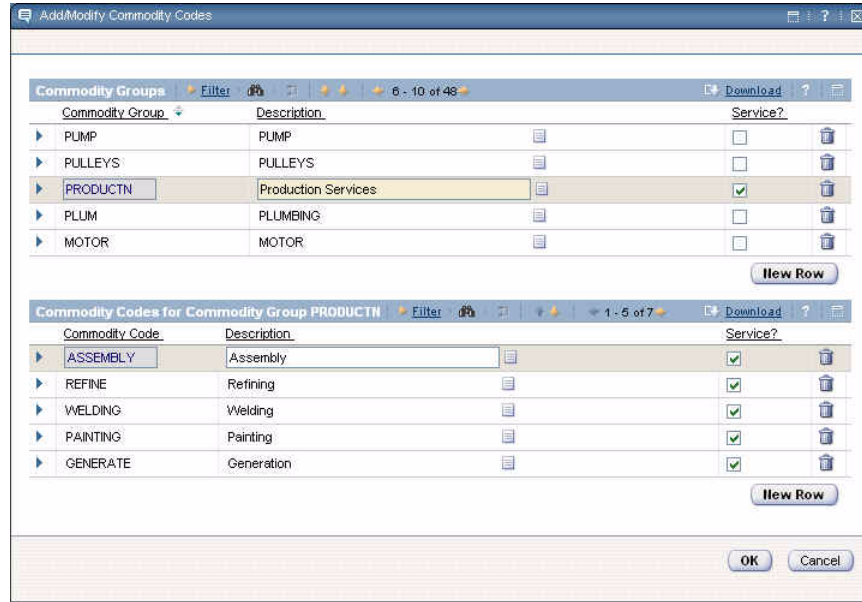
New Commodity Codes Feature

Classifying items and services with commodity groups and commodity codes provides a way to analyze spending. In MXES, you can now define and manage a library of commodity codes using the **Add/Modify Commodity Codes** action available from the Select Action menu of the following applications:

- ▼ Companies
- ▼ Item Master
- ▼ Purchase Orders
- ▼ Service Items
- ▼ Tools

MXES lets you define two levels of commodities: commodity groups and commodity codes.

Add/Modify Commodity Code Dialog Box



A new **Associate Commodities** action is now available from the Select Action menu in the following applications:

- ▼ Companies
- ▼ Lease/Rental Contracts
- ▼ Master Contracts
- ▼ Purchase Contracts

You can specify commodity codes on item master, service item, and tool records, and search for items by commodity group. You can also associate commodity codes with individual PR or PO lines for items, service items, or tools that do not have commodity codes assigned to them, including special order materials or services.

New Material Line Types

MXES now includes line types for purchase requisitions and purchase orders to allow Maximo to apply the appropriate business rules to purchasing transactions. Maximo now includes the following default line types:

- ▼ **ITEM** — (the default for PR/PO) Used to order inventory items. The **Item** field is editable and required. Users can select from item records created in the Item Master application. The **Receipt Required?** check box is selected by default.
- ▼ **MATERIAL** — Used to order items or materials on a one time basis, that is items that do not have item records created for them in the Item Master application. The **Item** field is read only, and you must enter a description, quantity, cost, and charge the material to a work order, location, asset, or GL Account code. Material lines are direct issue, so the **Storeroom** field is read-only and the **Issue on Receipt?** check box is selected.
- ▼ **SERVICE** — Used to order services on a one time basis, that is services that do not have records created for them in the Service Items application.

Services require a description, line cost, and charge the service to a work order, location, asset, or GL Account code. Services are direct issue, so the **Storeroom** field is read-only and the **Issue on Receipt?** check box is selected.

- ▼ **STDSERVICE** — Used to order service items. The **Item** field is editable and required. Users can select from item records created in the Service Items application. The **Prorate Service?** check box is editable.
- ▼ **TOOL** — Used to order tools. The **Item** field is editable and required. Users can select from tool records created in the Tools application.
- ▼ **SPORDER** — A setting in the Organizations application determines the availability of this option. Used to special order items or materials AND create an item record in the Item Master application for the item.

Companies Enhancements

The Companies application includes the following enhancements:

- ▼ Ability to associate commodity codes with a company via the **Associate Commodities** action.
- ▼ Ability to define and manage commodity codes via the **Add/Modify Commodity Codes** action.
- ▼ Ability to view all contracts associated with a company record via the **View Contracts** action.

New Company Master Application

MXES includes a new Company Master application that lets you define the records that belong to a Company Set. Companies whose Multisite implementations include multiple Organizations can now share company data between multiple Organizations via Company Sets. For more information about Multisite see “Multisite and Multilanguage” on page 1.

A company master record represents a vendor from whom you purchase goods or services, asset manufacturers, and other companies that you do business with. Company master records contain information such as the default contact person of the company, purchasing, e-commerce, and payment details of the company. You use company records to manage Organization specific information about a vendor, such as contact names and addresses.

Invoices Enhancements

In addition to the enhancements listed in “General Purchasing Enhancements” on page 47, the following enhancement has been made to the Invoices application in MXES.

- ▼ The **Change Vendor from PO** action has been added, allowing you to change the vendor on the invoice from the one listed on the purchase order.

Purchase Orders Enhancements

In addition to the enhancements listed in “General Purchasing Enhancements” on page 47, the following enhancements have been made to the Purchase Orders application in MXES.

- ▼ A **Storeroom** field has been added to the Vendor section of the purchase order record. When the **Internal?** check box is selected, the vendor information fields become read-only and the **Storeroom** field is editable. Internal requisitions can only be for inventory items from a storeroom, not for services.
- ▼ The Ship To/Bill To information has been moved to the new Ship To/Bill To tab. This tab is used to specify shipping information that will be used as a default on each PO line, and billing information for the entire order. By default Maximo copies Ship To information from your Person record, or the default Ship To information for your Organization.
- ▼ To support centralized purchasing, MXES now lets you specify Ship To information at the PO Line level. You can specify that a PO Line should ship to any Site within the same Organization. This lets you combine POs for multiple Sites.
- ▼ The **Create Blanket Release** action has been removed. Release purchase orders are now created via the **Create Release PO** action in the Purchase Contracts application.
- ▼ The **Create Blanket PO**, **View Blanket PO**, and **Create Pricing Agreement PO** actions have been removed. Blanket contracts and price agreements are now created in the new Purchase Contracts application.
- ▼ The **Move Equipment** action is now the **Move/Modify Assets** action, which can be used to change the location of one or more assets, modify the Users and Custodians for an asset, or modify the attributes for an asset.
- ▼ The **Add/Modify Commodity Codes** action has been added, allowing you to create and manage the commodity code library.
- ▼ **Commodity Group** and **Commodity Code** fields have been added to the PO Lines, allowing you to associate commodity codes with PO Line items.

Purchase Requisitions Enhancements

In addition to the enhancements listed in “General Purchasing Enhancements” on page 47, the following enhancements have been made to the Purchase Requisition application in MXES.

- ▼ Internal purchase requisitions are now indicated by the **Internal?** check box. If the PR is an internal PR, the vendor information fields are read-only and the **Storeroom** field is editable. Internal requisitions can only be for inventory items from a storeroom, not for services.
- ▼ The Ship To/Bill To information has been moved to the new Ship To/Bill To tab. This tab is used to specify shipping information that will be used as a default on each PR line, and billing information for the entire order. By default Maximo copies Ship To information from your Person record, or the default Ship To information for your Organization.

Receiving Enhancements

In addition to the enhancements listed in “General Purchasing Enhancements” on page 47, the following enhancements have been made to Receiving application in MXES.

- ▼ Assets that are leased, rented, or purchased under a contract are automatically associated with the contract record when they are received.
- ▼ The **Approve Receipts** action is now the **Change Inspection Status** action.

Request for Quotation Enhancements

The enhancements to the Request for Quotations application are listed in “General Purchasing Enhancements” on page 47.

New Terms and Conditions Application

MXES includes a new Terms and Conditions application that is available from both the Contracts and the Purchasing modules. The new Terms and Conditions application is discussed in “New Terms and Conditions Application” on page 35.

Desktop Requisitions Enhancements

In Maximo 5.2, the Desktop Requisitions wizard guided users through a five step process to create a material requisition (MR).

For MXES Desktop Requisitions has several enhancements, including:

- ▼ New user interface with separate applications for creating requisitions, viewing requisitions, viewing drafts, and viewing templates. The Desktop Requisition interface allows users easy access to each of the Desktop Requisition applications.
- ▼ The requisition creation process has been simplified to three steps.
- ▼ The Defaults tab has been removed. Maximo now automatically copies this information from the user's Person record.
- ▼ The new **Requested By** field lets you indicate if you are creating the requisition on the behalf of someone else.
- ▼ The View Requisitions application now displays all active requisitions that
 - were submitted *by* you
 - were submitted *for* you (requisition lists your person ID in the **Requested By** field)
 - were submitted *for* or *by* any individual who reports to you (your person ID is listed in the **Supervisor** field on their person record, plus any persons who report to those individuals, and so on).
 - have been assigned to you as part of a Workflow process.
- ▼ The new **Template** field lets you identify the template used to create a requisition.
- ▼ The new **Line Items** button gives users access to the following options for selecting items:
 - **Select Materials** to select from a list of materials.
 - **Favorite Items** to select from a list of favorite items you have created using the **Add to Favorites** button.
 - **Spare Parts** to search for an asset record and select spare parts from those listed on the asset record.
 - **Existing Requisitions** to copy line items from existing requisitions and templates that you have created.
 - **Supplier Catalog(s)** to select line items from vendor's e-commerce catalogs.
- ▼ The receiving functionality has been removed from Desktop Requisitions.

Service Desk

MXES includes several enhancements and new features to support the Service Desk. This section describes the new applications to support a Service Desk implementation.

Maximo Enterprise Suite has earned Pink Elephant's PinkVerify™ certification for Information Technology Infrastructure Library (ITIL) compatible software solutions. Pink Elephant is one of the world's leading consulting and training providers in ITIL standards, a best practice framework designed to optimize IT service management processes.

New Bulletin Board Application

The Administration module for MXES includes the new Bulletin Board application, which lets you create and send broadcast messages to Maximo users. The Bulletin Board application is discussed with the Administration applications. See "New Bulletin Board Application" on page 19.

New E- Mail Listener Configuration Application

The Configuration module of MXES includes a new E-mail Listener Configuration application that lets you create and configure e-mail listeners, and to receive and process incoming Service Desk e-mail messages.

Maximo's E-mail Listener supports post office protocol 3 (POP3) and internet message access protocol (IMAP) e-mail protocols.

NOTE The e-mail account associated with a listener must be a dedicated account.

The E-mail Listener Configuration application includes the following features:

- ▼ Ability to create multiple listeners, to monitor multiple e-mail accounts.
- ▼ Ability to continuously "listen" for incoming messages. Once activated, an e-mail listener executes continuously on the Maximo server.
- ▼ Ability to support multiple attachments per message. Maximo converts any attachments into attached document records. When a ticket record is created from the e-mail, the attachments are associated with the ticket record.
- ▼ Ability to specify a status for the listener via the **Active?** check box. If the box is selected, the E-mail Listener polls the e-mail account based on the frequency or schedule specified in the **Schedule** field. If the check box is cleared the listener does not poll the account.

- ▼ Ability to differentiate between new service requests and updates to service requests via the subject line of a message.
- ▼ Ability to customize e-mail handling via a Workflow process. A different Workflow process can be associated with each listener. MXES includes Workflow processes to convert e-mail messages into service requests and communications log entries.

NOTE Maximo's E-mail Listener cannot process encrypted or digitally signed e-mail messages.

New Ticket Templates Application

The Service Desk module for MXES includes the new Ticket Templates application. A ticket template is a model for a generic or standardized service desk ticket record. You use the Ticket Templates application to create and manage generic templates that can be used to create service desk ticket records for common or high volume service desk calls. When you apply a ticket template to a service request, incident, or problem record, Maximo copies information from the template to the ticket, saving data entry time.

The Ticket Templates application includes the following features:

- ▼ Ticket templates are created at the System level, but you can create templates for a specific Organization.
- ▼ Ability to specify an **Owner** or **Owner Group** for the ticket.
- ▼ Ability to specify a **Service Group** or **Service** for the ticket.
- ▼ Ability to specify a **Classification** for the ticket.
- ▼ Ability to specify activities that should be completed for the ticket. Activities can be for a specific Organization or Site, and can have a job plan applied to them.
- ▼ Ability to specify a sequence to use when performing activities.
- ▼ Ability to specify a **Vendor** for an activity.

Ticket Management Applications

MXES includes the following new applications that allow you to create and manage ticket records:

- ▼ Incidents application
- ▼ Problems application
- ▼ Service Requests application

The ticket management applications share the following features:

- ▼ Ability to enter **Reported By** and **Affected Person** data on the ticket, including phone and e-mail contact information. Maximo automatically copies this information from the person record if one exists.
- ▼ Ability to specify an **Owner** or **Owner Group** for the ticket.
- ▼ Ability to specify a **Classification** for the ticket.
- ▼ Ability to specify both a **Reported Priority** and an **Internal Priority** for the ticket.
- ▼ Ability to specify a **Service Group** or **Service** for the ticket.
- ▼ Ability to list related assets on a ticket.
- ▼ Ability to associate and view related ticket and work order records. Maximo automatically lists records created from within a ticket via one of the **Create <Record>** actions as related records.
- ▼ Ability to view the Work Log and Communications Log for a ticket. Both the Work Log and the Communications Log provide a means of communicating information about a ticket.
 - Technicians create the entries in the Work Log to record work-related information about a ticket.
 - Maximo makes the entries in the Communications Log, which is used to maintain a record of e-mail communications created from the record via the **Create Communication** action.
- ▼ Ability to track time spent on a ticket via the Timer located in the toolbar.
- ▼ Ability to apply one or more service level agreements (SLAs) to a ticket.

MXES also includes a Self-Service Service Requests module, designed to allow users to submit and view service requests.

New Incidents Application

The Service Desk module for MXES includes the new Incidents application. You use the Incidents application to create, view, modify, or delete incident records. Incident management is the resolution and prevention of incidents that affect the normal operation of a company's information technology (IT) services. This includes ensuring that all failures are corrected, preventing any recurrence of those failures, and the use of preventive maintenance to reduce the number of failures.

In addition to the standard ticket functionality, the Incidents application includes the following features:

- ▼ Ability to specify activities that should be completed for the ticket.
- ▼ Ability to sequence activities.
- ▼ Ability to specify a **Vendor** and a **Contract** for an activity.
- ▼ Ability to associate a solution record with a ticket.
- ▼ Ability to perform failure reporting for a ticket.

New Problems Application

The Service Desk module for MXES includes the new Problems application. You use the Problems application to create, view, modify, or delete problem records. Problem management is the resolution and prevention of problems that affect the normal operation of a company's information technology (IT) services. This includes ensuring that all failures are corrected, preventing any recurrence of those failures, and the use of preventive maintenance to reduce the number of failures.

In addition to the standard ticket functionality, the Problems application includes the following features:

- ▼ Ability to specify activities that should be completed for the ticket.
- ▼ Ability to sequence activities.
- ▼ Ability to specify a **Vendor** and a **Contract** for an activity.
- ▼ Ability to associate a solution record with a ticket.
- ▼ Ability to perform failure reporting for a ticket.

New Service Requests Application

The Service Desk module for MXES includes the new Service Requests application. A service request is a communication from an internal or external customer that reports an issue, requests information, or requests some sort of service. A service request record provides a means of tracking all Service Desk interactions with customers: walk up customers, phone calls, e-mail requests, and so forth.

You use the Service Request application to enter, view, and modify service request records. Depending on how your company chooses to implement the Service Desk module, a service request may lead to the creation of additional ticket or work order records.

New Self-Service Service Requests Module

The Self Service module for MXES includes the new Self-Service Service Requests module that includes three applications.

- ▼ **Create Service Request** — Used by self-service users to create and submit a service request.
- ▼ **View Service Requests** — Used by self-service users to view service requests that they have submitted, or that have been submitted on their behalf.
- ▼ **Search Solutions** — Used to search the Solutions library. Solution records are created in the new Solutions application discussed in “New Solutions Application” on page 60.

New Activities Application

The Service Desk module for MXES includes the new Activities application that lets you report work on activity records created as part of an incident and problem records.

An activity is used to describe general work that needs to be done on a ticket record. For example a ticket for a network printer problem might include three activities: check network connection, check printer, and check network.

You create activities on incident and problem records to describe general, high-level work that must be performed to resolve the ticket. Activities can be assigned to different teams, different departments, or vendor or contract labor. A service desk agent can assign activities to other individuals or groups and still retain ownership of the ticket.

The Activities application includes the following features:

- ▼ Ability to plan and report actuals for labor, materials, services, and tool usage.
- ▼ Ability to view and manage related records.
- ▼ Ability to view and manage the Work Log and Communications Log for an activity.

New Changes Application

The Service Desk module for MXES includes the new Changes application. A change work order is used to plan the alteration of an information technology asset. This can include the addition, modification, or removal of approved, supported, or baseline:

- ▼ applications
- ▼ associated documentation
- ▼ desktop builds
- ▼ environments
- ▼ hardware
- ▼ networks
- ▼ software
- ▼ systems

You use the Changes application to create, view, and modify change work orders. The Changes application includes the following features:

- ▼ Ability to enter **Reported By** and **Affected Person** data on the work order, including phone and e-mail contact information. Maximo automatically copies this information from the person record if one exists.
- ▼ Ability to specify an **Owner** or **Owner Group** for the work order.
- ▼ Ability to specify a **Classification** for the work order.
- ▼ Ability to specify both a **Reported Priority** and an **Internal Priority** for the work order.
- ▼ Ability to specify a **Service Group** or **Service** for the work order.
- ▼ Ability to specify a back out plan for the change.
- ▼ Ability to apply one or more SLAs to the work order.
- ▼ Ability to list areas affected by the change.
- ▼ Ability to plan and report actuals for labor, materials, services, and tool usage.
- ▼ Ability to view and manage related records.
- ▼ Ability to view and manage the Work Log and Communications Log for the work order.
- ▼ Ability to modify the location, users and custodians, or attributes of one or more assets via the **Move/Modify Asset** action.

New Releases Application

The Service Desk module for MXES includes the new Releases application. A release work order is used to describe one or more tested and authorized changes that is being introduced into a "live" or production environment.

You use the Releases application to create, view, and modify release work orders. The Releases application includes the following features:

- ▼ Ability to enter **Reported By** and **Affected Person** data on the work order, including phone and e-mail contact information. Maximo automatically copies this information from the person record if one exists.
- ▼ Ability to specify an **Owner** or **Owner Group** for the work order.
- ▼ Ability to specify a **Classification** for the work order.
- ▼ Ability to specify both a **Reported Priority** and an **Internal Priority** for the work order.
- ▼ Ability to specify a **Service Group** or **Service** for the work order.
- ▼ Ability to specify release policies, release design, build procedures, and files for the release.
- ▼ Ability to apply one or more SLAs to the work order.
- ▼ Ability to list areas affected by the release.
- ▼ Ability to plan and report actuals for labor, materials, services, and tool usage.
- ▼ Ability to view and manage related records.
- ▼ Ability to view and manage the Work Log and Communications Log for the work order.
- ▼ Ability to modify the location, users and custodians, or attributes of one or more assets via the **Move/Modify Asset** action.

New Solutions Application

The Service Desk module for MXES includes the new Solutions application. A solution is a predefined response to a problem or commonly asked question. A solution record consists of a symptom, a cause, and a resolution. Solutions can be associated with incident and problem records.

You use the Solutions application to create, approve, and manage solution records. Maximo contains a separate application, Search Solutions, that can be used to search for and view solution records.

The Solutions application includes the following features:

- ▼ Ability to specify which solution records should be available to self-service users in the Search Solutions application.
- ▼ Ability to specify a **Classification** for the solution.
- ▼ Ability to indicate a Status for a solution. A solution record can have one of the following statuses: DRAFT, ACTIVE, or INACTIVE.
- ▼ Ability to attach documents or Web sites to a solution record.

Service Management

This section describes the new applications in MXES that support Service Management.

Maximo provides two applications specifically designed for service level management. The Service Management Module consists of the following applications:

- ▼ Service Catalog
- ▼ Service Level Agreements

New Escalations Application

The Configuration module for MXES includes the new Escalations application. The Escalations application is discussed with the Administrative applications. See “New Escalations Application” on page 26.

New Service Catalog Application

MXES includes a new Service Catalog application that lets you create a high-level definition of the categories of services that your company provides or procures. Service group and service definitions are stored in the COMMODITIES table, and can be used to manage records by their associated services. Service groups and services can be used to categorize services associated with assets, asset types, contracts, locations, service level agreements, tickets, and work orders.

The Service Catalog application includes the following features:

- ▼ Ability to define a two level service hierarchy: service groups and services.
- ▼ Ability to define three different types of service groups:
 - BOTH — services that are both provided and procured by your company.
 - PROCURE — services that are procured by your company.
 - PROVIDE — services that are provided by your company.
- ▼ Ability to specify a **Contact** or **Contact Group** for each service group and service.

New Service Level Agreements Application

MXES includes a new Service Level Agreements application that lets you define the agreement and formal commitments between a service provider and a customer. The agreement documents the service to be provided or received, the agreed upon service levels for the service, and the means of measuring or quantifying the level of service.

A **service** is a set of tasks provided by the service provider that meets one or more customer needs. A **service level** defines the means of measuring or quantifying the level of service that the service organization provides to the customer. A **commitment** is any service, product, or responsibility that can be measured in a qualitative or quantitative way and that the service provider must meet to fulfill the service level agreement with the customer. An **SLA** can have one or more commitments, each having their own escalation points. An **escalation** is a Maximo function that can be set to automatically monitor critical records.

The Service Level Agreements application includes the following features:

- ▼ Ability to define the following types of SLAs:
 - Customer (SLA)
 - Internal (OLA)
 - Vendor (Underpinning contract)
- ▼ Ability to define an SLA for any Maximo object.
- ▼ Ability to define SLAs at the System, Organization, or Site level.
- ▼ Ability to specify a **Classification** that the SLA should apply to.
- ▼ Ability to specify a ranking to be used for the SLA, when multiple SLAs exist for the same object. There is a MAXVAR setting in the Organizations application that specifies whether Maximo should apply only one or multiple SLAs.
- ▼ Ability to specify one or more commitments for an SLA, for example asset availability, response time, resolution time, etc.
- ▼ Ability to relate an SLA to another SLAs, for example if an SLA has supporting SLAs.
- ▼ Ability to specify individual assets or locations, or asset types that the SLA applies to. If you list an asset type on an SLA then all assets of that type are covered by the SLA.
- ▼ Ability to link an SLA to a key performance indicator (KPI) to monitor performance.
- ▼ Ability to create an escalation for an SLA.
- ▼ Ability to associate contracts with an SLA.

Workflow

MXES includes a several new applications to support the creation and management of Workflow processes.

Applications used to create records that may be used when designing Workflow processes can be found in the following modules:

- ▼ Administration module
 - Communication Templates application
- ▼ Configuration module
 - Actions application
 - Escalations application
 - Roles application
 - Workflow Administration application
 - Workflow Designer application
- ▼ Resources module
 - Person Groups application

General Workflow Enhancements

In Maximo 5.2, Workflow was an optional component. In MXES, Workflow is provided as part of core Maximo.

MXES includes several Workflow enhancements, including:

- ▼ The Workflow applications are now integrated with Maximo's Web architecture.
- ▼ Any Maximo object/application can now be Workflow enabled. In previous Maximo releases Workflow was only available for applications that included a record status.
- ▼ Multiple Workflow processes can be run against a single object. In previous releases you were restricted to one process per object.
- ▼ MXES includes enhanced flexibility for starting a record in a Workflow process. A record can enter a process via one of the following methods:
 - **Route Workflow** toolbar button
 - **Route Workflow** option in the Select Action menu
 - Via another Workflow processes action
 - Automatically enter the process when a new record is saved
 - Via an escalation action

- ▼ Ability to import or export a process and all its supporting data (including actions, roles, and communication templates) to XML via the Maximo Enterprise Adapter (MEA). This allows you to build and test Workflow processes in a test environment, then import them to your production environment. A SQL statement identifies the process and revision and other attributes that are being imported/exported.
- ▼ You can now specify in the Workflow Designer application that a process should automatically route all new user created records from the target application into the Workflow process when the record is saved. This auto-initiate feature is limited to one active process per object. You can also use the Organizations application to set which Workflow processes should auto-initiate for the new records created by the following Maximo functions:
 - Work Orders on PM Generation
 - Purchase Requisitions on Reorder
 - Purchase Orders on Reorder
 - Work Orders on Purchase Order approval

New Workflow Administration Application

MXES includes a new Workflow Administration application, which allows administrators to view active Workflow processes.

Using the Workflow Administration application administrators can

- ▼ Stop an active process.
- ▼ View assignments.
- ▼ Modify assignments, for example reassigning an assignment.

Workflow Designer Enhancements

The Workflow Designer application is used to create a path, or series of paths, that determines the course of a record through its life cycle. You use the Workflow Designer to specify the following:

- ▼ what should happen to the record as it goes through the process (status change, etc.)
- ▼ what manual input is needed from users
- ▼ what actions Maximo can take automatically
- ▼ what notifications should be sent, and to whom

There are several enhancements to the Workflow Designer application in MXES.

- ▼ The Workflow Designer is now part of Maximo's Web architecture. It uses a Java plug in from Sun Microsystems to draw the Workflow process canvas.
- ▼ There is a new SQL expression builder. For more information, see "New SQL Expression Builder" on page 16.
- ▼ You can have one or more active processes per object.

- ▼ You can have one or more active process instances per record.
- ▼ There is a new Wait node. When a Workflow process encounters a Wait node, the process pauses indefinitely, until any of the specified events in the Wait List occurs. When one of the events occurs, Maximo informs the node that the task is complete, and the process resumes by exiting the node. The Wait node replaces the former WAITMATL role and related cron task.
- ▼ There is a new Interaction node which is used to offer the user well defined or scripted choices for their interaction with the record and process. An interaction node can guide the user to specific applications, tabs, and action dialogs appropriate to the task at hand.
- ▼ You can now create custom toolbar buttons for the target application(s) to initiate or route a record into a specific Workflow process.
- ▼ You can now specify that an assignment's **Due Date** be calculated using the assignee's calendar. This provides a more accurate way of determining when an assignment should be escalated, for example assignments made late in the day on a Friday being escalated over a non-working weekend.
- ▼ You can now specify that a task or manual input automatically flow through a node if at runtime there is a single valid exit line emanating from it. This is controlled via the **Display One?** check box on the Task Node Properties dialog box. When this check box is cleared Maximo automatically takes the action and logs the transaction to the user.
- ▼ In Maximo 5.2, auto-accept was a role with a configurable cron task. In MXES, auto-accept is still a role, but it has been complimented with an auto-reject role, both of which are now driven by escalations.

New Actions Application

MXES includes a new Actions application that is used to manage the administrative function of creating actions and action groups for escalation, service level agreement (SLA), and Workflow processes. An action is an event that you want Maximo to trigger when it encounters records that meet the condition(s) defined by an escalation point, SLA, or Workflow process.

You can use the Actions application to build individual actions, or groups of actions that should be processed in sequence. You can create actions that cause Maximo to change a record's status, execute a defined program (executable), set the value for a field, or execute a custom class action. You can create an action to initiate a Workflow process to start on a record from within a Workflow process, or from an escalation process.

New Roles Application

MXES includes a new Roles application that is used to create the supporting roles that are part of an escalation, service level agreement (SLA), or Workflow process. Roles allow a process to determine the correct business entity that the process should be forwarded to. The business entity, or roles, can indicate a person, or a person group. Roles can also be created for class files and objects.

The Roles application supports the creation of the following types of roles:

- ▼ **CLASSNAME** — Routes the process to a custom class file that returns a person or group of persons.
- ▼ **DATASET** — Routes the process to a specific field within an object.
- ▼ **EMAILADDRESS** — Routes the process to one or more e-mail addresses. These e-mail addresses may or may not represent individuals who have person records created for them in Maximo, so these addresses can be used for notifications, but not assignments.
- ▼ **PERSONGROUP** — Routes the process to
 - the first available person in a person group
 - all people in a person group when the **Broadcast?** check box is selected.
- ▼ **PERSON** — Routes the process to a single person record.
- ▼ **USERDATA** — Routes the process to a person based on a specific field within the person record of the logged in user.

Workflow Inbox Enhancements

The Workflow Inbox is one of the portlets that can be displayed on the Maximo Start Center.

- ▼ Users can configure which columns Maximo displays in the Inbox and the labels that describe the columns.
- ▼ A **Memo** column has been added. This column shows a memo entered by the previous individual that the record was routed to in the process.
- ▼ An **Owner Description** column has been added. This column shows the record's object, Site, and key.
- ▼ The **Description** column is also a hyperlink to the application where the assignment task must be carried out.
- ▼ Inbox assignments now have the option to be escalated based on the recipient's calendar.

Workflow User Actions and Dialogs

Several new Workflow specific actions appear in the Select Action menu of an application that has been enabled for Workflow:

- ▼ **Workflow > Start Workflow** — Used to start a record into a Workflow process. If more than one active processes exists for the record, Maximo will prompt the user to select one.
- ▼ **Workflow > Route Workflow** — Used to continue routing the record through the Workflow process, or to reassign (delegate) the record to another user. When users with active assignments select this action the Complete Workflow Assignment dialog box appears, which displays the action options or manual input required by the Workflow process. Users can see a list of memos entered by previous assignees.
- ▼ **Workflow > Stop Workflow** — Used to stop the Workflow process and remove the document from Workflow.
- ▼ **Workflow > View Workflow History** — Used to view the Workflow history for a record.
- ▼ **Workflow > View Workflow Assignments** — Used to view the person(s) that the record is currently assigned to.
- ▼ **Workflow > View Workflow Map** — Used to view a map of the Workflow process.
- ▼ **Workflow > Workflow Help** — Used to view an Help topic that describes the actions a user can take.

New Communication Templates Application

MXES includes a new Communication Templates application in the Administration module. The Communication Templates application lets you create and manage generic templates that can be used to create messages or notifications that can be sent from within Maximo.

You can use communication templates when creating the following messages:

- ▼ Communication log messages for tickets and work orders
- ▼ Escalation notifications
- ▼ Workflow process notifications

You can specify that the communication should be sent to specific roles, persons, person groups, or individual e-mail addresses. You can specify the address that the message is sent from, and whether each recipient should receive the message (To), receive a carbon copy (CC) or a blind carbon copy (BCC) of the message. You can also specify the e-mail address that replies should be sent to.

The subject line and message field of communication templates supports substitution variables, which lets you generate record specific messages. For example, messages that reference a ticket number in the subject line, and the record status in the message body.

The message section can be constructed to include hyperlinks to Maximo records by including the following link template in the body of the message:

```
http://:HOSTNAME/maximo/ui/  
maximo.jsp?event=loadapp&value=:APP&uniqueid=:OWNERID
```

Maximo substitutes the application name and record ID at run time, and creates a link within the e-mail that leads directly to the record.

You can attach documents to a communication template. You can attach documents directly to a template, or associate document folders from the Attached Documents library to the template. Maximo will search the attachment folders when a message based on the template is sent, and attach any existing documents or files in the folder to the message.

New Escalations Application

The Configuration module for MXES includes the new Escalations application. The Escalations application is discussed in “New Escalations Application” on page 26.

New Person Groups Application

In Maximo 5.2, you used the Labor Groups application to define groups of laborers who could be assigned work. In MXES, the Labor Groups application has been replaced by the Person Groups application, which lets you create groups of persons, who may or may not have labor records. A person group is a list of individuals who have similar job responsibilities, levels of authority, and security clearances.

You can use person groups in the following ways:

- ▼ Responsibility for records, such as tickets and work orders, can be assigned to a person group rather than to an individual.
- ▼ The Service Catalog uses person groups as the **Contact Group** for services. Service groups can be assigned responsibility for ticket records (service requests, incidents, and problems).
- ▼ Records can be assigned to person groups as part of a Workflow process. If a record such as a purchase order or a work order is routed to a person group, everyone in the group can receive the record unless the Workflow process is configured to send it only to the first group member whose calendar shows that they are available.
- ▼ Person groups can be listed as the **Owner Group** on job plans, PMs, tickets, and work orders, and as the **Work Group** on job plans and work orders.
- ▼ Bulletin board messages can be sent to a person group.

The Person Groups application is part of the Resources module.

Work Management

MXES includes several new features and enhancements for work management, both enterprise asset management (EAM) and information technology asset management (ITAM). This section describes the additions and enhancements made to various work management applications.

Job Plans Enhancements

MXES includes the following enhancements to the Job Plans application to support Maximo's enterprise asset management (EAM) and Service Desk functionality:

- ▼ Job Plans are at the System, or database level, but contain optional **Organization** and **Site** fields. These fields allow you to specify job plan tasks and attributes (labor, materials, services, or tools) that are specific to one or more Organizations or Sites. For more information, refer to the *Maximo User's Guide*.
- ▼ A **Status** field and **Change Status** action have been added. A job plan can have one of three statuses: DRAFT, ACTIVE, or INACTIVE.
- ▼ Job plans can be used with activity, change, and release work orders created in the Service Desk module.
- ▼ **Owner** and **Owner Group** fields are now part of job plans to support the Service Desk.
- ▼ You can now specify a **Skill Level** when planning labor.
- ▼ A **Create Job Plan from Work Plan** action has been added to the Work Order Tracking application, allowing you create a job plan from the work plan specified on the work order.
- ▼ The **View Totals** action is now **View Costs**.

New Master PM Application

MXES includes a new Master PM application in the Preventive Maintenance module. This new application performs the same functions as the Master PM tab that appeared on the Preventive Maintenance application in previous Maximo releases.

Preventive Maintenance (PM) records are defined at the Site level, but Master PMs are defined at the System level. This lets you create Master PMs for rotating items and use the Master PM for all of the Organizations that share the same Item Set.

Preventive Maintenance Enhancements

The Preventive Maintenance application includes the following enhancements:

- ▼ The Master PM tab has been removed. The **Create Associated PMs** and **Update Associated PMs** actions are now accessed in the new Master PM application.
- ▼ A **Status** field and **Change Status** action have been added. A PM can have one of three statuses: DRAFT, ACTIVE, or INACTIVE.
- ▼ In Maximo 5.2, only two meters could be listed on a PM record. For MXES multiple meters can be associated with a PM record.
- ▼ A Seasonal Dates tab has been added. You can use this tab to specify the active days and active dates for a PM record. You can now specify multiple active seasons for a seasonal PM.

The following enhancements have been made to work order generation from PM records:

- ▼ In Maximo 5.2, PM work orders were generated based on the earliest next due date of either the time based or meter based frequency information on the PM record. In MXES, you can now specify how work orders should be generated: based on the specified time frequency, an estimated meter frequency, or on actual meter readings.
- ▼ In Maximo 5.2, PM work orders were generated either manually or via a PM cron task. In MXES, Maximo can now generate PM work orders automatically if the **Generate WO When Meter Frequency is Reached?** check box is selected on a PM record.
- ▼ You can now generate PM work orders for assets that are located in storerooms or other inventory type locations (Courier, Holding, Labor).
- ▼ Maximo can now generate PM alerts which notify users that there is also pending PM work when corrective maintenance work orders exist for an asset. There is a new setting in the Organizations application which lets you specify which work order status should generate the alert.

Crafts Enhancements

The Crafts application includes the following enhancements:

- ▼ In Maximo 5.2, you had to create separate craft records for each skill level. In MXES, each craft can have multiple skill levels. For example in Maximo 5.2 you had to create three different craft records, ME1, ME2, and ME3, to represent three different levels of mechanics (mechanic first class, mechanic second class, mechanic third class). In MXES, you can create a single craft record for MECH that includes multiple skill levels, and you can define a separate standard rate for each skill level.
- ▼ Each skill level can have different standard pay rates.

- ▼ Each skill level can have one or more outside pay rates associated with it. For example if you have multiple vendors who provide contract labor, or multiple labor rate contracts.
- ▼ Each craft can have one or more premium pay codes associated with it, for example overtime, holiday pay, or skill rates.
- ▼ The **Manage Premium Pay Codes** action has been added. This action lets you create and manage the global list of premium pay codes. This list is used to define premium pay codes for craft records. Premium pay codes can specify a different hourly rate, an increment or addition to the standard rate (for example an extra \$.75 an hour), or a multiplier (for example 1.5 x the standard rate). This replaces the overtime value list that existed in Maximo 5.2.
- ▼ A new Associated Labor tab has been added. This tab lets you view and manage all labor records associated with the craft. You can use this tab to assign specific pay rates to a laborer, or add vendor or contract information about the laborer.
- ▼ Due to the addition of skill levels, outside rates, and premium pay codes, the **Zero Year to Date Hours** action has been removed.

Labor Enhancements

The Labor application includes the following enhancements:

- ▼ A **Status** field and **Change Status** action have been added. A labor record can have one of two statuses: **ACTIVE**, or **INACTIVE**. This lets you deactivate labor records when employees leave the company. Maximo uses the status field to filter labor records in select value lists, and only displays active records.
- ▼ A **Crafts** tab has been added. This tab lets you add, view, modify, and delete crafts, skill levels, vendors, contracts, and pay rates associated with a labor record.
- ▼ You can record multiple crafts and skill levels for a laborer. You can now charge different rates for the laborer depending on the craft, skill level, or contract associated with the work they are performing.
- ▼ A **Qualifications** tab has been added. You use this tab to list the certifications and qualifications held by the laborer. You can use this tab to add, view, extend, renew, and delete qualifications associated with the labor record.
- ▼ The **View History** action has been added, allowing you to view the status change history for a labor record.
- ▼ The **Create Labor Inventory Location** action has been added, allowing you to create an inventory location associated with the labor record for use when issuing and transferring inventory items.
- ▼ The **Zero Year to Date Totals** action is now **Zero Year to Date Hours**.

New People Application

MXES includes a new People application in the Resources module. A person record is a record of an individual who may appear somewhere on a Maximo record, for example on a labor record, on a user record, in a **Reported By** or **Affected Person** fields on a service request, as a **Supervisor** on a labor record, or as the value in a **Ship To** or **Bill To Attention** field on a purchasing record. The labor references in many of the existing Maximo applications, for example Desktop Requisitions and Workflow, have been changed to person references.

You use the People application to create, modify, view, and delete records for individuals. This application serves as a storehouse of personal and official information on individuals such as Maximo users, laborers, asset owners, supervisors, and individuals who receive Workflow notifications. Individuals are not required to have a labor or user records in order to have a person record. However, Maximo requires a person record when you create labor and user records because personal information is now stored in the PERSON table of the database.

The People application includes the following features:

- ▼ Ability to enter a person ID, first name, last name, and display name for an individual.
- ▼ Ability to enter address, phone number, and e-mail contact information for an individual.
- ▼ Ability to enter a calendar and shift for an individual.
- ▼ Ability to enter employee and workplace information on a person record. Note that person records can be created for individuals who are not employees, for example vendor contacts.
- ▼ Ability to enter Workflow, work order, and procurement card data pertaining to an individual.
- ▼ Ability to specify a status for a person record. A person record can have one of two statuses: ACTIVE, or INACTIVE.

NOTE Users can manage a limited amount of the data in their person record via the new Profile link. For more information, see “New Profile Link” on page 31.

New Person Groups Application

In Maximo 5.2, you used the Labor Groups application to define groups of laborers who could be assigned work. In MXES, the Labor Groups application has been replaced by the Person Groups application, which lets you create groups of persons, who may or may not be laborers.

The new Person Groups application is discussed in “New Person Groups Application” on page 68.

New Qualifications Application

MXES includes a new Qualifications application in the Resources module. A qualification is an indication of a particular job skill or specialized training. A qualification is often, but not necessarily, indicated by a license or certificate, signifying proficiency in a particular skill or skills. Some certificates have expiration dates and must be renewed periodically.

You use the Qualifications application to create records of qualifications and certification requirements for qualifications. Qualification records can be associated with labor records in either the Qualifications or Labor applications. You can view qualifications associated with a particular labor record and renew or change the status of their qualification from either the Qualifications application or the Labor application. You can associate qualifications with tool records in the Tools application.

Safety Module Enhancements

In Maximo safety hazards are associated with *related* assets/locations. In Maximo 5.2, you had to specify on the record that an asset or a location was a safety related asset to itself. In MXES, an asset or location is automatically considered to be a safety related asset to itself.

Assignment Manager Enhancements

The Assignment Manager application was released as part of Maximo 5.2 Patch 2, and replaced the Work Manager application available in Maximo 4.x. The Assignment Manager application includes the following enhancements:

- ▼ Assignment Manager is now a single page application.
- ▼ There are now two actions to set user preferences: **Set Priority Preferences** and **Set Parameter Preferences**.
- ▼ A **New Row** button has been added to the Work List table window.
- ▼ A **Skill Level** column has been added to the Labor List table window. MXES now supports laborers with multiple crafts and skills.
- ▼ Contract labor is now included in work/labor matching.

New Labor Reporting Application

In Maximo 5.2, the Labor Reporting application used the Labor record as the key field, and was designed for the individual laborer performing time card reporting.

In MXES, the Labor Reporting application has been completely redesigned to meet the needs of supervisors or data entry clerks who need to enter, view, and manage large numbers of labor transactions. The new Labor Reporting application is a single page application that is now based on labor transactions rather than individual laborers.

You can enter labor transactions in the new Labor Reporting application in the following ways:

- ▼ **Enter by Contract/Vendor** — Used when reporting work performed by a vendor or contract labor. Maximo validates that the contract and vendor match.
- ▼ **Enter by Labor** — Used when reporting hours by labor code to either track the time spent on specific tasks or record daily attendance.
- ▼ **Enter by Ticket** — Used when reporting hours by ticket. You can enter the ticket number and select or enter all labor transactions for the ticket. When you report labor hours by ticket, Maximo copies the **Asset**, **Location**, and **Start Date** values from the ticket to the labor transaction.
- ▼ **Enter by Work Order** — Used when reporting hours by work order. You can enter the work order number and select or enter all labor transactions for the work order. When you report labor hours by work order, Maximo copies the **Asset**, **Location**, and **Start Date** values from the work order to the labor transaction.

The following modifications have been made to the actions available in the Labor Reporting application:

- ▼ The **Daily Attendance** action has been added. This action allows workers to perform "timecard" type reporting of labor hours.
- ▼ The new **Create Invoice** action lets you create an invoice directory from one or more approved labor transactions, streamlining the paperwork when there is contract labor listed on a work order.
- ▼ The **Create Service Receipt** action has been removed. Services can still be received against purchase orders in the Receiving application.

New Service Requests Applications

Maximo 5.2 included a Work Requests application, which provided a simplified user interface that allowed users to request maintenance work.

The Work Requests application has been replaced by the Service Requests application for MXES. The new Service Requests application is discussed in “New Service Requests Application” on page 57.

Quick Reporting Enhancements

There are several enhancements to the Quick Reporting application for MXES.

The CAN (Cancel) status for work orders is now available in the Quick Reporting application.

New Actions

The Quick Reporting application includes the following new actions:

- ▼ The **Create Service Request** action has been added, allowing you to create a service request ticket record.
- ▼ The **Create Incident** action has been added, allowing you to create an incident ticket record.
- ▼ The **Create Problem** action has been added, allowing you to create a problem ticket record.
- ▼ The **Create Change** action has been added, allowing you to create a change work order record.
- ▼ The **Create Release** action has been added, allowing you to create a release work order record.
- ▼ The **Create Communication** action has been added, allowing you to create a communication from within the work order. You can either use a communication template, or enter the communication manually.
- ▼ The **Enter Meter Readings** action has been added, allowing you to enter meter readings for the asset or location listed on the work order.
- ▼ The **Delete Work Order** action has been added, allowing you to delete the work order record if it meets the conditions for deletion.

Modified Actions

Several actions have been modified in the Quick Reporting application for MXES.

- ▼ The **Generate Follow-Up Work** action has been replaced by the **Create Work Order** action.
- ▼ The **View Follow-Up Work** action has been removed.
- ▼ The **View Status/Workflow History** action is now **View Status History**. You now use the **View Workflow History** action to view the Workflow history for a record.
- ▼ The **Move Equipment** action is now the **Move/Modify Assets** action. You can now move or modify one or more assets at the same time.

Work Order Tracking Enhancements

There are several enhancements to the Work Order Tracking application for MXES.

New Tabs

Several tabs have been added or modified in the Work Order Tracking application.

- ▼ The Assignments tab has been removed. Work order assignments are now managed in the Assignment Manager application.
- ▼ A Related Records tab has been added. This tab lets you view ticket and work order records that are related to the current record. Maximo automatically lists records created from within a work order via one of the **Create <Record>** actions as related records. You can also create or remove the association between related records from this tab.
- ▼ A Log tab has been added, which lets you create and view the Work Log and Communications Log for a work order. Both the Work Log and the Communications Log provide a means of communicating information about a work order.
 - Maintenance workers create the entries in the Work Log to record work-related information about a work order.
 - Maximo makes the entries in the Communications Log, which is used to maintain a record of e-mail communications created from the record via the **Create Communication** action.

New Fields

Several new fields are now part of the Work Order Tracking application.

- ▼ **Class** field — Used to distinguish between work orders created in the Changes, Releases, and Work Order Tracking applications, and task or activity work orders. This new field also provides the ability to specify that each class should have a different autonumber seed. You use the Organizations application to set up the autonumber seeds for work orders.
- ▼ **Inherit Status Changes?** check box — Used to specify whether a work order's status should change when its parent work order's status changes. By default this check box is selected, allowing you to change the status of an entire work order hierarchy when you change the status of the top-level parent work order.
- ▼ **Accepts Charges?** check box — Used to specify whether the work order accepts charges for labor, materials, services, and tools. By clearing this check box you can require that actuals be charged against the parent work order rather than a child or task work order.
- ▼ **Priority Justification** field — Used to enter a message describing why the work order was assigned the value in the **Priority** field. This field includes a **Long Description** field.

- ▼ **Risk Assessment** field — Used to define the risk level of the work order. This field can accept either a numeric value, or terms such as High, Medium, and Low, based on your business needs.
- ▼ **Owner** and **Owner Group** fields — Used to indicate the person or person group currently responsible for ensuring that work is completed on the work order. Work orders with a value in the **Owner** or **Owner Group** fields appear in the Work View of the individual or group listed on the record. You use the **Select Owner** and **Take Ownership** actions to enter values in these fields.

New Actions

The Work Order Tracking application includes the following new actions:

- ▼ The **Create Work Package** action has been added to the List tab of the Work Order Tracking application, allowing you to group existing work orders together under a new parent work order. Maximo assigns new task numbers to the tasks and child work orders brought together in the work package.
- ▼ The **Apply SLAs** action has been added, allowing you to apply one or more service level agreements (SLAs) to a work order. When you select this action Maximo searches for active SLAs that match the characteristics of the work order. If no SLAs are found, Maximo displays a message. Depending on how you implement Maximo, the **Apply SLA** action may apply one or more SLAs to the record. The **Apply SLA** action applies SLAs to the work order only, it does not apply them to tasks.
- ▼ The **View SLAs** action has been added, allowing you to view the service level agreements (SLAs) applied to a work order and its tasks. The View SLAs dialog box is read-only.
- ▼ The **Select/Deselect SLAs** action has been added, allowing you to select and remove service level agreements (SLAs) from a work order record. The **Select/Deselect SLA** action applies SLAs to the work order only, it does not apply them to tasks.
- ▼ The **Create Service Request** action has been added, allowing you to create a service request ticket record. Maximo automatically lists the new record on the Related Records tab.
- ▼ The **Create Incident** action has been added, allowing you to create an incident ticket record. Maximo automatically lists the new record on the Related Records tab.
- ▼ The **Create Problem** action has been added, allowing you to create a problem ticket record. Maximo automatically lists the new record on the Related Records tab.
- ▼ The **Create Change** action has been added, allowing you to create a change work order record. Maximo automatically lists the new record on the Related Records tab.
- ▼ The **Create Release** action has been added, allowing you to create a release work order record. Maximo automatically lists the new record on the Related Records tab.

- ▼ The **Create Communication** action has been added, allowing you to create a communication from within the work order. You can either use a communication template, or enter the communication manually.
- ▼ The **View Warranties** action has been added, allowing you to view the warranties for the asset and location listed on the work order.
- ▼ The **Create Job Plan from Work Plan** action has been added, allowing you to create a job plan from the work plan listed on a work order record.
- ▼ The **Enter Meter Readings** action has been added, allowing you to enter meter readings for the asset or location listed on the work order.
- ▼ The **Modify/Delete Work Log** action has been added, allowing you to modify or delete entries in the Work Log for the current record.
- ▼ The **Select Owner** action has been added, allowing you to assign ownership of a work order to a person or person group.
- ▼ The **Take Ownership** action has been added, allowing you to take ownership of a work order.
- ▼ The **Select Standard Services** button has been added, allowing you to select service items (standard services) to be included on a work plan. Service Item records are created in the new Service Items application in the Inventory module.

Modified Actions

Several actions have been modified in the Work Order Tracking application for MXES.

- ▼ The **Generate Follow-Up Work** action has been replaced by the **Create Work Order** action.
- ▼ The **View Follow-Up Work** action has been removed. You can now view related work orders created via the **Create Work Order** action on the Related Records tab.
- ▼ The **View Status/Workflow History** action is now **View Status History**. You now use the **View Workflow History** action to view the Workflow history for a record.
- ▼ The **Move Equipment** action is now the **Move/Modify Assets** action. You can now move or modify one or more assets at the same time. You can also plan moves or modifications. Maximo executes planned moves when the work order status changes to COMP (Complete).
- ▼ The **Duplicate Work Order** action now lets you duplicate a work order or to duplicate the work order and its hierarchy (children and task work orders).
- ▼ The **Delete Work Order** action now lets you delete the entire work order hierarchy if it meets the deletion criteria.

New Functionality

MXES includes the following additional new functionality in the Work Order Tracking application:

- ▼ Maximo checks for open purchase orders when you change a work order's status to CLOSE. If Maximo finds open purchase orders for any work order in the hierarchy, it displays a dialog that notifies you that open purchase orders exist.
- ▼ Inventory type locations (Courier, Holding, Labor) are now allowed on a work order.
- ▼ You can now select multiple assets and locations on the Plans tab via the **Select Assets** and **Select Locations** buttons when creating child work orders. Maximo creates a child work order for each selected asset or location.

Reporting

MXES includes several reporting enhancements, including new applications and several new reports.

General Reporting Changes

There are several enhancements to reporting in MXES, including the following:

- ▼ Tighter integration with the Maximo user interface. In Maximo 5.2, users accessed reports through Actuate. In MXES, users access reports through Maximo. Report request pages now include standard Maximo lookups (**Select Date**, **Select Value**, etc.). Query reports are designed to look, feel, and run like standard reports.
- ▼ Improved ease of customization and translation. Text elements in reports (titles, labels, parameters) are now stored in the database rather than coded into the report. You can now modify text elements without using e-Report Designer Pro and recompiling the report.
- ▼ New integration with Maximo security. You use the Security Groups application to grant user access to the KPI Manager application, the Report Administration application, and the **Run Reports** action in the Maximo applications.
- ▼ Improved ease of creating KPIs, via Maximo's new KPI Manager application.
- ▼ Improved report libraries and templates that reduce the amount of custom code you need to create.

- ▼ The number of reports available with MXES is double the number of reports released with Maximo 5.2.
- ▼ All existing reports have been rewritten in order to
 - incorporate changes to the MXES database, for example the change from "equipment" to "asset."
 - utilize new report templates and libraries.
 - improve standard report content.

Key Performance Indicators

Key Performance Indicators (KPIs) are a way for companies to evaluate critical performance variables over time.

In MXES, KPIs have been moved to their own application. MXES includes the following applications for KPIs:

- ▼ **KPI Manager** — Used to create Key Performance Indicators (KPIs) to track critical performance variables over time. KPIs created in this application can be displayed on a user's Start Center. You can also use the KPI Manager to attach KPIs to other KPIs and reports.
- ▼ **KPI Graph Setup** — Used to configure the KPI Graph portlet of the Start Center.
- ▼ **KPI List Setup** — Used to configure the KPI List portlet of the Start Center.

NOTE You can configure the Start Center to display different KPIs in the KPI Graph and KPI List portlets.

New KPI Manager Application

MRO Software introduced the KPI Manager application as part of a product extension for Maximo 5.2. MXES includes a new KPI Manager Application that is used to create, view, and manage Key Performance Indicator reports. You can view KPI reports in either of the two KPI related Start Center portlets, or using the KPI Manager application.

The KPI Manager application includes the following features:

- ▼ Ability to create a KPI based on a SLQ SELECT and optional WHERE clause, without requiring the user to perform any programming.
- ▼ Ability to set a target value for the KPI.
- ▼ Ability to set a caution value for the KPI.
- ▼ Ability to set an alert value for the KPI.
- ▼ Ability to link a KPI to another KPI or an Actuate report.
- ▼ Ability to compare KPI trends.

- ▼ Ability to view KPI trends over a period of days, weeks, months, or years.
- ▼ Ability to view historical values for the KPI for the past days, weeks, months, or years.

NOTE You can also create KPIs based on a query via the **Create KPI** action available from the List tab of many Maximo applications. These KPIs can also be viewed and managed in the KPI Manager application.

New KPI Graph Setup Application

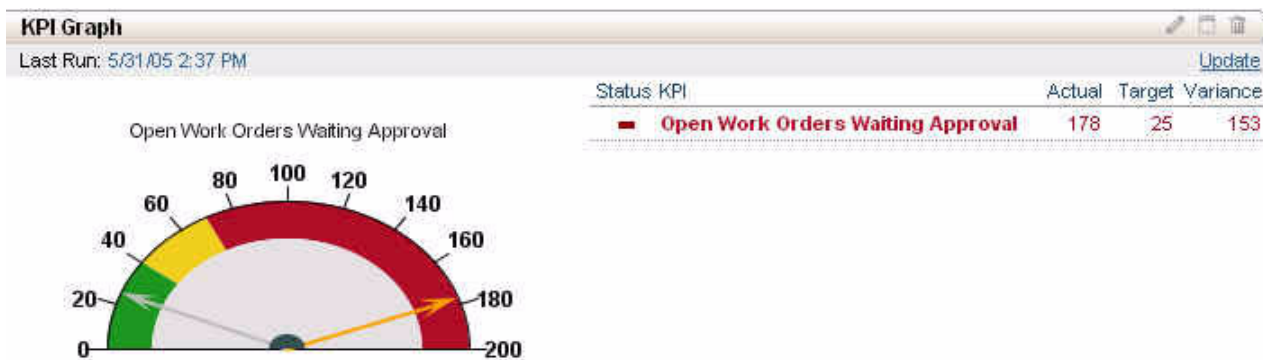
MXES includes a new KPI Graph Setup Application that is used to select KPI reports that can be viewed as a graphical representation via the KPI Graph portlet on the Maximo Start Center. For more information about the Maximo Start Center, see “Start Centers” on page 6 or refer to the *Maximo User’s Guide*.

When configuring the KPI Graph portlet, you can select one or more KPIs to display. If a single KPI is displayed, it is displayed in the portlet as a gauge. If multiple KPIs are displayed, they are displayed in the portlet as a bar chart. The **Status** column includes an indicator that tells the directional trend for the KPI since the last reading. The KPI Graph portlet displays the **Actual**, **Target**, and **Variance** values for each KPI being displayed. The **Status** column is also a link to the Historical Trends tab in the KPI Manager application, where you can view the details of the KPI.

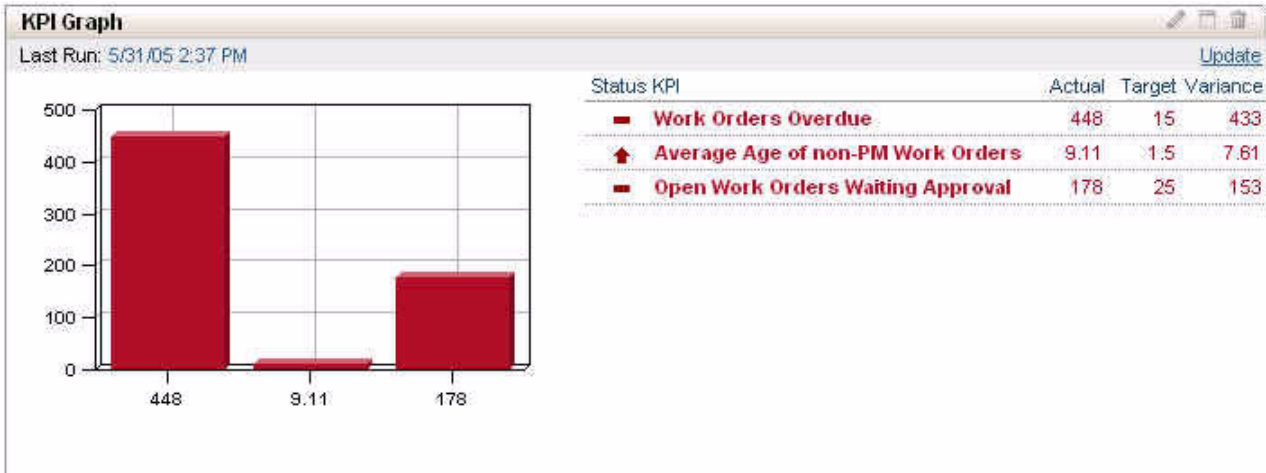
Maximo uses colors to provide an at-a-glance indication of the KPI value, based on alerts and cautions specified on the KPI record.

- ▼ **Green** — KPI value is within range considered to be safe or acceptable.
- ▼ **Yellow** — KPI value falls within the range of caution values.
- ▼ **Red** — KPI value falls within the range of alert values.

KPI Graph Portlet - Single KPI



KPI Graph Portlet - Multiple KPIs



New KPI List Setup Application

MXES includes a new KPI List Setup Application that is used to select KPI reports to be viewed in a table in the KPI List portlet on the Maximo Start Center. For more information about the Maximo Start Center, see “Start Centers” on page 6 or refer to the *Maximo User’s Guide*.

The **Status** column includes an indicator that tells the directional trend for the KPI since the last reading. The KPI List portlet displays the **Actual**, **Target**, and **Variance** values for each KPI being displayed. The **Status** column is also a link to the Historical Trends tab in the KPI Manager application, where you can view the details of the KPI.

Maximo uses colors to provide an at-a-glance indication of the KPI value, based on alerts and cautions specified on the KPI record.

- ▼ **Green** — KPI value is within range considered to be safe or acceptable.
- ▼ **Yellow** — KPI value falls within the range of caution values.
- ▼ **Red** — KPI value falls within the range of alert values.

KPI List Portlet - Multiple KPIs

Status	KPI	Actual	Target	Variance
▼	Work Orders Overdue	448	15	433
▲	Average Age of non-PM Work Orders	9.11	1.5	7.61
▼	Open Work Orders Waiting Approval	178	25	153

New Report Administration Application

In Maximo 5.2, reports were generated via .rod files. Report developers had to create a separate .rod file for each report request page and parameter.

In MXES, .rod files are still required, but report request pages are generated via .xml files, and report text elements (titles, labels, and parameters) are stored in the database. These XML report request pages pass the required

information to the actual report, which can be an Actuate report, query, or spreadsheet. Reports can be added, previewed, and deleted using the Report Administration application. The Report Administration application is available in both the Administration module and the Reporting module.

The Report Administration application includes the following features:

- ▼ Ability to generate XML request pages, preview, and run reports.
- ▼ Ability to register new reports to the Maximo database.
- ▼ Ability to register parameters for a report to the Maximo database.
- ▼ Ability to define attached document printing properties for a report
- ▼ Ability to define toolbar buttons to run reports from within an application.
- ▼ Ability to modify report titles and field labels.
- ▼ Ability to duplicate a report.
- ▼ Ability to delete a report.

MXES Reports

NOTE The reports you receive with Maximo will vary based on the package that you purchase.

MXES includes the following reports, listed by application:

Work Function	Maximo Application(s)	Report Name
Administration and Configuration	Classifications	<ul style="list-style-type: none"> ▼ Classification Detail ▼ Classification Hierarchy
	Database Configuration	<ul style="list-style-type: none"> ▼ Electronic Audit Transactions ▼ Electronic Signature Transactions ▼ Maximo Database Tables
	Users	<ul style="list-style-type: none"> ▼ Log In Tracking
Asset management	Asset	<ul style="list-style-type: none"> ▼ Asset Availability ▼ Asset Cost Rollup ▼ Asset Measurement History ▼ Asset Move History ▼ Details of Asset Failures ▼ Drilldown into Asset Failures ▼ Mean Time Between Failures, Mean Time to Repair Query ▼ Summary of Asset Failures by Location
	Failure Codes	<ul style="list-style-type: none"> ▼ Failure Code Hierarchy
	Locations	<ul style="list-style-type: none"> ▼ Location Availability ▼ Location Hierarchy by System ▼ Maintenance Cost by Location ▼ Maintenance Cost by System
Contract management	Master Contracts	<ul style="list-style-type: none"> ▼ Master Contract Details ▼ Contract List ▼ Contracts Query ▼ List of Contracts Expiring Query
	Labor Rate Contracts	<ul style="list-style-type: none"> ▼ Labor Rate Contract Details ▼ Contract List ▼ Contracts Query ▼ List of Contracts Expiring Query
	Lease/Rental Contracts	<ul style="list-style-type: none"> ▼ Lease/Rental Contract Details ▼ Contract List ▼ Contracts Query ▼ Leased Assets Due ▼ List of Contracts Expiring Query
	Purchase Contracts	<ul style="list-style-type: none"> ▼ Purchase Contract Details ▼ Contract List ▼ Contracts Query ▼ List of Contracts Expiring Query
	Warranty Contracts	<ul style="list-style-type: none"> ▼ Warranty Contract Details ▼ Contract List ▼ Contracts Query ▼ List of Contracts Expiring Query

Work Function	Maximo Application(s)	Report Name
IT Asset management	Computers	▼ Deployed Asset Computer Details
		▼ Deployed Asset Computer List
	Network Devices	▼ Deployed Asset Network Device Details
		▼ Deployed Asset Network List
	Network Printers	▼ Deployed Asset Network List
		▼ Deployed Asset Network Printer Details
Materials management	Item Master	▼ Commodity Analysis
		▼ Item Order Status
		▼ Item Query
		▼ List of Expired Items Query
		▼ List of Expired Lots by Selected Date Query
	Inventory	▼ Adjustments Transactions
		▼ Inventory Economic Order Quantity
		▼ Inventory ABC Analysis
		▼ Inventory Balance
		▼ Inventory Cycle Count
		▼ Inventory Reorder Point
		▼ Inventory Transactions List
		▼ Issues and Returns Transactions
		▼ Item Availability
		▼ Items to be Issued by Selected Date Query
▼ Receipts and Transfers Transactions		
▼ Suggested Reorder		
Issues and Transfers	▼ Adjustments Transactions	
	▼ Inventory Transactions List	
	▼ Issues and Returns Transactions	
	▼ Receipts and Transfers Transactions	
Service Items	▼ Standard Service Query	
Tools	▼ Tool Query	
Purchasing	Companies	▼ Vendor Contacts
	Desktop Requisitions	▼ Material Requisition Detail
	Invoices	▼ Invoice Details
		▼ Invoice List
	Purchase Orders	▼ E-Commerce Details
		▼ List of Items Currently on Order Query
		▼ Purchase Order Details
		▼ Purchase Order List
		▼ Purchase Order Status Details
	Purchase Requisitions	▼ List of Outstanding Purchase Requisitions Query
▼ Purchase Requisitions Details		
▼ Purchase Requisitions List		
Receiving	▼ Receipts Inspection	
	▼ Receipts List	
Request for Quotation	▼ Request for Quotation Details	
	▼ Request for Quotation List	

Work Function	Maximo Application(s)	Report Name
IT Asset management	Computers	▼ Deployed Asset Computer Details
		▼ Deployed Asset Computer List
	Network Devices	▼ Deployed Asset Network Device Details
		▼ Deployed Asset Network List
	Network Printers	▼ Deployed Asset Network List
		▼ Deployed Asset Network Printer Details
Materials management	Item Master	▼ Commodity Analysis
		▼ Item Order Status
		▼ Item Query
		▼ List of Expired Items Query
		▼ List of Expired Lots by Selected Date Query
	Inventory	▼ Adjustments Transactions
		▼ Inventory Economic Order Quantity
		▼ Inventory ABC Analysis
		▼ Inventory Balance
		▼ Inventory Cycle Count
		▼ Inventory Reorder Point
		▼ Inventory Transactions List
		▼ Issues and Returns Transactions
		▼ Item Availability
		▼ Items to be Issued by Selected Date Query
▼ Receipts and Transfers Transactions		
▼ Suggested Reorder		
Issues and Transfers	▼ Adjustments Transactions	
	▼ Inventory Transactions List	
	▼ Issues and Returns Transactions	
	▼ Receipts and Transfers Transactions	
Service Items	▼ Standard Service Query	
Tools	▼ Tool Query	
Purchasing	Companies	▼ Vendor Contacts
	Desktop Requisitions	▼ Material Requisition Detail
	Invoices	▼ Invoice Details
		▼ Invoice List
	Purchase Orders	▼ E-Commerce Details
		▼ List of Items Currently on Order Query
		▼ Purchase Order Details
		▼ Purchase Order List
	Purchase Requisitions	▼ Purchase Order Status Details
		▼ List of Outstanding Purchase Requisitions Query
▼ Purchase Requisitions Details		
Receiving	▼ Purchase Requisitions List	
	▼ Receipts Inspection	
Request for Quotation	▼ Receipts List	
	▼ Request for Quotation Details	
		▼ Request for Quotation List

Work Function	Maximo Application(s)	Report Name
Service Desk	Activities	▼ Activities Details
		▼ Activities List
	Changes	▼ Change Details
		▼ Change List
		▼ Forward Schedule of Changes
	Incidents	▼ Case Volume Summary
		▼ Incident Details
		▼ Incident List
		▼ Open Tickets
		▼ Ticket Query
Problems	▼ Case Volume Summary	
	▼ Open Tickets	
	▼ Problem Details	
	▼ Problem List	
	▼ Ticket Query	
Releases	▼ Release Details	
	▼ Release List	
	▼ Forward Schedule of Releases	
Service Requests	▼ Case Volume Summary	
	▼ Open Tickets	
	▼ Service Request Details	
	▼ Service Request List	
	▼ Ticket Query	
Solutions	▼ Solutions Detail	
	▼ Solutions List	
	▼ Service Desk Self-Service Solution	
Service Management	Service Catalog	▼ Service Desk Contact Response and Resolution
		▼ Service Desk Contact Response and Resolution
Service Level Agreements	Service Level Agreements	▼ Service Target Compliance Summary
		▼ SLA Details
		▼ SLA Exception
		▼ SLA List
		▼ SLA List
Work management	Assignment Manager	▼ Work Order Assignments by Craft
		▼ Work Order Assignments by Work Order
	Crafts	▼ Crafts Query
		▼ Working Time by Craft
	Hazards	▼ Safety Hazards Query
	Labor	▼ Labor Listing
		▼ Labor Query
		▼ Labor Utilization
	Lock Out / Tag Out	▼ Tag Out Query
	Job Plans	▼ Job Plan Detail
▼ Job Plan List		

Reporting

Work Function	Maximo Application(s)	Report Name
	Person Group	▼ Person Group
	Preventive Maintenance	▼ Open Work Orders and PMs ▼ Projected PM Labor Requirements
	Qualifications	▼ Labor Qualifications
	Quick Reporting	▼ Quick Reporting Details ▼ Quick Reporting List
	Routes	▼ Routes
	Work Order Tracking	▼ Open Work Orders and PMs ▼ WO History by Asset Query ▼ WO History by Location Query ▼ WO Overdue by Asset Query ▼ WO Overdue by Location Query ▼ Work Order Details ▼ Work Order List ▼ Work Order Material Shortage ▼ Work Order Pick ▼ Work Orders Due to Start in Selected # of Days

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