

IBM® Watson IoT

Maximo Asset Management

Maximo 7.6 Report Administration and Feature Guide

Revision 3

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Maximo Report Designer/Architect



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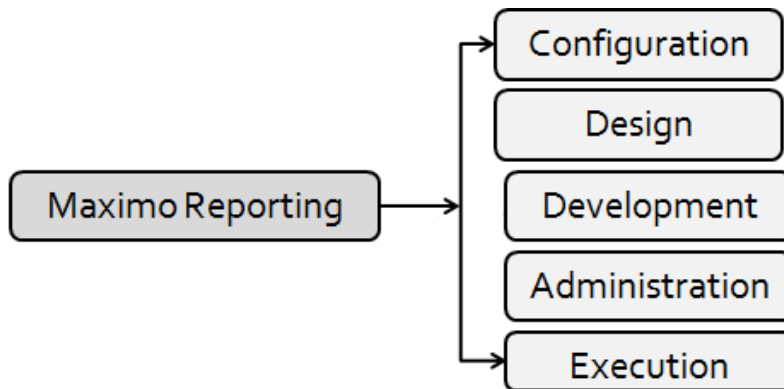
REVISION HISTORY

Date	Version	Revised By	Comments
Nov 2018	2	PDenny	Added note that report printing functionality will vary depending on the browser type and version in section 8.5
Dec 2017	1	PDenny	Added information on 'Report Email File Options' feature introduced in 7.6.o.9 on page 76
April 2017		PDenny	Updated notes on customizing report xml in section 1.5
February 2015		PDenny	Initial Release

1 Overview

In the Maximo 7.6 (76) releases, Releases, a variety of tools are available for you to analyze the vast amounts of data that Maximo produces. One of those tools is BIRT: Business Intelligence Reporting Tool. BIRT is an Eclipse-based tool for developing and viewing reports. The BIRT report engine uses XML report definitions to produce reports in a web-based report viewer in HTML.

The reporting process contains many components - including the configuration of the system, administration of the individual reports and the system and running reports from within Maximo.



Configuration

Configuration is the architecture of the entire system; including the application server and database.

Design

The design process includes the report tool, access, parameters, field selection and display. .

Development

Development is the creation of the report contents by taking the design inputs and transforming them into the individual report design file.

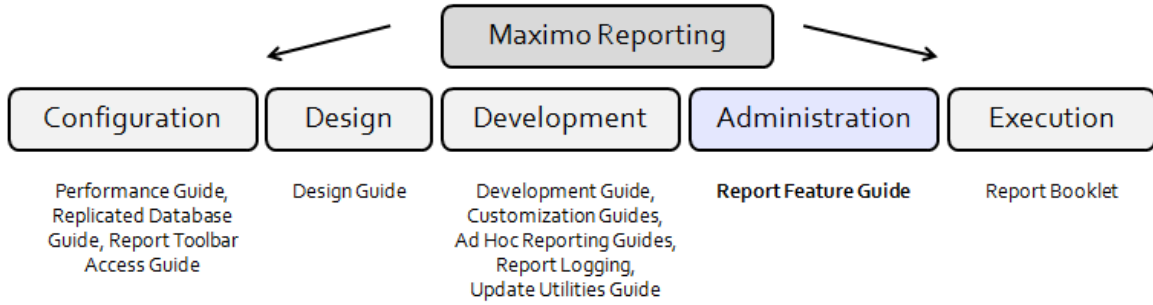
Administration

Report administration includes registering and maintaining individual report files, along with the entire reporting process, including security, configuration, performance and server maintenance.

Execution

The last stage of the reporting process is when users runs reports. This can be from any of the access points in the applications, report menus, start center portlets or kpis.

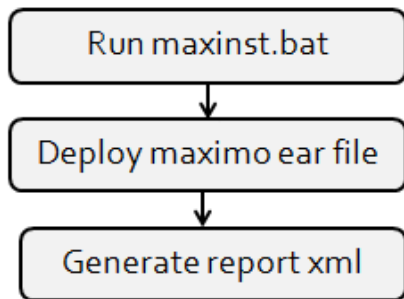
This guide focuses on the Administration process of the Maximo BIRT reporting functionality. It starts with an overview of the installation process, file and database structure, and then moves into reviews of scheduling, emailing and security. It concludes with detailed reviews of each of the Report Administration actions, along with property settings and cron tasks. Throughout the guide, best practice recommendations are highlighted.



The remaining reporting processes - Configuration, Design, Development and Execution– each have their own separate guide or guides detailing their unique functionality as highlighted in this diagram. Information on these can be found in the Reference Material Section at the end of this guide.

1.1 Installation

BIRT Reporting is installed during the Maximo installation process. The report engine and the report files are enabled via the three key steps highlighted below.



1. Maxinst is first initiated. This creates database entries in the REPORT, REPORTLABEL and REPORTLOOKUP Tables.
 - a. The data for REPORT and REPORTLOOKUP comes from the application's reports.xml file.
ex. <maximo76>\reports\birt\reports\ASSET\reports.xml
 - b. The data for REPORTLABEL table comes from the properties file.
ex. <maximo76>\reports\birt\reports\libraries\asset.properties

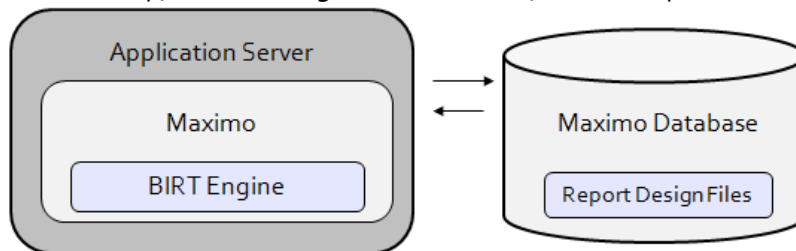
2. Next, the Maximo EAR is deployed. The Maximo Ear contains the BIRT Platform Classes This process initializes the BIRT Report Engine, and imports the report designs into the database.

*NOTE: During startup, a copy of the BIRT platform classes is made to a temporary location on the Server. These files are used to initialize the BIRT report engine. To specify the temporary file location, reference the Property File Settings at the end of this document. Otherwise, the temporary location will default to <c>:\temp

- 2a. The report design data held in REPORTDESIGN, REPORTDEPEND and REPORTPARAM comes from a variety of places including the reports.xml files, the report design files and the system library.

```
<maximo>\reports\birt\reports\ASSET\reports.xml  
<maximo>\reports\birt\reports\ASSET\asset_measurehistory.rptdesign  
<maximo>\reports\birt\libraries\libraries.xml
```

At the end of this step, the BIRT Engine is embedded, and the report files are in the database.

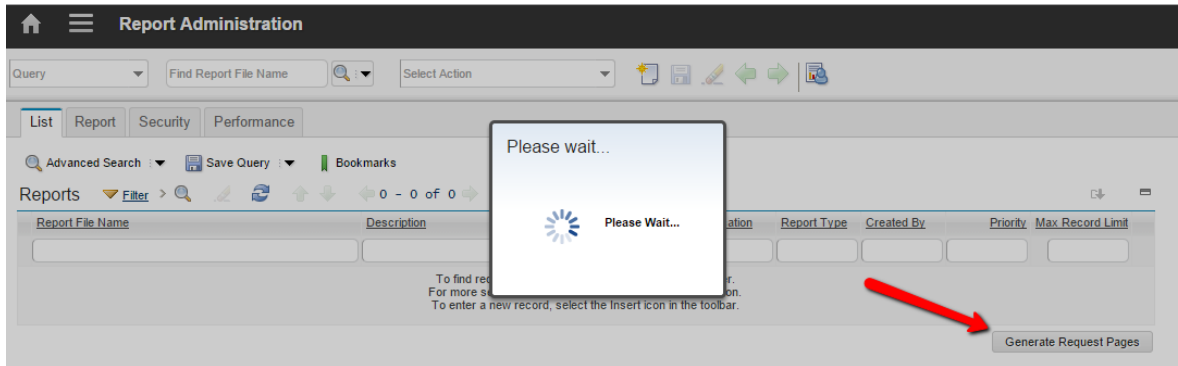


Note: To verify report designs have imported, utilize one of these sql statements on the configured database:

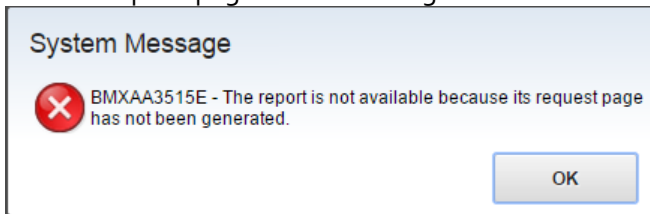
Select reportname from reportdesign (to verify reports loaded)

Select * from report design (NOTE: This statement will take considerably longer as it will pull all the reports.xml files, which are stored as CLOBs in the Database)

3. In the third step, an administrator, with security privileges, accesses the Report Administration application. The administrator generates the Report's Request Pages by clicking on the 'Generate Request Page' button in the lower right section of the page. This creates the REPLIBRARY presentation in the database.



If the request pages have not been generated, and a user tries to run a report from an application, they will receive the error below: 'BMXAA3515E – The report is not available because its request page has not been generated.'

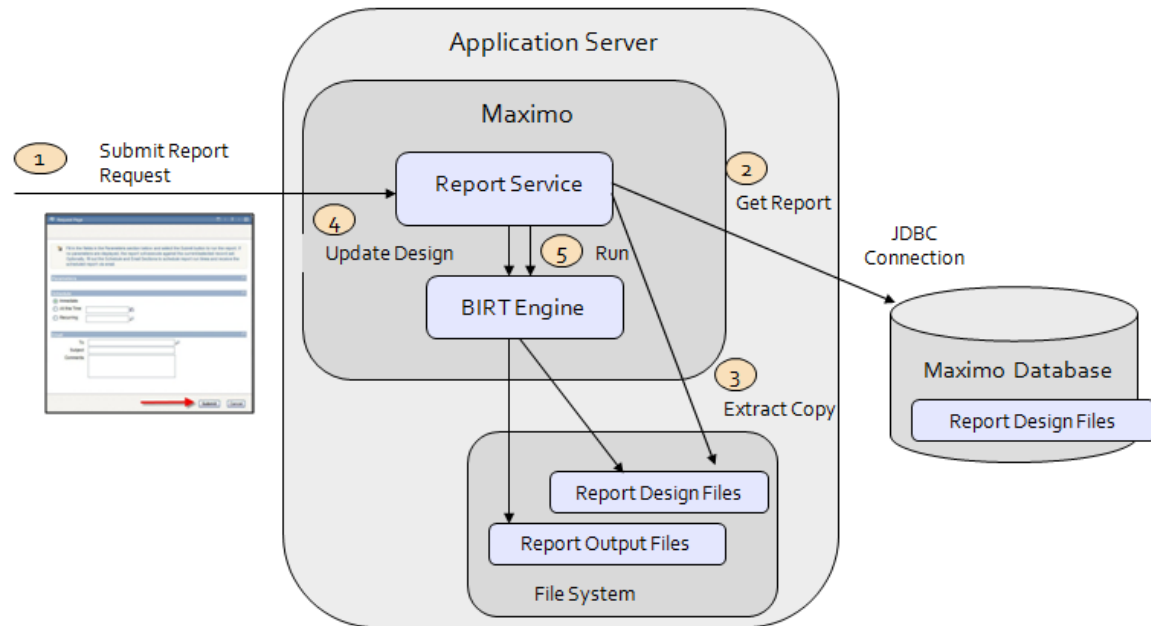


Installation Notes:

1. For additional information on the request page xml, reference section 1.5 below.
2. For Maximo 7.6, the recommended screen resolution for the applications remains at 1280 x 768.
3. A separate installation is required for developers utilizing the BIRT Report Design tools to develop or modify custom report design files. Information on this installation guide can be found in the reference materials section.

1.2 Report Execution

When a report is executed, the process below occurs.



1. First, the Maximo users submits his report request. He can do this in a number of ways including using the **Submit** button on the **Request Page**, or one of the **Report Icons** in the application's toolbar.

This request is passed through to the report service.

2. The report service queries the database for the report design file.

3. The report design XML file is extracted from the database. It is stored in a temporary location within the application server.

4. The XML design file is updated with information passed from the application.

This includes the user's locale, time zone, parameter info, etc.

Note: This is a temporary update of the xml file only for this particular report instance. There are no updates made to the actual report design file stored in the database.

5. The report is then executed, and displayed to the user in a separate browser session.

Report Execution Notes:

1. When immediate reports are executed, the temporary files are removed from the file server via a cleanup mechanism when any of the following occur:

A. If the user runs the same report multiple times, the previously run report information from the temporary folder will be removed.

B. If the user signs out, all the temporary report information related to all the reports that the user has run from the browser will be removed.

C. If the user session times out (which is by default, 30 minutes), then all the temporary report information related to all the reports that the user has run from the browser will be removed.

D. If the server is restarted, then all the temporary report information related to all the reports that any user has run from the browser will be removed.

2. This process will vary slightly depending on:

A. If the report is scheduled

B. If the report is enabled for Browser View, Direct Print or Direct Print with Attachments.

In these cases, the access point for the submitted job will vary (for example – a Browser View report request is initiated from an icon in the toolbar versus an immediate job is initiated via the Submit Button on the Request Page.)

3. You can specify the location for the report temporary files by setting the JVM System Property, `mxe.report.birt.tempfolder` property. Details on this can be found in the Properties Section of this document.

4. There are a variety of ways in which systems can be configured to use the report engine. These include the ability to separate out the Report Server on its own, or to configure a clustered environment, and utilize the Cron cluster to run scheduled Reports. Each of these configurations and others are reviewed in the Report Performance Guide referenced at the end of this document

1.3 Report Queue

When numerous reports execute at the same time, performance can be adversely affected. To manage this, you can configure the number of jobs that can be executed at any given time. This distributes the load on the server from reports, and reduces the wait time for users.

Report Queuing handles the load of report jobs. The Queue Manager oversees the report queuing process. It manages the scheduled jobs that enter the queue and the workers who process the jobs.

Property Settings and Cron Tasks

A. The property setting, `mxe.report.birt.maxconcurrentrun`, manages the number of BIRT Immediate and Scheduled Reports that can be run concurrently. Its default value is 5.

This property file is used by each application server. If there are 4 application servers running, the `maxconcurrentrun` property applies to each application server. Each server would be added as a separate value in the Instance Properties section.

B. A second property, `mxe.report.birt.queueidletimeseconds`, is used by the Queue Manager to poll the queue for new report jobs.. Its default value is 60 seconds.

C. The Report Queue Lock Release Task uses a parameter - Lock Interval Minutes. This determines if Locked Report Jobs should continue to be executed, or if they should be stopped, and re-entered into the queue.

Report Queuing Process

The Report Queuing Process is made up of two components: Scheduled Report jobs and Immediate Reports jobs. Scheduled Report Jobs are controlled by the Queue Manager. The Queue Manager and Worker Threads Do Not apply to Immediate Report jobs. The Queue Manager and worker threads apply ONLY to Scheduled Report jobs.

To limit the number of report jobs that can be executed on a server at any time, the `maxconcurrentrun` property setting is used. By default this value is set to 5. Before Immediate Report Job Requests are accepted, the availability is checked to see if the immediate job can be processed or not. This is done using the formula:

$$\# \text{ Actively Running Scheduled Jobs} + \# \text{ Immediate Jobs} < \text{maxconcurrentrun}$$

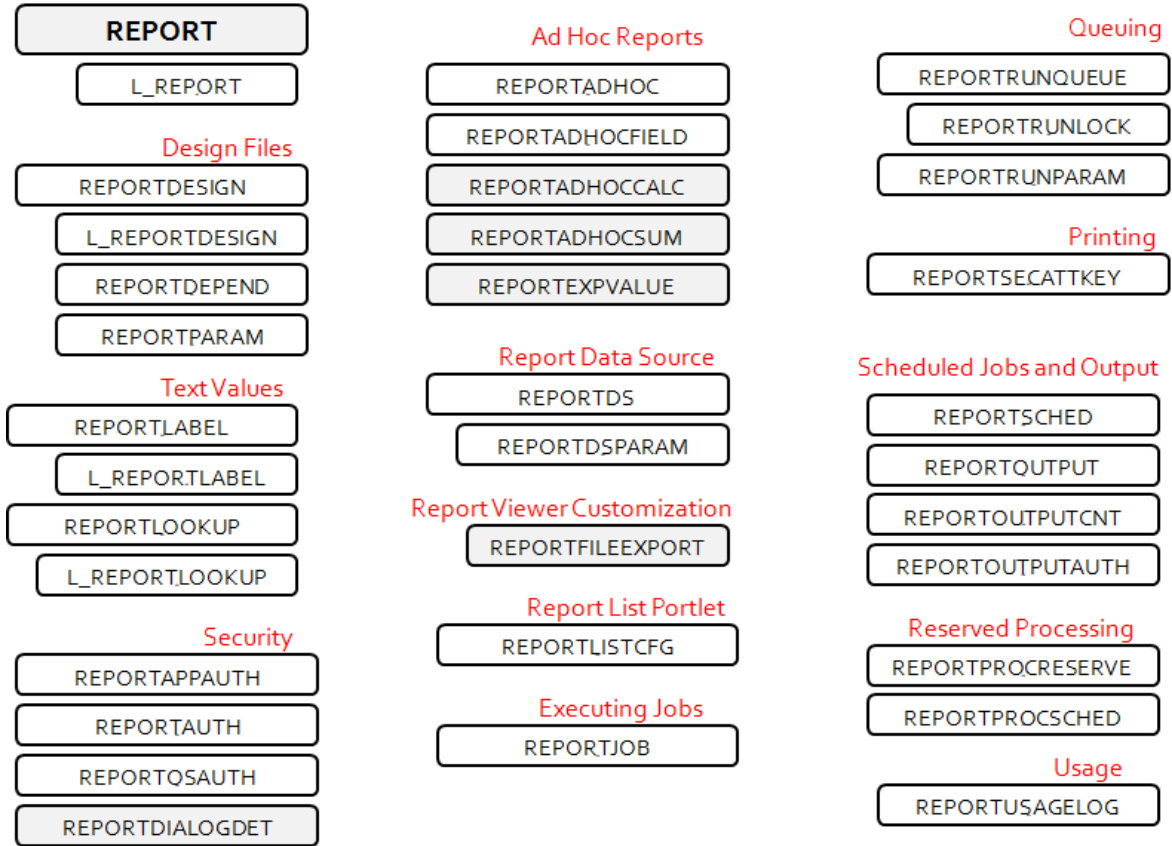
If $\# \text{ Actively Running Scheduled Jobs} + \# \text{ Immediate Jobs} < \text{maxconcurrentrun}$, the Immediate Job is Processed.

If $\# \text{ Actively Running Scheduled Jobs} + \# \text{ Immediate Jobs} = \text{maxconcurrentrun}$, the Immediate Job is not Processed.

1.4 Report Objects

The repository for the report design files is the Maximo database. During the deployment of the Maximo Ear File, the import process brings the report design files, and any of their dependant report files (ex. libraries or resource files) into the database.

Additionally, a number of other database objects are required to support the reporting functionality, including security, scheduling, processing and usage tables. The top level diagram below highlights the key reporting objects within categories on how they are used. The new objects added in Maximo 76 are highlighted in grey.



Notes on Report Objects

1. Additional internal and non-persistent objects are used for reporting, including REPORTBROS and REPORTATTACHEDDOCS. However, they are not included in this listing.

REPORT: Parent Object

REPORTDESIGN: Report design's XML

REPORTDEPEND: Dependencies of report designs (ex. MaximoSystemLibrary)

REPORTPARAM: Report design parameters

REPORTLABEL: Text values of report titles and column headings.

L_REPORTLABEL: Localized text values of REPORTLABEL.

REPORTLOOKUP: Text values of report parameters.

L_REPORTLOOKUP: Localized text values of REPORTLOOKUP.

REPORTAPPAUTH: Security group authorizations on report application security level

REPORTAUTH: Security group authorizations on report level

REPORTOSAUTH: Security group access to Report Object Structures for Ad Hoc Reporting

REPORTDIALOGDET: Values for Ad Hoc Preview, Scheduled Reports and Report Server Limits

REPORTADHOC: Design information on ad hoc report (ex. Sort, group, filtering)

REPORTADHOCFIELD: Details fields used within ad hoc report design

REPORTADHOCCALC - Ad Hoc Calculation or Expression Values

REPORTADHOCSUM - Ad Hoc Summaries

REPORTEXPVALUE - Expression Library Listings

REPORTDS: Data Source Information for multiple databases.

REPORTDSPARAM: Data Source Parameter Information on multiple databases.

REPORTFILEEXP - Listing of report file export types from the Report Viewer

REPORTLISTCFG: Lists Reports displayed in Report List Portlet of Start Center

REPORTJOB: Lists jobs that are being run for View Report Processing Action in Report Admin

REPORTRUNQUEUE: Report queuing

REPORTRUNLOCK: Processing information of queued report

REPORTRUNPARAM: Parameter information of queued report

REPORTSECATTKEY - For secured attached document printing

REPORTSCHED: Report schedule information

REPORTOUTPUT: Details on executed report

REPORTOUTPUTCNT: Content of executed report

REPORTOUTPUTHAUTH: Lists users who have access to executed report

REPORTPROCRESERVE: Holds reserved processing times for complex, batch reports.

REPORTPROCSCHED: Shows available schedule time for complex, batch reports

REPORTUSAGELOG: Detailed information on executed BIRT Reports. Information is held in this table until the REPORTUSAGECLEANUP Cron Task removes the entries.

1.5 Report XML

Report request pages enable a user to input parameter, schedule and email inputs for reports. Report request pages vary by the type of report that is used (BIRT, Cognos or Custom) and by the types of parameters that are used.

The report request page information, including the parameter input dialogs, for all reports is held in one XML structure in a library called REPLIBRARY. This REPLIBRARY presentation is often referred to as the Request Page xml.

Request Page XML Generation

The request page xml is generated with the Report Administration application. To do this, an administrator, with security privileges, accesses application. Then, on the bottom right hand side of the page, the administrator clicks on the 'Generate Request Page' button. This creates the REPLIBRARY presentation in the database.

Before the request page xml is generated, the REPLIBRARY presentation in the database has no values. After it is generated, the REPLIBRARY is created, and reports can then be executed.

If the request page xml has not been generated, you will be unable to execute reports. An error message will display stating:

BMXAA3515E – The report is not available because its request page has not been generated.

REPLIBRARY presentation Location

The REPLIBRARY presentation is a system library, stored in maxpresentation. It is not associated to a specific application. You can export it via the Application Designer application from Maximo by selecting Export System Library from the action menu, and choosing REPLIBRARY.

Confirming if a request page is in the REPLIBRARY presentation

To confirm if a request page is included in the presentation, export the presentation. Then, search thru the xml by looking for the applicable reportnum. Each report dialog ID for a request page is in the format reportd<reportnum>.

The reportnum value is not available from the Report Administration application. However, you can find it by querying the database with a script similar to as shown below:

```
select reportnum from report where reportname=<value> and appname=<value>
```

Customizing the REPLIBRARY presentation

The replibrary presentation is not externalized or recommended for modifications.

When to generate Request Page XML

The request page xml should be generated under any of the following conditions

1. When you perform a new Maximo installation
2. When you apply a Maximo Fix pack
3. When you add a new enterprise report. This could be a BIRT, Cognos or any other external reporting tool you use through a Integration.
4. When you modify any of the report's parameters or parameter settings. These settings include: Parameter name, attribute name, lookup, Display name, Display Sequence, Required, Multi-lookup enabled, default value or Operator
5. If you change the settings for a report including: Schedule Only, Priority, No Request Page
6. If you add or delete Reserved Processing Times for a Schedule Only Report
7. If you have a multi-language environment, please see the requirements for these environments in the section below.

When you do NOT need to generate Request Page XML

The request page xml does not have to be generated in these conditions

1. If you add a new JVM to a clustered environment. In this case, the JVM will take the request page xml (REPLIBRARY) from the database.
2. If you modify any of the Browser View, Direct Print or Direct Print with Attachments settings.
3. If you modify the Use Where Clause setting
4. If you modify existing Reserved Processing Times for a Schedule Only Report
5. If you modify the report design file.

Requirements for Clustered Environments

In a clustered environment, initially, you must generate the request page xml for each individual instance, or all JVMs have to be restarted after generation of request pages in one JVM.

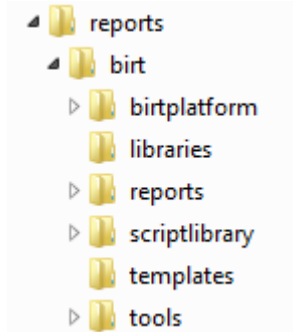
However, when you add new reports or modify existing ones, the request page xml needs to be generated on a single server only.

Requirements for Multi-Language Environment

For multi language environments, the cron task REPORTADHOCLOC should be active to enable the additional localized property values to display in the report request pages. This cron task determines the frequency that report request pages are updated in multi-language environments. This cron task is for multiple language environments only. In a single language environment, this cron task can remain inactive.

1.6 Report File Structure

The Maximo report structure contains not only the files required for the report engine, but also the design files, libraries, templates and various tools used during the reporting processes as detailed below.



birtplatform: Contain files required for the BIRT engine. These files should not be modified.

libraries: Library, Resource and Property files required to support the report design files.

A. Library. Libraries store re-usable components, functionality and images. Libraries enable consistent and automatic updates of content. Maximo uses one system library, MaximoSystemLibrary.rptlibrary, which contains:

1. Master Pages. Defines items including print margins and the controls used for page formatting (ex page n of m). This is used on all reports, and rarely changes.
2. Themes. This contains the style sheet, which defines the font type, font size and other text characteristics used in the reports. The theme in the library is referred to as the style in the report design. Maximo's theme contains the specific colors and formatting for the reports.

The libraries.xml file imports the MaximoSystemLibrary file.

B. Resource. Resource files are .gif or .jpg images used in report designs. The delivered reports use a single resource file, IBM_logo_black.gif, which is displayed on each delivered report. Resource files are imported into the database as zipped files.

You may want to customize your reports for your own corporate logos. Information on how to do this is in 'Changing Logos in BIRT Reports' available in the reference materials section. .

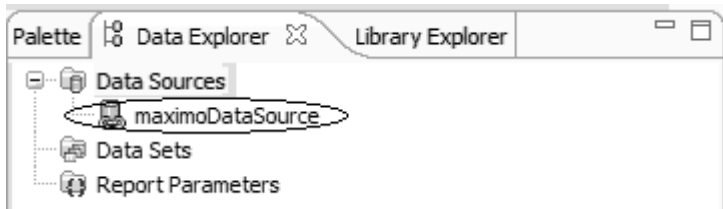
C. Properties File. Each application with reports has a property file, defining the text values of the report titles, and column/Subheader labels.

Property files are created at the application level as , because reports within an application frequently share the same text label values. (Example: Asset Reports often use the same labels of Asset, Location, Site, multiple times.)

reports: Report Design files stored within their corresponding application subfolder. Also contains the reports.xml file used for importing report designs.

Scriptlibrary: Contains script library classes and mxreportdatasources.properties file used by BIRT Designer tool to connect to databases.

For the integration of BIRT, when a report developer creates a report, a Custom Scripted Data Source is used. This Scripted Data Source is called 'maximoDataSource'.



A scripted data source is used to fully utilize the specific functionality for Runtime Data Translation and Time Zone Conversions. An example of this is the localized values of Description. For example, if you are running both English and Spanish environments, and the English values of descriptions been localized into Spanish, the scripted data source is required to insure the localized Spanish descriptions display in reports.

Templates: Twelve Template files are delivered, and must be used if you are creating any custom reports directly in the Report Design Tool. Each template type is delivered in both landscape and portrait format. The landscape file is listed in the table first, followed by the portrait template

Note: You must use these templates when creating custom reports as they contain the data source and scripting classes required to properly execute from Maximo. If you do not use them, your custom reports may initially execute, but will eventually fail as the reports cannot be processed correctly.

Tools: Used for importing, exporting and updating report design files. More information on these can be found in the import/export sections and in the 'Update Utility Guide'

Additional Notes on Report Source:

1. There are no separate library or design files for the three database types that are supported. Within the report source, the sql is being written in ANSI Standards, so it will be applicable to any of the three database types. There may be some reports where the database specific sql is required. In these cases, the sql will be written with conditional statements
2. For best practice recommendations on configuring the report source for your custom or modified reports, please reference the Report Development guide.

1.7 Report File Dependencies

BIRT report design files can only have a dependency on either another design file (.rptdesign) or another library file (.rptlibrary) For Maximo, each BIRT report is dependent on the Maximo System Library.

The Maximo System Library file has its own import file, called libraries.xml. If a change is made to the Maximo System Library, the libraries.xml file imports the updated library file into the database.

The Maximo System Library file contains references to the resources, or image files. These typically have a .gif or .jpg extension. When a resource file is imported into the database, the files are converted to .zip format. (These files are stored as BLOB data types in the database.)

Properties files are also resource files. Properties files are referenced in the reports.xml which imports reports into the database.

File Name	Dependency	Resource	Description	Subfolder
jobplan.rptdesign			Job Plan Design File	reports
	maximoSystemLibrary.rptlibrary		Maximo System Library	libraries
		.gif/.jpg files	Resources or Image Files	libraries
		asset.properties	Asset Property file	libraries
Reports.xml			Information on report and its parameters.	reports

2 Report Parameters

Reports can execute against three different sets of parameter types. These types are:

1. Parameterized Reports
2. Application or Launch in Context Reports
3. Both Parameterized and Application Reports

2.1 Parameterized Reports – Type 1

Reports that have user inputted parameters have values defined in the Parameters Section in the Report Administration application. These values are contained in the REPORTLOOKUP table in the database.

The Inventory Cycle Count report is an example of a parameterized report. The report has two parameters – Storeroom and Site. Its field 'Use Both Parameter Options*' is not enabled, so it executes against the two parameter values only.

The screenshot displays the configuration interface for the 'Inventory Cycle Count' report. The 'Settings' section contains various options, with 'Use Both Parameter Options?' highlighted by a red arrow. The 'Parameters' section at the bottom shows a table with two parameters: 'location' (Storeroom) and 'siteid' (Site).

Parameter Name	Attribute Name	Sequence	Display Name	Required?
location	location	1	Storeroom	✓
siteid	siteid	2	Site	✓

*Note: The field 'Use Both Parameter Options' was previously called ' Use Where Clause' in earlier versions of the Maximo 7.1 and 7.5 releases.

This parameterized report will take the values from these two parameters and use those as filters to run against ALL records in the database. Even if the user has a selected record set in his application's Query - this report again will always execute against ALL records.

The screenshot shows a web interface titled "Request Page". It features a "Parameters" section with two search fields. The first field is labeled "Storeroom:" and the second is labeled "Site:". Both fields have a magnifying glass icon to their right. Below the parameters is a "Schedule" section. The interface is styled with a light blue header and horizontal lines separating sections.

2.2 Application Reports – Type 2

When a report has no parameters defined, it executes against the current or selected record set of the application. This is often referred to as an application or Launch in Context report.

This Job Plan List report is an example of an Application report. Its record in Report Administration shows no values in the parameters section. Also, the 'Use Both Parameter Options' field is disabled.

The screenshot displays the configuration interface for the 'Job Plan List' report. At the top, there are tabs for 'List View', 'Report', 'Security', and 'Performance'. Below these, the 'Report File Name' is set to 'jobplan.rptdesign' and the report title is 'Job Plan List'. The 'Report Type' is 'BIRT' and the 'Application' is 'JOBPLAN'. The 'Report Folder' is 'JOBPLAN'. The 'Settings' section includes several options: 'Limit Records?' (unchecked), 'No Request Page?' (unchecked, highlighted with a red arrow), 'Browser View?' (checked), 'Max Record Limit' (empty), 'Use Both Parameter Options?' (disabled), 'Browser View Location' (ALL), 'Display Order' (empty), 'Schedule Only?' (unchecked), 'Direct Print?' (unchecked), 'Priority' (empty), 'Number of request page columns' (empty), 'Direct Print Location' (NONE), 'Toolbar Sequence' (1), 'Direct Print with Attachments?' (unchecked), and 'Direct Print with Attachments Location' (NONE). At the bottom, there are buttons for 'Generate Request Page' and 'Preview'. The 'Parameters' section is empty, showing 'There are no rows to display.' and a 'New Row' button. A red arrow points to the 'Parameters' section.

When a user accesses this report from the Job Plan application, the parameter section in its request page does not display as no input is required.

The screenshot shows the 'Request Page' for the report. It has a 'Schedule' section with three radio button options: 'Immediate' (selected), 'At this Time' (with an empty text box and a calendar icon), and 'Recurring' (with an empty text box and a magnifying glass icon). Below the schedule section is an 'Email' section with a checkbox. At the bottom right, there are 'Submit' and 'Cancel' buttons.

The current or selected query is passed from the application to the report server. For example, if the user filters on job plans where the duration is > 4 hours and the site is Bedford, this filter will be passed in the where clause to the report. The report will then only display those records from his query.

Advanced Search Save Query Bookmarks

Job Plans Filter 1 - 5 of 5

Job Plan	Description	Revision	Duration	Supervisor	Status	Template Type	Organization	Site
JP1000	Emergency Pipe Repair	0	5:00		ACTIVE	MAINTENANCE	EAGLENA	BEDFORD
JP37689	Ford Electrical Cart Overhaul	0	6:45	WINSTON	ACTIVE	MAINTENANCE	EAGLENA	BEDFORD
JP50167	GM Electrical Cart Overhaul	0	6:45	WINSTON	ACTIVE	MAINTENANCE	EAGLENA	BEDFORD
JP5467	Upgrade Order Processing Unit	0	6:15	WINSTON	ACTIVE	MAINTENANCE	EAGLENA	BEDFORD
JPMOLDA	MOLD REPAIRS	0	6:00		ACTIVE	MAINTENANCE	EAGLENA	BEDFORD

Select Records

Reporting

Page 1 of 1

Job Plan List

Job Plan	Description	Duration	Priority
JP1000	Emergency Pipe Repair	05:00	9
JP37689	Ford Electrical Cart Overhaul	06:45	20
JP50167	GM Electrical Cart Overhaul	06:45	7
JP5467	Upgrade Order Processing Unit	06:15	3
JPMOLDA	MOLD REPAIRS	06:00	2

Number of Records: 5

10/21/14 2:31 PM

When the report developer develops a report to use the application record set, he does not define any report parameters in either its report design or reports.xml file.

This type of report is the most flexible as it is the only type of reports that can use the quick access fields of Browser View, Direct Print, Direct Print with Attachments and Record Limits. More information on these fields review the latest Report Reference materials noted at the end of this guide.

2.3 Both Application and Parameterized Reports – Type 3

The last type of report enables an application record report to execute along with user defined parameters.

In this case, the report would have parameters defined in the Report Administration application, and the 'Use Both Parameter Options' field would be enabled. Both of these requirements must be met to enable the report to execute against both the application AND parameter set.

The example below shows an example of this using the SLA List report. The delivered version contains no parameters, but in this example, a parameter, Status, has been added. Additionally, the 'Use Both Parameter Options' flag has been enabled. After saving and re-generating the report xml, the report will run against both the User Inputted Value of Status + the application record set that is passed to the report.

Report File Name: sla.rptdesign SLA List Last Import Date: 10/15/14 7:22 AM

Report Type: BIRT Imported by: MAXADMIN

Application: SLA

Report Folder: SLA

Settings

Limit Records? No Request Page? Browser View?

Max Record Limit: Use Both Parameter Options? Browser View Location: NONE

Display Order: Schedule Only? Direct Print?

Priority: Number of request page columns: Direct Print Location: NONE

Toolbar Sequence: Direct Print with Attachments?

Direct Print with Attachments Location: NONE

Generate Request Page Preview

Parameters Filter > 1 - 1 of 1

Parameter Name	Attribute Name	Sequence	Display Name	Required?
Status	status	1	Status	<input type="checkbox"/>

New Row

*Note: In order to do this on the delivered report you will have to (1) remove the Browser View Settings and (2) update the BIRT Design File to call out the new status parameter.

Parameter Notes

1. The delivered reports do not utilize the 'Use Both Parameter Options', or Type 3 Parameter type.

2.4 Bound and Unbound Parameters

When a report has parameters defined, it is important to note that the individual parameters can be either bound or unbound. This is critical for the Report Administrator and Developer to understand as it impacts whether the parameter can have a corresponding lookup.

Bound parameters either

- exist in the main table of the application the report is registered to or
- exist via a maxrelationship that has been set up for the application.

To identify if an existing parameter is bound, look at its Attribute Name field in the Report Administration application. Bound parameters will ALWAYS have the Attribute Name Field Populated – whereas Unbound Parameters will NEVER have the Attribute Name field Populated.

Bound parameters are appended to the where clause. Examples of bound parameters are in the Security Group report. Notice all four of its parameters have the attribute name field populated.

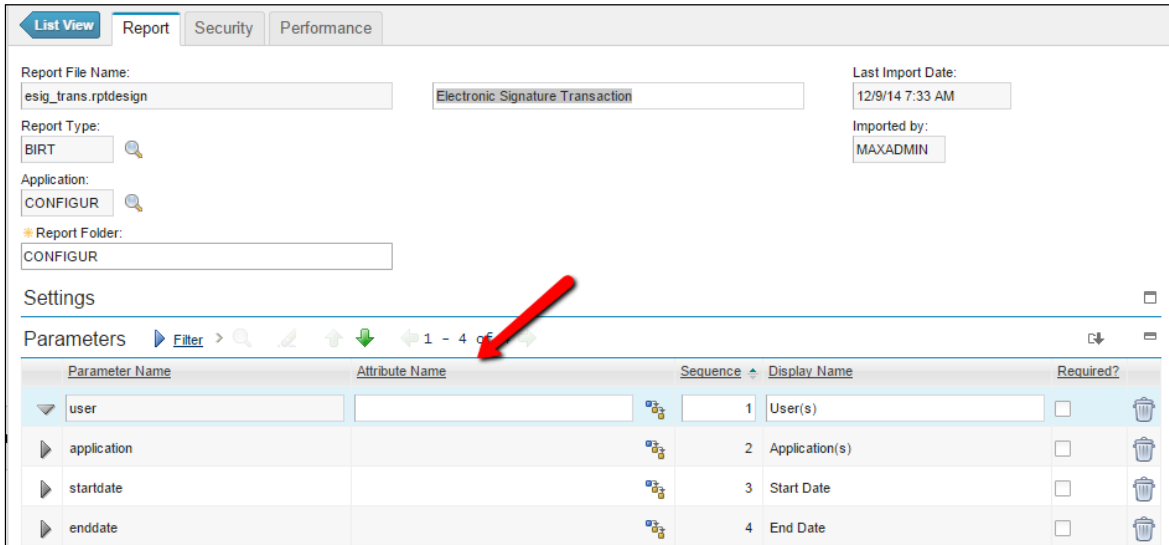
The screenshot shows the 'Parameters' section of the 'Security Group Access' report. The table lists four parameters, all of which have their 'Attribute Name' fields populated. A red arrow points to the 'Attribute Name' column header.

Parameter Name	Attribute Name	Sequence	Display Name	Required?
securitygroup	GROUPNAME	1	Security Group	<input type="checkbox"/>
independent	INDEPENDENT	2	Independent	<input type="checkbox"/>
pwduration	PASSWORDDURATION	3	Password Lasts this Number of Days	<input type="checkbox"/>
groupuser	GROUPUSER.USERID	4	User Members	<input type="checkbox"/>

Unbound parameters

- do not exist in the main table of the application and
- are not available through any relationship (defined in maxrelationship) for the main table. Unbound parameters are not included in the where clause.

An example of unbound parameters are in the Electronic Signature Transaction report. Each of the four parameters are unbound as they do not exist in the main table of the application (CONFIGUR) and do not exist in one of the maxrelationship to this application. All of their attribute fields are blank



The screenshot shows a report configuration interface with the following details:

- Report File Name:** esig_trans.rptdesign
- Report Name:** Electronic Signature Transaction
- Last Import Date:** 12/9/14 7:33 AM
- Report Type:** BIRT
- Imported by:** MAXADMIN
- Application:** CONFIGUR
- Report Folder:** CONFIGUR

The **Parameters** section contains a table with the following data:

Parameter Name	Attribute Name	Sequence	Display Name	Required?
user		1	User(s)	<input type="checkbox"/>
application		2	Application(s)	<input type="checkbox"/>
startdate		3	Start Date	<input type="checkbox"/>
enddate		4	End Date	<input type="checkbox"/>

A red arrow points to the **Attribute Name** column, highlighting that all values are blank, which indicates unbound parameters.

The Chart below recaps each of the fields available for parameters in Report Administration, and whether or not they should be populated for bound versus unbound parameters.

	Bound	Unbound
Advantage	Can have lookups, and do not need to be defined in report's design.	Flexibility.
Parameter Name	Do not need to be defined in Report's design file	Must be defined in Report's design file
Attribute Name	ALWAYS Populated	NEVER Populated
Lookup Name	Can either be populated or not	Can only be used for Unbound Dates (*DateLookup Only)
Operator (>, >=, <, <=)	Optional	NEVER Populated
Multi-Lookup Enabled?	Yes or No	Yes or No
Display Sequence	Numeric Value	Numeric Value
Override Label	Any Text	Any Text
Default Value	Can either be populated or not. *NOTE: Default Values are not enabled for localization	Can either be populated or not *NOTE: Default Values are not enabled for localization
Required?	Yes or No	Yes or No

Parameter Notes:

1. The maximum number of parameterized values for a single report is 23. These include 15 Non-Date Time Parameters, and 8 Date-Time parameters.

If more than the 15 Non-Date and 8 Date-Time Parameters are entered, invalid bindings will display on the report's request page.

2. Bound and Unbound parameters will behave the same way when a user enters values on the Request Page. Specifically, this means that if there is a parameter for Status, the following will occur:

User entered parameter value
 =APPR
 APPR
 %APPR

Report Results
 Records where status = APPR
 Records where status = WAPPR, APPR
 Records where status = WAPPR, APPR

3 Report Scheduling

Reports can be run in a variety of ways, including

- (1) Executing immediately
- (2) Executing a report at a single date/time in the future
- (3) Executing a report on a recurring basis in the future

Running a report right now is known as an immediate job, and passes its job request to the report engine immediately. The other two options – running a report at a single point in the future – or on a future recurring basis – involve scheduling. The report schedule options are detailed below.

The screenshot shows a 'Request Page' for scheduling a report. It is divided into several sections:

- Schedule:** Contains three radio button options: 'Immediate' (selected), 'At this Time' (with a date/time input field and a calendar icon), and 'Recurring' (with a frequency input field and a magnifying glass icon).
- Email:** Contains three input fields: 'To:' (with a search icon), 'Subject:', and 'Comments:' (a larger text area).
- File Type:** Contains four radio button options: 'PDF' (selected), 'XLS', 'XLSX', and 'XLS Other'.
- Report Delivery Format:** Contains two radio button options: 'Email with a file attachment' (selected) and 'Email with a file URL'.

At the bottom right, there are two buttons: 'Submit' and 'Cancel'.

Scheduling Reports involve four distinct stages: Scheduling, Managing, Executing and Viewing.



3.1 Schedule Report

At This Time

The first type of Schedule Report Request is an 'At this time' or a single scheduled report. This is done by entering a single value for the future date either directly or via the date/time lookup.

The screenshot shows a 'Request Page' with two main sections: 'Schedule' and 'Email'. In the 'Schedule' section, three radio buttons are present: 'Immediate', 'At this Time', and 'Recurring'. The 'At this Time' radio button is selected. Next to it is a text input field containing '12/31/14 6:00 AM' and a calendar icon. A red arrow points to this field. Below the 'Schedule' section is the 'Email' section, which includes a 'To:' field with 'bob@abc.corp', a 'Subject:' field with 'Year Ending Asset Report', and a 'Comments:' text area.

Recurring

The second type of schedule report request is a 'Recurring' schedule request. Recurring schedule request occur at regular intervals – like once a week, once a month, or every Friday at 3pm.

Recurring schedule values must be selected via the lookup. A unique schedule lookup is available for reports. It is similar to the Cron Task Scheduler Lookup. To prevent potential user schedule errors and performance impacts, it does not include the cron task values of Every Second and Every Minute.

The screenshot shows a 'Select Value' dialog box with the title 'Select Schedule or Time Interval'. Below the title is a subtitle 'Select a date interval and then Preview to see the dates.' and a 'Preview' button. The dialog contains several scheduling options with radio buttons: 'Every [] hour(s), on minute 00', 'Every [] day(s), at time []', 'Every 4 week(s), on day Sunday, at time 11:00 PM', and 'Every [] month(s), on day 01, at time []' and 'on the first [] Sunday of the month, at time []'. To the right is a 'Date Preview' list showing dates from 10/22/14 12:00 AM to 11/3/14 12:00 AM. At the bottom are 'OK' and 'Cancel' buttons.

After selecting his recurring option from the lookup, it will display as 'Selected' on the request page.

The screenshot shows a 'Request Page' with two main sections: 'Schedule' and 'Email'.
In the 'Schedule' section, there are three radio button options: 'Immediate', 'At this Time', and 'Recurring'. The 'Recurring' option is selected. To the right of the 'Recurring' radio button is a text input field containing the word 'SELECTED'. A red arrow points to this 'SELECTED' text. There are also calendar and search icons next to the 'At this Time' and 'Recurring' options respectively.
In the 'Email' section, there is a 'To:' field with the email address 'bob@abc.corp' and a search icon. Below it is a 'Subject:' field with the text 'Weekly Work Order Listing'.

When the user clicks submit for either a single or recurring schedule request, he receives a confirmation message:

The screenshot shows a 'Schedule Confirmation' dialog box. It has a title bar with the text 'Schedule Confirmation'. Below the title bar, the message reads: 'The Job Plan List report was successfully scheduled.' At the bottom of the dialog box, there are three buttons: 'View', 'Delete', and 'Cancel'. The 'View' button is highlighted with a blue border.

View: Opens the Schedule Detail dialog page for the user to review or edit his schedule inputs

Delete: Will delete the scheduled report request

Cancel: Will close the window

3.2 Scheduled Email Formats

You can receive your scheduled report in a variety of formats including pdf or xls options, or via a file url.

The screenshot shows a web form titled "Request Page". It has several sections: "Schedule" with a checkbox, "Email" with a dropdown menu, "To:" with a text input field and a magnifying glass icon, "Subject:" with a text input field, "Comments:" with a larger text input field, and two columns of radio button options. The "File Type:" column includes PDF, XLS, XLSX, and XLS Other. The "Report Delivery Format:" column includes "Email with a file attachment" (which is selected) and "Email with a file URL". A red arrow points to the "Email with a file attachment" option.

Email with a file attachment

If you select this option, the scheduled report is sent to the specified email addresses in either PDF, XLS, XLSX or XLS Other formats. With this option, the scheduled report can be sent to Maximo or Non-Maximo users.

Email with a file URL

This is an excellent option for very large reports which may not be able to be sent thru the SMTP Server. With this option, users will receive an email with a url where the scheduled report can be accessed, which is in the Report Viewer application in Maximo. When emailing with the file URL, the user receiving the scheduled report url must be a Maximo user. This is required because the report content is only available within the Report Viewer application. If you enter an email address for someone who is not a Maximo user, the error message below will display:

BMXAA8113E: The following email addresses are not in the Maximo database: 123@abc.com
Remove these addresses and resubmit the report request.

Email Notes - Validation

The user's inputs for his scheduled report request are validated to confirm:

A. If the 'At this Time' Option is selected, the inputted date/time is greater than the server's current time.

*Note: The scheduling time inputted is based on server time.

B. If 'At this Time' is typed in, both a date and time are entered.

C. At least one email address has been specified.

D. That the user scheduling the report has a valid email address in the email table. This address is required to populate the 'From' Email section.

E. The recurring schedule report cannot be scheduled to occur for less than an hour.

F. If the 'Email file with URL' option is selected, the recipients must be valid Maximo users to access the scheduled report output.

G. Each 'At this Time' scheduled report has to be scheduled within a time period of less than 363 days from the current date. For example, if today is 5/25/14, the report must be scheduled to run anytime before 5/23/14. If a report is scheduled on 5/28/14 to be run on 9/1/15, the report will be unable to be scheduled.

H. No validation of email addresses is performed

Email System Property Settings

A. For report emailing to occur, the smtp server must be defined in the System Properties application.

B. Additionally, you may want to evaluate setting the mxemail.content.type setting property from text/html to text/plain. Changing to text/plain will enable your users to receive text that has been input in a Report's Email Comment section with carriage returns as shown below.

When mxemail.content.type set to text/html, email comments received as:

This is a test. It shows how text displays using mxemail.content.type. This is a test test.

When mxemail.content.type set to text/plain, email comments received as

This is a test.
It shows how text displays using mxemail.content.type.
This is a test test.

3.3 User Viewing of Scheduled Report

When a user schedules a report, its delivery format is either sent via an email as either a file attachment or file URL. Emailing is only used for BIRT reports when they are scheduled. Emailing is not available for Immediate report requests.

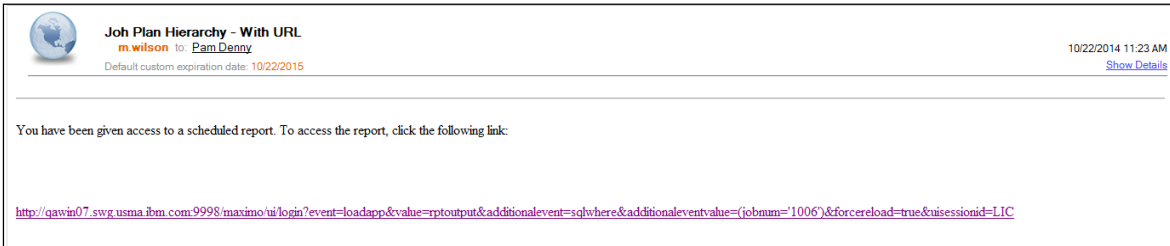
Email with a file attachment

If the scheduled report was selected to be sent via a file attachment, the user would receive the scheduled report output in either pdf or xls file format in their email as shown below.

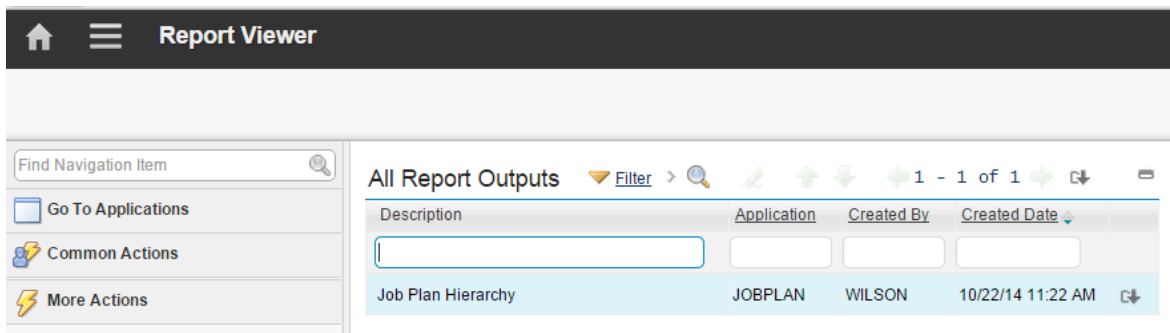


Email with a file url

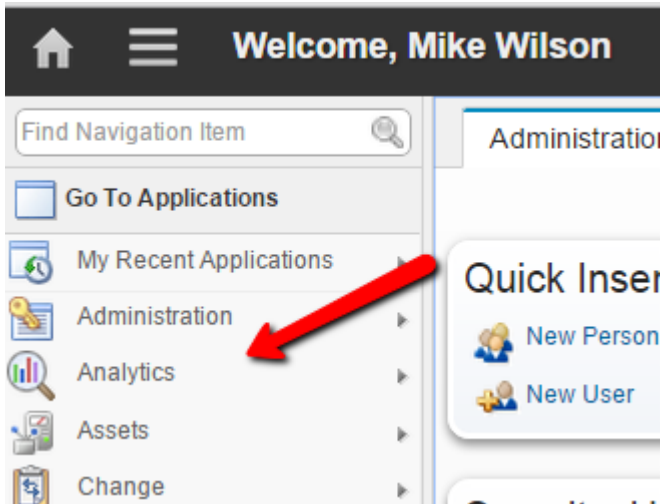
If the scheduled report was selected to be sent via a file URL, the user would receive the scheduled report output in either pdf or xls file format in their email as shown below.



When the user accesses the url, it will either take them to the Report Viewer application in Maximo if they are logged in, or bring them to the Maximo log in page if they are not logged in. After selecting his report, the user can click on the download icon to open or save the report output.



Additionally, the user may need to access the scheduled report output at another time. This can be done by accessing the Report Viewer application via the new Analytics Section, or by making it a favorite application on the Start Center.



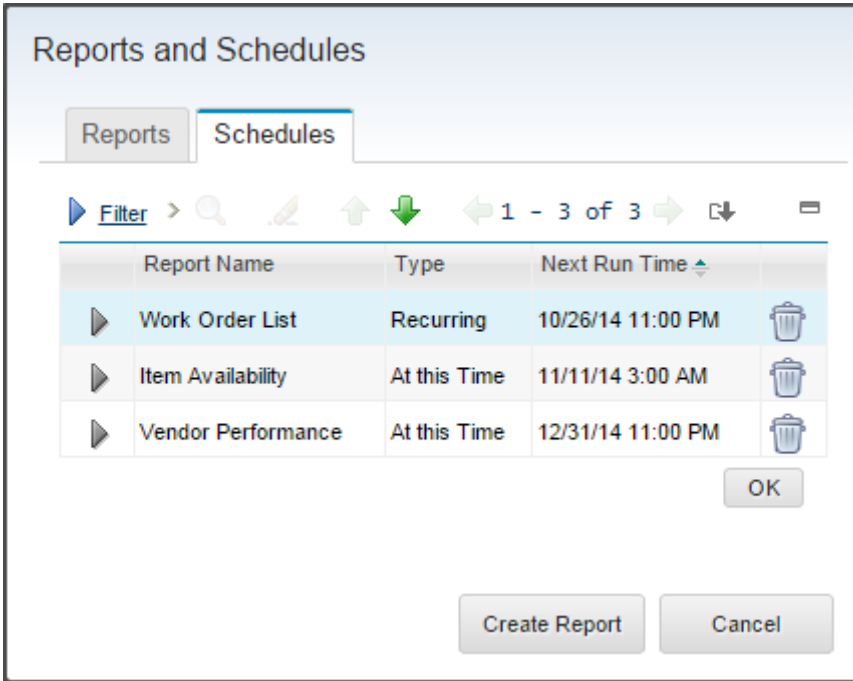
Report Viewer Notes

1. To prevent large number of scheduled report outputs from accumulating, the Report Administrator may want to utilize the 'Report Output Cleanup Task' to delete these files on a configured time period.

3.4 User Management of Scheduled Reports

After the report job has been scheduled, the user can then manage his scheduled report requests. This is done through the Scheduling Status tab and or the Scheduling Details dialog.

The Scheduling Status tab is in the Reports window, and shows reports that are scheduled to occur on a recurring basis, or at a time in the future. It does not include reports that have already been executed.



The Schedules tab lists the BIRT report schedules which can be viewed or modified. The information is displayed in ascending order of next run time. The Next Run Time is a non-persistent field that is calculated via the schedule cron task.

In this tab, the user sees all reports that he has scheduled – regardless of the application he is in. In the screen shot above, scheduled reports from the Work Order, Inventory and PO applications display This enables the user a central location to manage all his schedule report jobs.

The Schedule Details can be accessed through either the (1) Schedule Confirmation Message shown above or (2) by expanding a record in the Schedules tab. From this window, the user can update his schedule report or email criteria, or cancelled the scheduled report request.

Reports and Schedules

Reports Schedules

Filter > 1 - 3 of 3

Report Name	Type	Next Run Time	
Work Order List	Recurring	10/26/14 11:00 PM	
Item Availability	At this Time	11/11/14 3:00 AM	
Vendor Performance	At this Time	12/31/14 11:00 PM	

Schedule

Report Name:
 Vendor Performance vendor_performance.rptdesign

At this Time
 Recurring

Email

* To:

Subject:

Comments:

Notes:

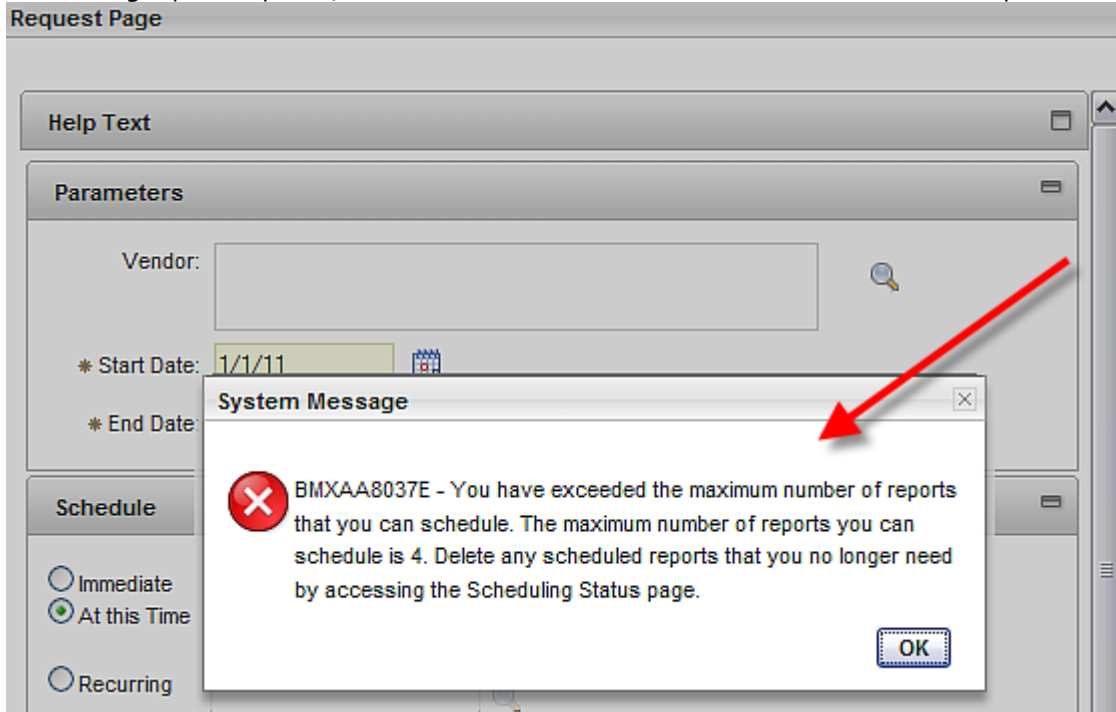
1. Report parameters are not displayed in the Schedule section. Once the parameters are inputted by the user in the Report's request page, they are not available for viewing or editing.
2. Report security (what reports a user has access to) is given by Security Group. However, because report scheduling is user specific - what parameters the user enters, who the report will be emailed to etc - scheduling is done by user. This means that the user will only be able to see which Scheduled Report Jobs have only been input by them.

3.5 **Best Practice** - Report Schedule Limits

A reporting best practice is to define report schedule limits for your users. Users may submit recurring schedule requests for reports that they initially believe they will always need. However, once the need for the report output goes away – the user may not take the action to delete the scheduled report request. This leads to wasted, unnecessary resources – as the processing continues – while the consumption has stopped.

To minimize this, you can limit the number of report schedule requests your users submit thru the report schedule limit functionality. By limiting them to a maximum number of scheduled jobs, users will only submit schedule requests for reports they need, and delete requests for obsolete report jobs.

When scheduled report limits are enabled, and a user inputs a scheduled report request that exceeds his maximum allotted number, he will receive the message below. He then has to review his existing report requests, and delete one of them before he can submit a new request.



If a user is member of multiple security groups, the scheduled record limit for the user is the minimum value set for the various security groups.

This functionality has been introduced in the 7.5 release. Therefore, if you are upgrading from 7.1x, your user's scheduled report requests will upgrade as is. If you then implement this functionality, it will not take effect until the user's next new scheduled report request.

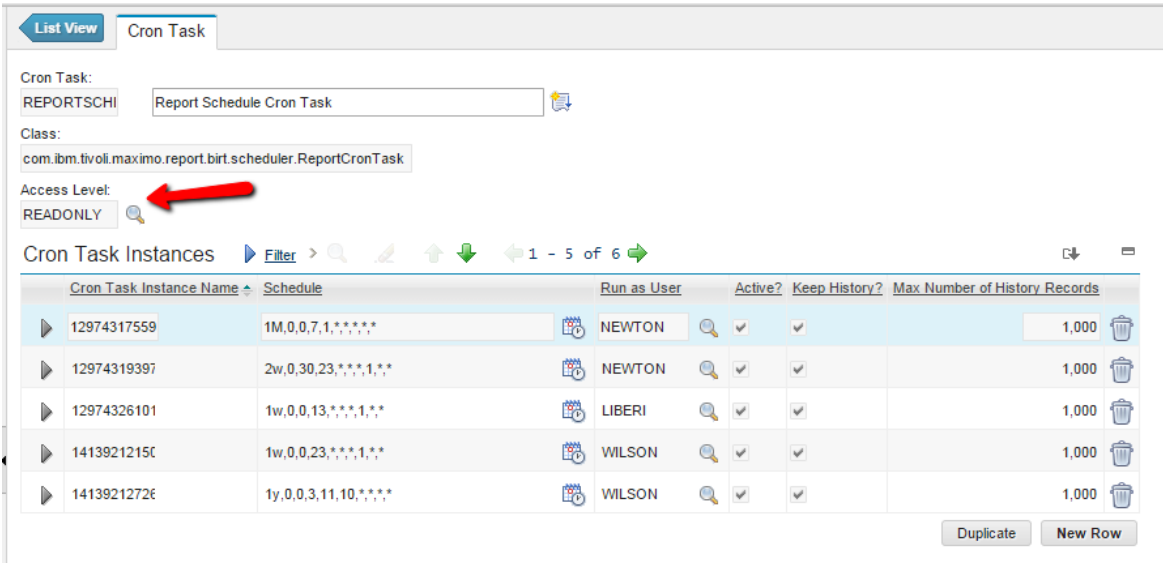
Details on how the report administrator can implement this are in the Report Administration Action section at the end of this guide.

3.6 Administration - Scheduled Report Cron Task

The REPORTSCHEDULE cron task enables the execution of scheduled reports. A unique cron task instance is created for each scheduled report. Therefore, the number of cron task instances you may have will be very dynamic depending on the number of scheduled jobs at any point in time.

The REPORTSCHEDULE Cron Task is read only, and is not intended to be modified or used to manage report schedules.

Both the instance name and schedule values are auto-assigned values from the cron task.



Cron Task: REPORTSCHI Report Schedule Cron Task

Class: com.ibm.tivoli.maximo.report.birt.scheduler.ReportCronTask

Access Level: READONLY

Cron Task Instances

Cron Task Instance Name	Schedule	Run as User	Active?	Keep History?	Max Number of History Records
12974317559	1M.0.0.7.1.*.*.*.*	NEWTON	✓	✓	1,000
12974319397	2w.0.30.23.*.*.1.*.*	NEWTON	✓	✓	1,000
12974326101	1w.0.0.13.*.*.1.*.*	LIBERI	✓	✓	1,000
14139212150	1w.0.0.23.*.*.1.*.*	WILSON	✓	✓	1,000
14139212726	1y.0.0.3.11.10.*.*.*.*	WILSON	✓	✓	1,000

Duplicate New Row

Notes:

1. Administrators can manage and delete report schedule instances thru the action 'View Scheduled Requests' in the Report Administration application..
2. The Report Schedule's Cron Task parameter values will vary widely from report to report. One reason for this is reports which utilize user inputted parameters have more parameters than those that don't.
3. Only active scheduled jobs are displayed in the Cron Task application.

3.6.1 Scheduled Reports and Time Zones

When a report is scheduled, the scheduled date/time will be based on the Time Zone of the application server.

For example, user Liberi is on Pacific Standard Time. The application server is on Eastern Standard Time. The administrator, Wilson, is on Eastern Time.

User Liberi schedules the PO Status Details to execute on 4/6/15 at 4:00 PM. When her scheduled report request is submitted, it is stored in the database with a scheduled time of 4/6/15 7:00PM EST (the time of the application server).

When Liberi views her schedule details, it will show as 4/6/15 at 4:00 PM – the date she scheduled the request.

However, if the administrator, Wilson, views the scheduled report requests in Report Administration, each request will display the server time that it will execute. So in the case of Liberi's 4pm Pacific Standard Time, it will display/execute at the server time of 7:00 pm Eastern Standard Time.

Scheduling Notes:

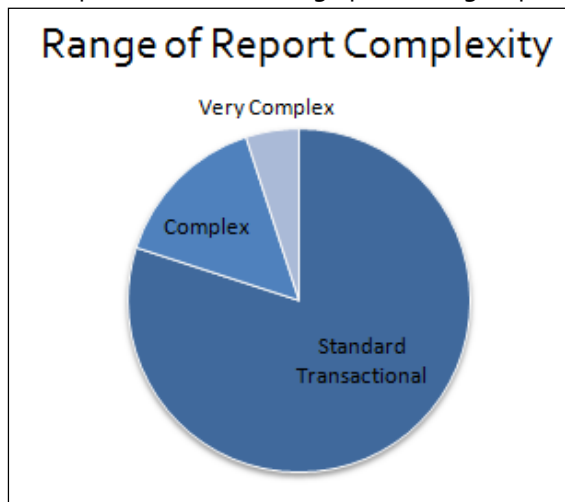
1. The Maximo Server and the Database Server must be configured in the same time zone.
2. If a scheduled job executes, but does not email the output to the user, the failure will be logged in the REPORTUSAGELOG Table. Only one field is currently included in the REPORTUSAGLOG table to track failures – whether those failures are due to the report not executing or not emailing.
3. The Report administrator can view and manage future Scheduled Report Jobs in the Report Administration application via the 'View Scheduled Reports' action. Details on this are in the Report Administration Action section at the end of this guide.

3.7 Schedule Only Reports

You can configure complex, batch reports to only be executed via Report Scheduling. This prevents users from running large, complex reports during peak use of the application, database and report server, which can negatively impact overall system performance.

Every organization has a wide range of complexity in reports. Some reports are very simple, like list reports or single grouped reports, whereas others are very complex due to the number of subreports they encompass or the hierarchy levels they span through. Report complexity is defined by the processing the report has to do – not by the number of records it displays. A fifty page list report could execute much faster than a complex two page report due to the processing within the report's design.

The pie chart below represents a sampling of report complexity. Complex and very complex reports are time consuming to design and develop, and are continually analyzed for performance efficiencies. These are typically a small percentage of your report volume. Traditionally, they are referred to as batch report due to their large processing requirements.



Because of the processing load complex reports have on a system, you can configure them to only be executed via report schedules. Additionally, the very complex reports can be configured to only execute via schedules at specific times of the day. This will minimize the impact these complex reports have on overall system performance.

The functionality is explained by using the example of the Cost by System report. First, click Preview from the list tab to see what the report's request page looks like. Notice that three Execution Options display – Immediate, Schedule At this Time, or Schedule Recurring. These are the three default run report options.

The screenshot shows a 'Request Page' configuration window. It is divided into three main sections: 'Parameters', 'Schedule', and 'Email', each with a checkbox to its right. Under the 'Schedule' section, there are three radio button options: 'Immediate', 'At this Time', and 'Recurring'. The 'At this Time' option is selected. To the right of the 'At this Time' radio button is a text input field and a calendar icon. A red arrow points to the calendar icon. To the right of the 'Recurring' radio button is a text input field and a magnifying glass icon. At the bottom right of the window are two buttons: 'Submit' and 'Cancel'.

Now, enable this report for 'Schedule Only'. Close this window and on the Report Tab, enable the value for 'Schedule Only'.

Save the change, and generate the Request Page XML. Click Preview, and an updated request page displays. Now, the 'Immediate' Report Execution Option is no longer available. Only the two options for scheduling are presented to the user.

-

Note that the 'Schedule Only' functionality for a report can also be viewed and enabled on the Performance Tab of Report Admin.

Notes:

1. If the Schedule Only field is enabled, the following fields cannot be enabled:
 - No Request Page?
 - Browser View?
 - Direct Print?
 - Direct Print with Attachments?

This occurs as each of those fields relies on the request page NOT being displayed to the user. In the case of Scheduled Only reports, the request page needs to be displayed so the schedule inputs can be made.

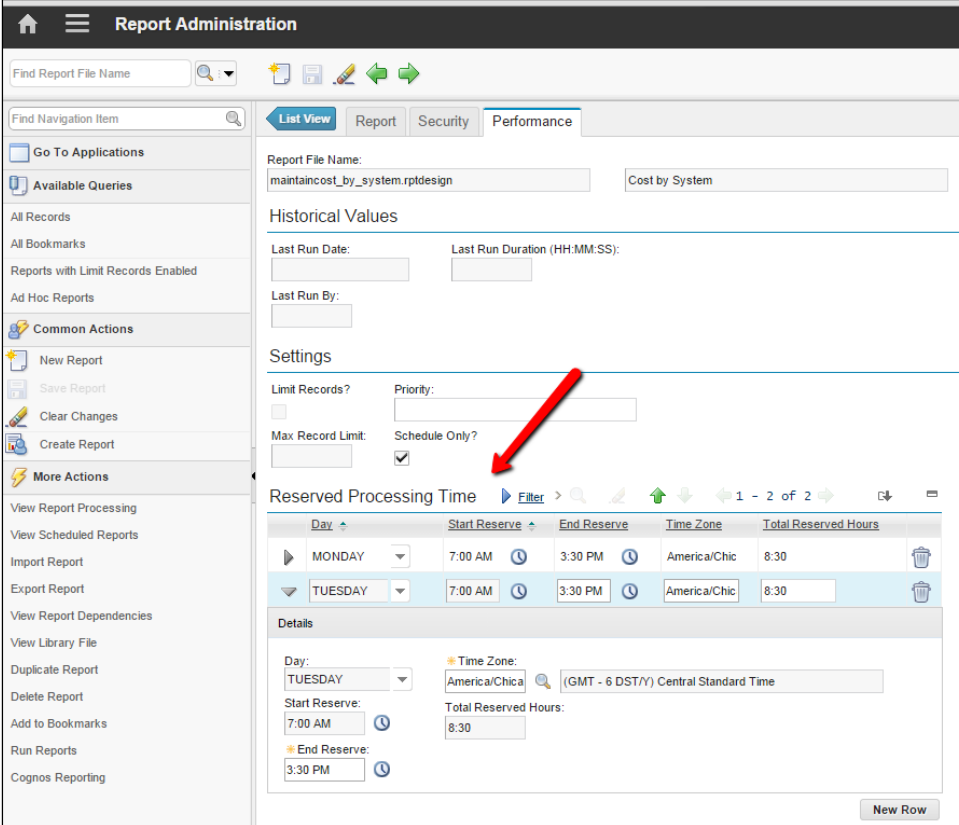
3.7.1 Schedule Only Reports – Reserved Processing Time

In addition to enabling 'Schedule Only' functionality for very complex, batch reports, you can also configure what times are available for the report scheduling. This will prevent users from scheduling report jobs of complex reports at the peak times of server use. For example, you may not want your users to run very complex batch reports on Monday morning, when many users are trying to execute their daily or weekly transactional reports.

Reserved Processing time will detail the busy days and time within a week that server processing time is reserved for immediate report jobs and other maximo application functionality. This functionality will be based on days of the week. It is not based on calendar days, example January 1, due to fluctuations with calendars and holidays.

Reserved Processing Time can be set on any day of the week (Monday thru Sunday) and for any amount of time less than 24 hours. On the Performance Tab in Report Administration, the administrator will click New Row and specify the day of the week, and the times during that day that report processing is NOT available for that report job. This functionality is enabled by individual report because of the range of report complexity.

To set the reserve processing time for a report, the administrator must first enable the Schedule Only? Flag. Then, under the 'Reserved Processing Time' section, click new row to define the Day, Start Reserve, End Reserve and Total Reserved Time.



The screenshot shows the 'Report Administration' interface. The 'Performance' tab is selected. The 'Reserved Processing Time' section is expanded, showing a table with columns: Day, Start Reserve, End Reserve, Time Zone, and Total Reserved Hours. The table contains two rows: MONDAY and TUESDAY. A red arrow points to the 'Schedule Only?' checkbox, which is checked. Below the table, the 'Details' section shows the configuration for the selected row (TUESDAY): Day: TUESDAY, Time Zone: America/Chica, Start Reserve: 7:00 AM, End Reserve: 3:30 PM, and Total Reserved Hours: 8:30. A 'New Row' button is visible at the bottom right.

Day	Start Reserve	End Reserve	Time Zone	Total Reserved Hours
MONDAY	7:00 AM	3:30 PM	America/Chic	8:30
TUESDAY	7:00 AM	3:30 PM	America/Chic	8:30

Details

Day: TUESDAY

Time Zone: America/Chica (GMT - 6 DST/Y) Central Standard Time

Start Reserve: 7:00 AM

End Reserve: 3:30 PM

Total Reserved Hours: 8:30

New Row

After the values are defined, the administrator saves the change, and must regenerate the request page xml.

What the Reserved Processing Times Looks like to a User

Report users want to know when they can execute a report, so the reserved processing times on the report request page - - will show instead as the Schedule Availability.

The Schedule Availability shows the opposite of the reserved processing time in Report Administration. In Report Administration, the administrator is concerned with reserving time that the report should NOT be enabled to execute.

On the report request page, the user will also see the time zone in which the report availability was SET. This may not match the time zone of the user. However, it is expected this functionality will be enabled on complex reports executed by fairly technical users, who have an understanding of time zone impacts.

Schedule Only Notes:

1. Due to potential conflicts with varying time zones, and the complexity involved with Daylight Savings time being utilized in some time zones but not others, the administrator can only reserve processing time for each report using the same time zone.

This means that if he reserves a processing time of 7 AM to 4 PM EST for the Asset Cost Rollup report, any other reserved processing time made for Asset Cost Rollup must be made in the EST time zone.

2. Due to the wide range of unique environments and requirements that each of you may have, no out of the box reports delivered have this functionality enabled. It is meant to be a configurable option that you can enable for your individual business environments.

3. After a 'Schedule Only' report has been scheduled, its available processing time will not show on the 'Scheduling Status' Tab. If the report schedule needs to be modified, it is recommended that the original report schedule be deleted, and a new one input.

4 Report Security

Report security enables users within security groups to see and execute the reports that they have access to. There are cascading levels of report security, with the first two levels being -

1. Which security groups can run reports?
2. What reports can security groups execute?

These two access levels will first be discussed, and then information on how data restrictions and report interact will be detailed.

4.1 Which security groups can run reports?

From the Security Group application, the administrator defines which security groups have 'Run Reports' access to the various applications. This is shown below where the OPSMGR security group is given Run Reports security access to the Assets application.

The screenshot displays the 'Security Groups' application interface. The main area shows the configuration for the 'OPSMGR' security group, specifically the 'Applications' tab. The 'Assets' application is selected, and the 'Run Reports' action is checked, indicating that the OPSMGR security group has access to run reports for the Assets application. A red box highlights the 'Run Reports' checkbox, and a red arrow points to the 'Go To Applications' button in the left sidebar.

Description	Main Object/Table	Original Application (if copied)
Assets		
Assets	The ASSET Table	

Description	Grant Access?	Condition
run report	<input type="checkbox"/>	
Run Reports	<input checked="" type="checkbox"/>	

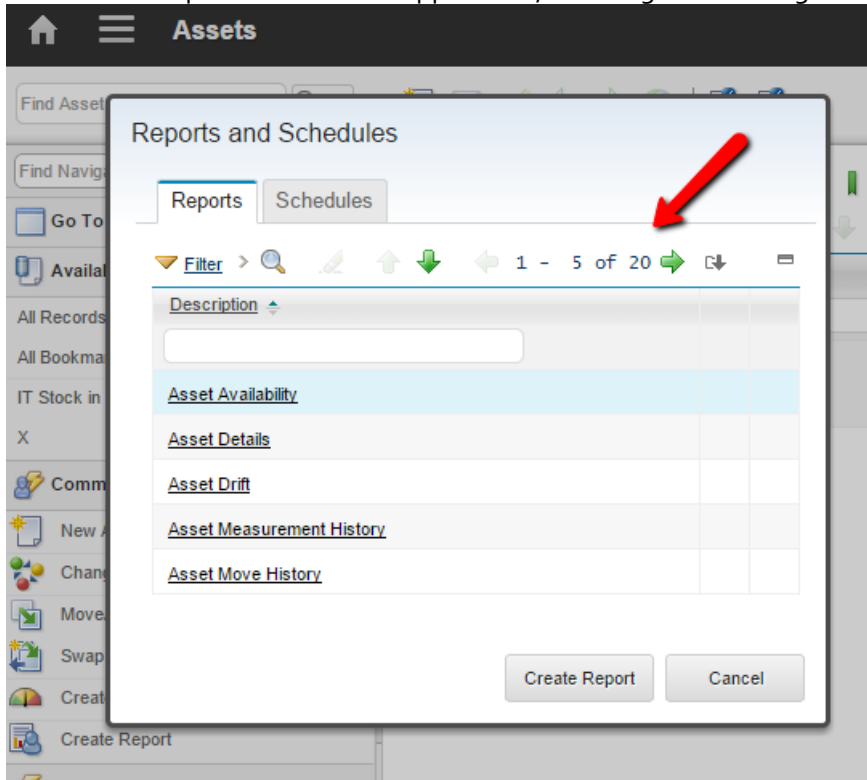
Once this access is granted, a member of this security group will be able to see the 'Run Reports' action from the Action menu of the application.

4.2 What reports can security groups run?

After granting Run Report security access in the Security Group application, the administrator then defines which specific reports each security group can access. This report security can be set at

- The Individual Report Level
- All Reports registered to an application
- All reports for all applications the security group has access to

These three different levels of report security access are defined in the Report Administration application. This level of security enables the members of the security group to see and execute a list of specified reports in the Reports window. In this example, the OPSMGR group was given access to All reports in the Asset application, resulting in the listing of 20 different reports below.



Notes:

1. This report security access is for view and run access only - it does not give the security group the ability to delete a report he has access to.
2. Each of the ways the administrator can set these levels of report security is described in the Report Administration Action section later in this guide.
3. Also, this does not include security access for ad hoc reports. A review of the ad hoc security access and best practices can be found in the Maximo 76 BI recording page referenced at the end of this document.

4.3 How Security and Report Access Work Together

After security groups have been granted report security privileges, users will be able to access the report capability in a number of different ways. Four ways in which reports can be accessed are:

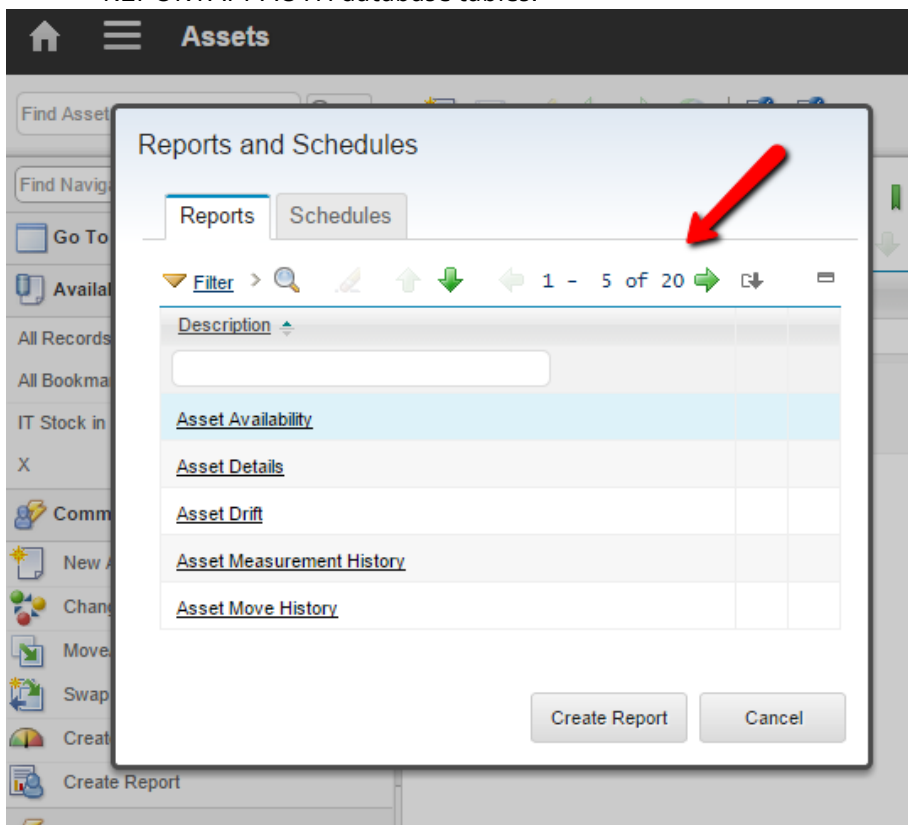
- (1) Reports Window – On Demand Reports Tab
- (2) Report Menu
- (3) Report Icons from an Application's toolbar
- (4) Preview Button from Report Administration

The security for each of these options is described below:




(1) Run Report List and (2) Report Menu

The list of reports that the user has access to will be derived from

- (1) the security groups that the user belongs to and
- (2) the report authorization granted to those security groups from the REPORTAUTH and REPORTAPPAUTH database tables.



(3) Report Icons from the Application's Toolbar

If a user does not have security access to a report, the report icons (  or ) will not be visible to them on the application's toolbar.

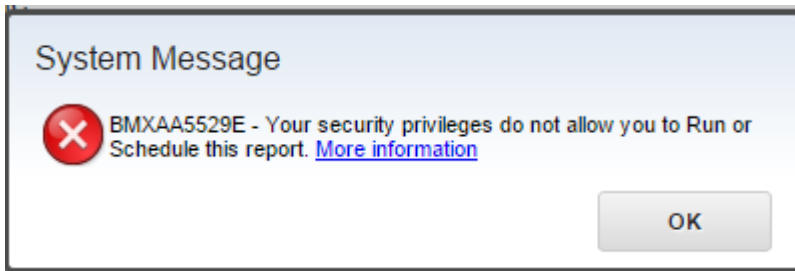
(4) Preview Button from Report Admin

The Report Administration application manages all reports – their report settings, parameters, security access and design files. Therefore, if an administrator is granted access to the Report Administration application through the Security Groups application, they will be able to see ALL registered reports. This means that if there are 100 reports registered, the administrator can see all 100 reports within the application.

However, you may not want the administrator to have security rights to each report. Therefore, report security is applied in the Report Administration application at the report Submit level.

This means that an administrator can take action on a report (ex. Add or delete a parameter) that he does not have access to, and preview it. But as soon as the administrator clicks on Submit on the request page, if he does not have security rights to that report, an error message will display

BMXAA5529E - Your security privileges do not allow you to Run or Schedule this report.



4.4 Security Notes – Data Restrictions

Data Restrictions can be enabled to restrict what database records individual security groups see. These restrictions can be used to configure your environment for your unique business needs.

Data Restrictions are set in the Security Group Application, and can then be applied to the various applications. There are three different levels of data restrictions, which are

- (1) Set Data Security, or 'Qualified' Object Restrictions
- (2) Row Level Data Security, or 'Hidden' or 'Read Only' Object Restrictions
- (3) Field Level Data Security. This is also known as 'Hidden', 'Read Only' or 'Required' Attribute Restrictions.

For Reporting, only the first level or Qualified Object Restrictions can be applied. The other two levels cannot be enabled for reporting. This occurs because in addition to severely impacting performance, the dynamic placement or non-placement of fields and rows would be extremely difficult to manage.

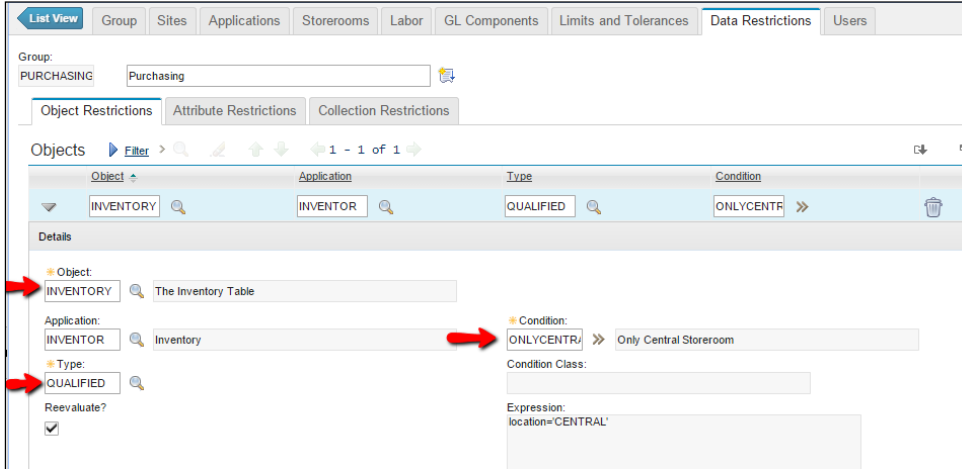
To enable Set Data Security for reporting, the following conditions must be met:

1. The Data Restriction can only be set on the main table (object) of the Application where the report is registered to.
2. The type of Data Restriction must be qualified. It cannot be Hidden or Read Only.
3. The Conditional Expression must utilize proper syntax.
4. The SQL of the Report Design must include the main table of the application.

Each of these conditions will be explained in more detail using the Inventory application. In this example, the Security Group Purchasing needs to be set up so it only sees records from the Central Storeroom Location, located in Site Bedford. Even though there are other storeroom locations in Bedford (ex. PKG and GARAGE), the Purchasing Group can only see data from the Central Location.

To enable this, define the storeroom data restriction in Conditional Expression Manager. Then, go to the Security Group application, and filter for Security Group Purchasing. Confirm they have all Options Granted for the Inventory application on the Application Tab. Next, go to the Data Restrictions Tab. Enable the data restriction by implementing the conditions below:

1. The Data Restriction is set on the main table (object) of the application where the report is registered to. In this case, it is the INVENTORY application.
2. The type of Data Restriction is set to Qualified.
3. The Conditional Expression utilizes proper syntax

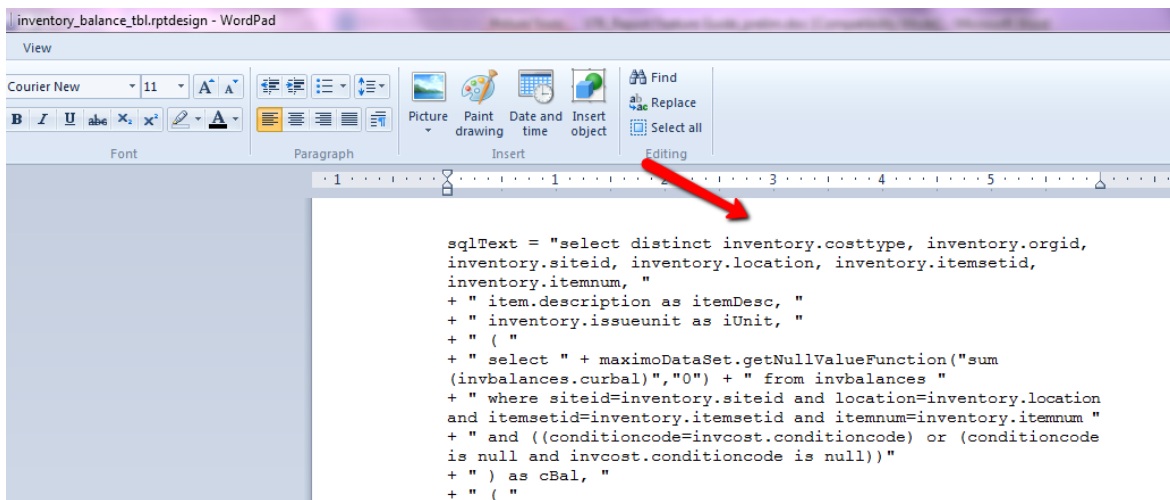


After saving the new restriction, confirm the Purchasing Security Group has access to the inventory reports via the Report Administration application. The View Group Security Action confirms this. Sign out of Maximo.

The final step to apply the data restrictions is done in the BIRT Report Designer by confirming that the main table of the application that the report is registered is included in the report's sql statement. Continuing with the Inventory example, the main table of the Inventory application (INVENTORY) will be confirmed to be in the Inventory Balance report. To do this, either open up the Report Design file (inventory_balance_tbl.rptdesign) located in <Maximo76>\reports\birt\reports\INVENTOR in the BIRT Designer or in a text editor.

Scroll down to find the report's sql and confirm that INVENTORY is included. In this case, it is, so the data restrictions can properly pass to the report.

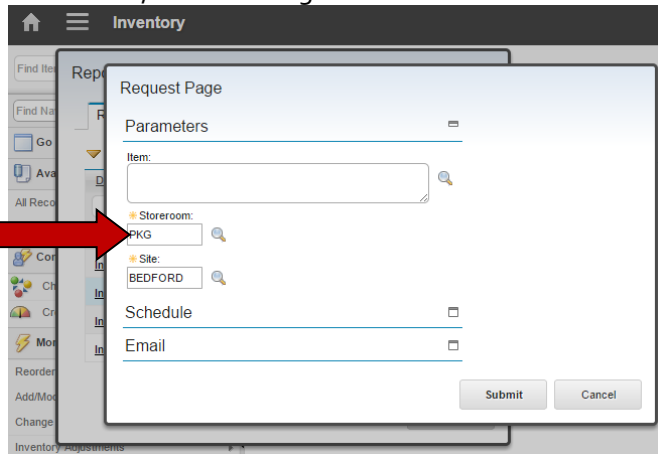
If the main table was not included in the report's sql, it would have to be added in order for the data restrictions to pass properly.



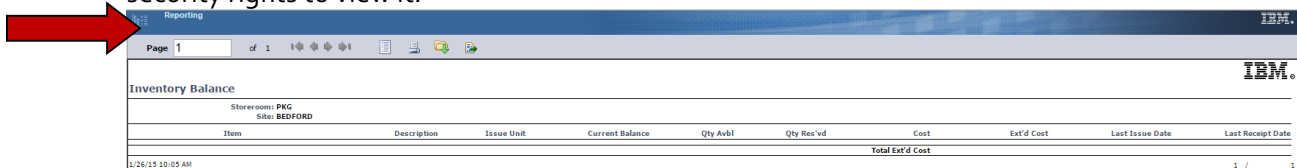
Note: If modifications are made to the report's sql, the updated design file must then be imported into the database.

Once the setup items are completed, confirm that the data restrictions are configured correctly. To do this, sign in as a member of the Purchasing Security Group: Liberi. Go to the Inventory application, and run the Inventory Balance report. Enter parameter values for the Storeroom (Central) that she has access to, and the report displays correctly with values from Central.

Repeat this process by running the same report against a storeroom she does not have access to. In this case, she runs it against Storeroom PKG.



The report displays correctly with no data. Even though data exists, the user does not have security rights to view it.



Finally, if you need to implement Hidden or Read Only Object or Attribute Restrictions (the 2nd and 3rd Data Restriction Level) for a specific security group, there are a few different options available. This is explained using an example from the Work Order Tracking application.

A security group has access to Work Order Tracking, however, this group does *not* see the Planned Labor and Actual Labor Costs within this application. These fields are hidden, which is 'field level' security. This field level security cannot be applied to reports. Therefore, if there are reports that contain Planned Labor and Actual Labor Costs (like Work Order Details), the following Options exist:

1. Do not grant report security access to these reports to this security group.
2. Make a copy of the Work Order Details report and re-name it to something like Work Order Details View 1. Remove the planned and actual labor costs from this report. Grant report security access to this report to the specific security group.

Notes on Data Restrictions and Reporting:

1. Collections are a 'special' type of object restriction related to collections of assets or locations. A collection restriction is at the set and row level - creating hidden and qualified object restrictions. Collection data restrictions are also not applied to reporting.

2. If you are hyper linking to a report, and data restriction is in place, make sure to qualify the table (object) name. If it is not qualified, the hyperlinked report may display blank data.

5 Report Utilities - Importing, Exporting, Updating

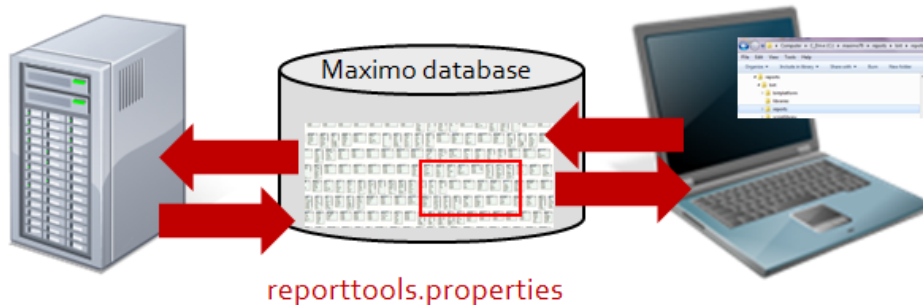
The repository for the report design files is the Maximo database. These files are extracted at run time to meet the individual's report request.

During Maximo's installation process, importing of reports takes place. Additionally, if a JVM is restarted, the reports directory is checked to see if any new reports have been added. If new reports are detected, the import process is initiated to bring in new files only. A complete import of all reports is not done on a JVM system restart.

Note: A JVM restart will not import updated report design files. If you have updated your report design files, you need to import them thru the import utilities or via the Report Administration actions described below.

Administrators and developers may need to import or export report design files from the Maximo database outside of an install or JVM restart process. For example, they may need to export existing or ad hoc report design files from the database so the design files can be modified in the report design tool. Then, once the updates are made, the administrator would import the updated design file into the database.

If you have a large number of report files to import or export, command utilities are available or this. Enabling these utilities is a properties file called `reporttools.properties`. This property file contains information on the application server, the file directory where the reports designs are either coming from or going to, and more.



Complete details and instructions on how to import and export design files using the Command Utilities can be found in Section 11 of the `Maximo76_Designer431_Report Development Guide`. Information on accessing this guide can be found at the end of this document.

Additionally, you can import and export individual report design files in the report administration application. This is an excellent mechanism if you do not have access to the server, or for a small number of reports.

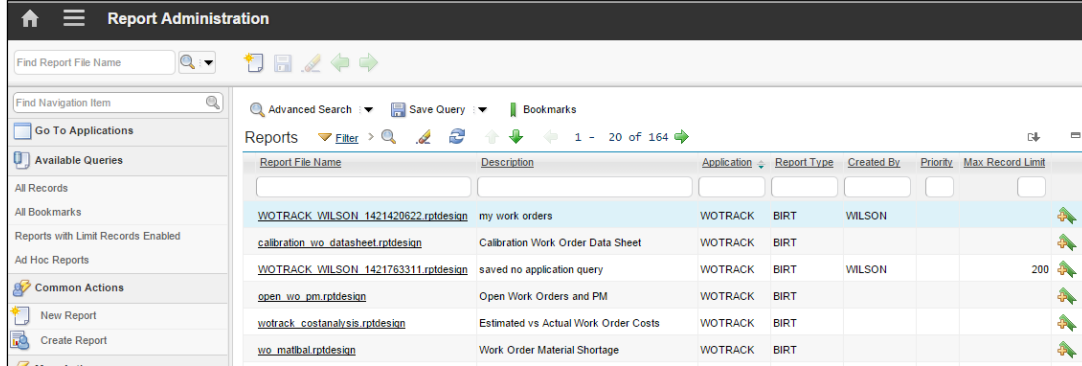
Additional update utilities can be used to automate the process of applying updates to report designs, rather than manually editing each report. These are known as update utilities, and supplement the existing utilities of importing and exporting report designs. The update utilities are available for both Enterprise Reports, and Ad Hoc or QBR Reports.

Specific details on how you can use these utilities can be found in the Update Reports Utility document accessible below.

<http://www-01.ibm.com/support/docview.wss?uid=swg21605830>

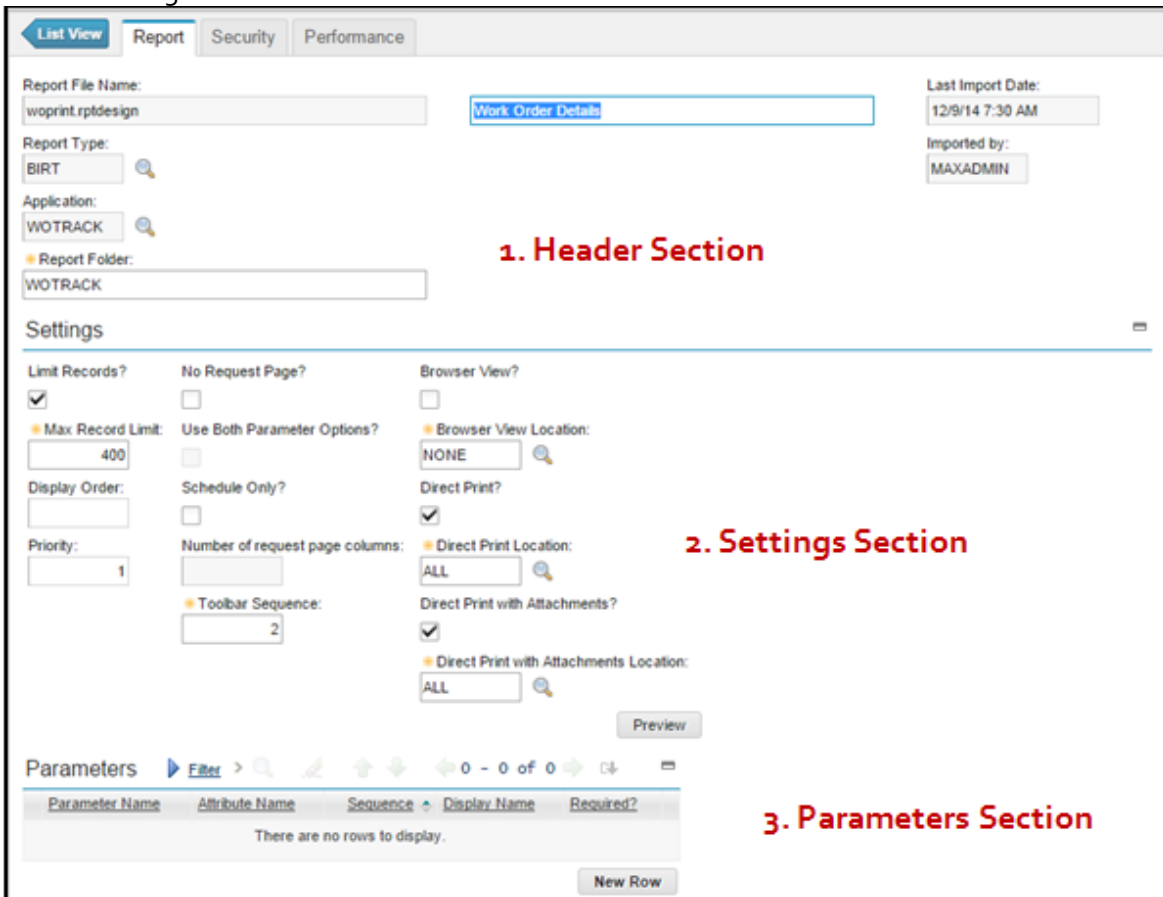
6 Report Administration Features

This section details the various features enabled within the Report Administration application. Additionally, it provides more information on individual features including report names, sequencing, priorities, application access and many other features.



Every report accessible from Maximo must have a corresponding record in Report Administration For BIRT reports, each of the three tabs are used: Report, Security and Performance.

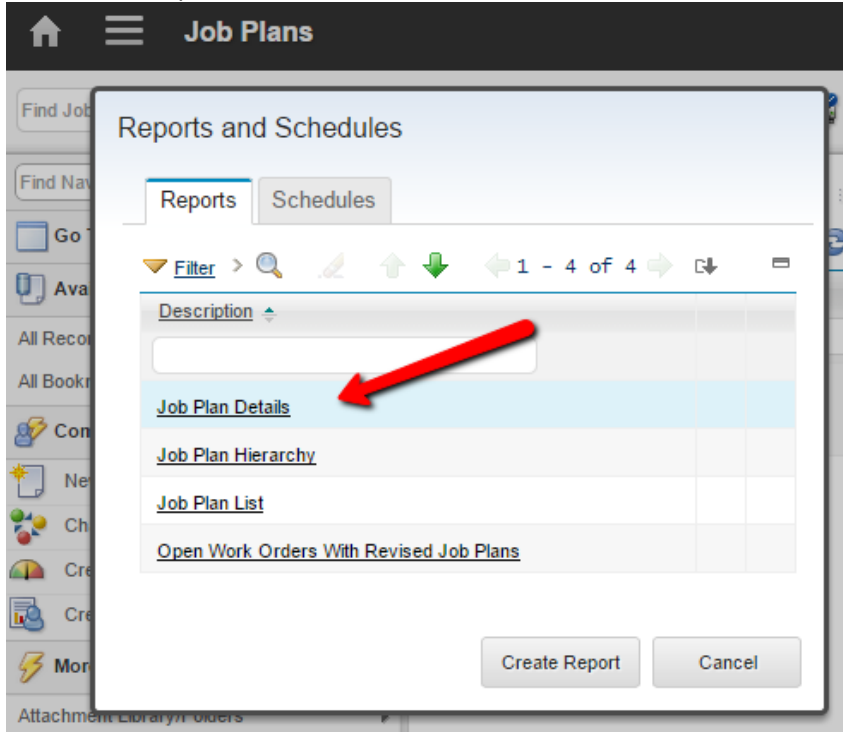
The report tab is made up of three sections: Header, Settings and Parameters. Key areas within the header and settings sections are noted below. Details on the Parameters section is noted earlier in this guide.



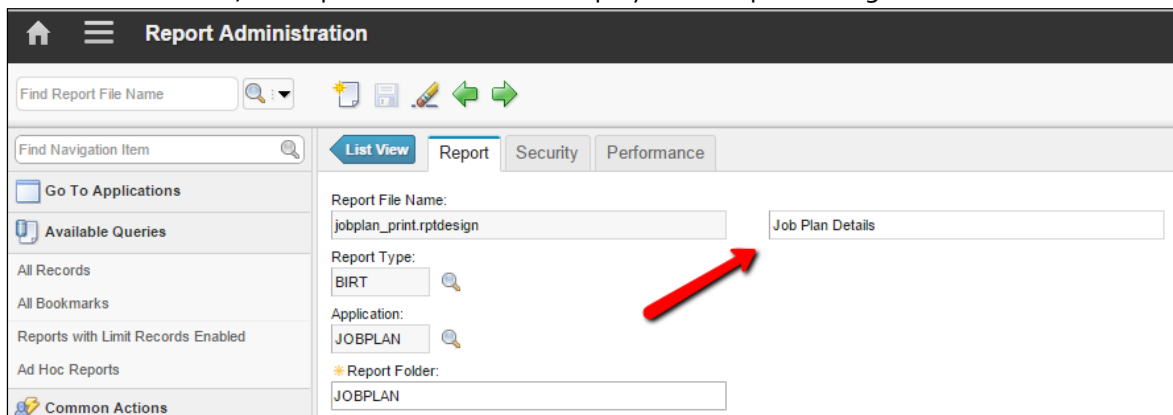
6.1 Report Administration - Report Header Section Details

Report Description and Name

The listing of report names that displays via the 'Run Report' action correlates to the REPORT.DESCRPTION. It is critical to use a name that is quickly and easily identifiable to all users of the report.



The report's description is visible in the Report Administration application. It is an optional field. If no text is entered, the report's file name will display in the report listing.



If report file names are used, the user will be unable to filter his listing of reports from the Run Report dialog. If he tries to filter thru the reports, an error will display that filtering is unavailable.

BMXAA8597E - The results cannot be sorted or filtered because one or more reports do not have descriptions.

Application and Folder Name

Within the header section, the application field identifies what Maximo application the report is available from. This field is key as it determines the main table name that is passed to the report when it is executed.

The report folder name is where the report is stored in the Maximo directory as noted in section titled 'Report File Structure'. If a new report is registered directly in the Report Administration application, the folder name defaults to the value of the application name. However, these values do not need to be the same.

The screenshot shows a web interface with a navigation bar containing 'List View', 'Report', 'Security', and 'Performance' tabs. Below the navigation bar, there are four input fields: 'Report File Name' with the value 'woprint.rptdesign', 'Report Type' with the value 'BIRT', 'Application' with the value 'WOTRACK', and 'Report Folder' with the value 'WOTRACK'. Two red arrows point to the 'Application' and 'Report Folder' fields.

Import Information

The last Import Date and Imported By fields show the date the report was last imported in the Maximo database. For ad hoc reports, this is the date that the report was saved or last edited. These fields can be very important as you apply fix packs or upgrade your Maximo versions.

The screenshot shows a web interface with a navigation bar containing 'List View', 'Report', 'Security', and 'Performance' tabs. Below the navigation bar, there are four input fields: 'Report File Name' with the value 'woprint.rptdesign', 'Report Type' with the value 'BIRT', 'Work Order Details' with the value 'Work Order Details', and 'Imported by' with the value 'MAXADMIN'. A red arrow points to the 'Work Order Details' field.

Ad Hoc Reports - Created By and Saved Where Clause

Ad Hoc or QBR reports have two additional fields in the Header Section. The QBR created by field identifies the user who created the ad hoc report. This is the only user who has the ability to edit or delete the ad hoc report. (With the exception of the Report Administrator)

The Saved Where Clause identifies the application query that was applied to the report when it was created. This is critical information for the administrator to help him identify ad hoc reports which should have record limits applied to them.

- Reports that do not have a Saved Where clause can execute against very large record sets. Therefore, it is critical that record limits be applied to those reports.

The screenshot shows a web-based interface for configuring a report. At the top, there are tabs for 'List View', 'Report', 'Security', and 'Performance'. The 'Report' tab is active. The interface is divided into several sections:

- Report File Name:** A text box containing 'WOTRACK_WILSON_1421420622.rptdesign' and another text box containing 'my work orders'.
- Report Type:** A dropdown menu showing 'BIRT'.
- Application:** A dropdown menu showing 'WOTRACK'.
- Report Folder:** A text box containing 'WOTRACK'.
- Last Import Date:** A text box showing '1/16/15 10:07 AM'.
- Imported by:** A text box showing 'WILSON'.
- QBR Created By:** A dropdown menu showing 'WILSON'.
- Saved Where Clause:** A text box containing the SQL query: `reportedby = (select personid from person where personid = (select personid from maxuser where userid = 'WILSON'))`.

Two red arrows point to the 'QBR Created By' and 'Saved Where Clause' fields, highlighting their importance.

6.2 Report Administration - Report Settings Section Details

Settings: Record Limits

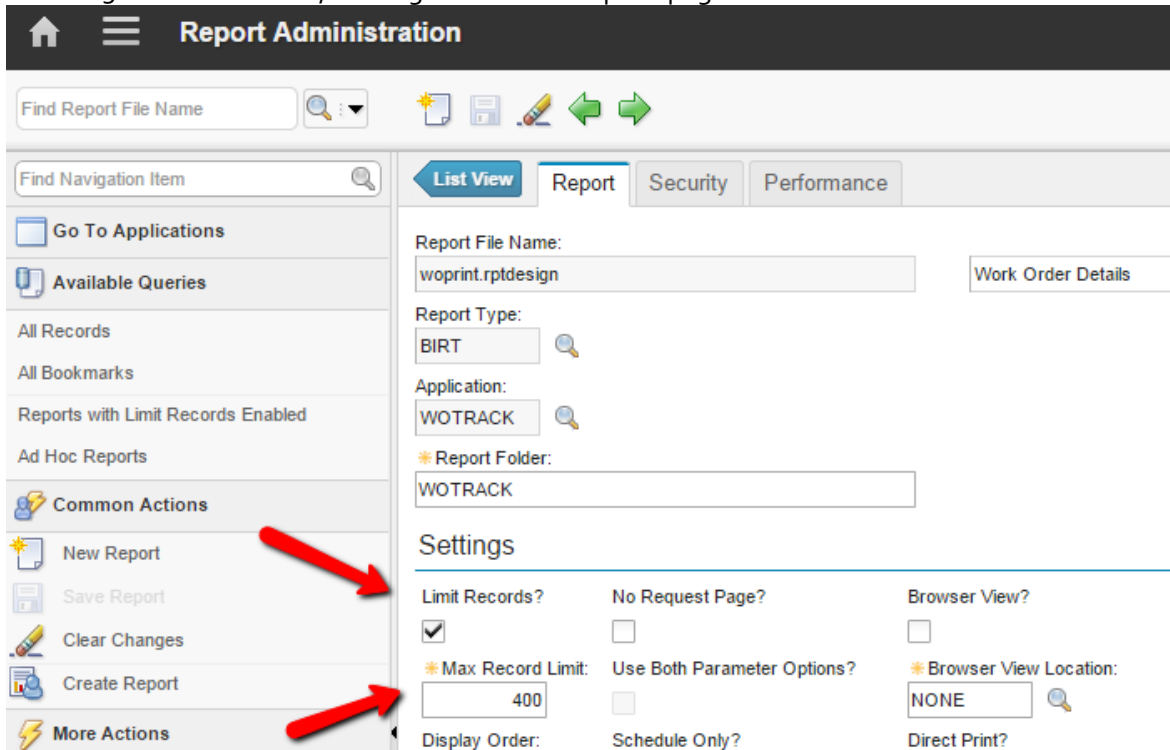
Users may inadvertently execute reports against large or very large record sets within an application. This can cause negative performance impacts on both the application and database server.

An example of this is a user wants to print out 10 new work orders. The user is in a hurry and does not filter their query. Instead of submitting a Work Order Details report request for only the 10 new work orders, they input a Work Order Details report request for all work orders - which totaled over 1,800 records. This request can impact the application performance because the Work Order Details report is a very complex report. This can be compounded if the user does not see his report immediately, he may submit this same job request multiple times.

To minimize these errors, it is a BEST PRACTICE to define record limits for complex, heavily accessed reports. This functionality can be set for reports that use the application record set detailed in the section 'Application Reports – Type 2'

The record limit functionality can be set for a report in the Report Administration application by following these steps:

1. Enable the Limit Record Flag
2. Input a value for the Max Record Limit. The value must be greater than 1, but there is no limit on the maximum number that can be input.
3. Save the record, and regenerate the request page xml.



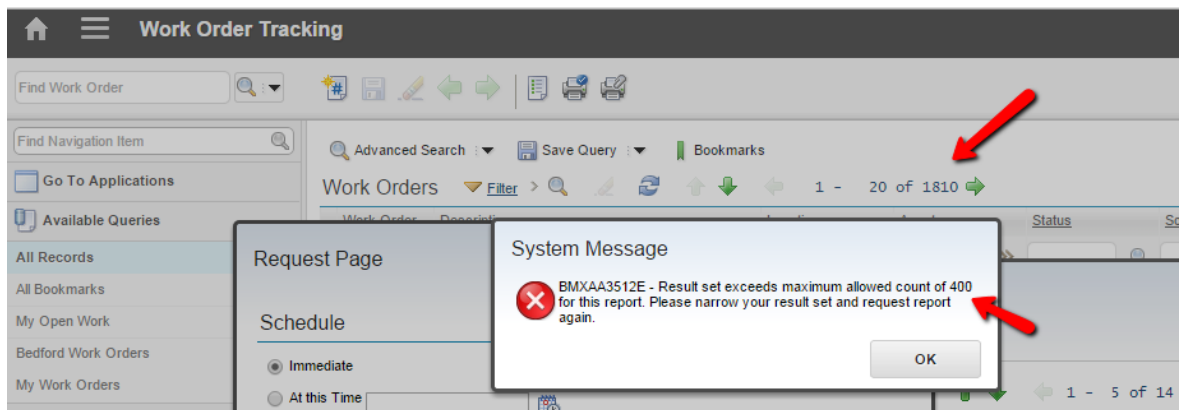
Note: This value can also be defined on the Performance Tab of the individual report's record.

When a user executes a report where these values are defined, a count of the user's current record selection is made from the application they are in. This value is then checked against any record limits set for the selected report.

- If the current record set is greater than the record limit, a message is displayed to the user to reduce his query.
- If the current record set is less than the record limit, the report is executed.

If a user tries to execute a report within the application against a record set of 1,810 records - and the report has a limit of 400 - an error message will display:

'BMXAA3412E – Result set exceeds maximum allowed count of 400 for the report. Please narrow your result set and request the report again.'



Notes:

- A. To enable Direct Print (DP) and Direct Print with Attachments (DPA) Functionality, the Record Limit flag must be enabled and a max record limit set.
- B. A number of Out of the Box Reports have these values set. A listing of them can be found in the Report Booklet referenced at the end of this guide.
- C. The corresponding database fields enabling this functionality are:
 - REPORT.DETAIL = Limit Records YORN Field
 - REPORT.RECORDLIMIT = Maximum Record Limit
- D. If a report has record limits enabled, it cannot be executed from
 1. The Preview Button in Report Administration
 2. The External Reports Menu from the application

The report can only be executed from within the application so a count of its records is available before the report is executed.

Settings: Report Priorities

Report priority is used for report queuing. Report jobs are prioritized in the reporting queue based on ascending order of priority. This value is stored in the database as REPORT.PRIORITY.

An administrator can assign priorities to reports other than BIRT. Although they are not used in external report by default, you could potentially use them to extend the reporting functionality.

The screenshot displays the 'Report' configuration page in Maximo. At the top, there are tabs for 'List View', 'Report', 'Security', and 'Performance'. The 'Report' tab is selected. Below the tabs, the 'Report File Name' is 'asset_detail.rptdesign' and the report title is 'Asset Details'. The 'Report Type' is 'BIRT' and the 'Application' is 'ASSET'. The 'Report Folder' is 'ASSET'. A 'Settings' section follows, containing several configuration options:

- Limit Records?**
- No Request Page?**
- Browser View?**
- * Max Record Limit:** 50
- Use Both Parameter Options?**
- * Browser View Location:** NONE
- Display Order:** [empty]
- Schedule Only?**
- Direct Print?**
- Priority:** 2 (highlighted with a red arrow)
- Number of request page columns:** [empty]
- * Direct Print Location:** ALL

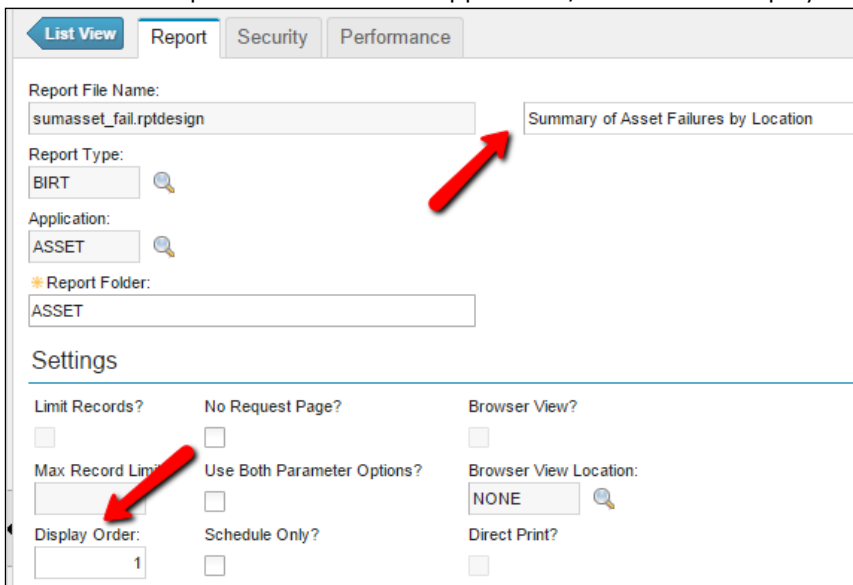
Settings: Display Order

Administrators can specify the order of the reports displayed in the Report Run Dialog. By defining a value in the 'Display Order' field, users can quickly see their most frequently accessed reports in the report display window.

The Display field applies to a variety of report types – BIRT, QBR, Cognos, or Custom. The Display Order field is not required. If the Display Order is not specified, the reports will display in alphabetical order. Also, the display order can be applied to some reports within an application and not others.

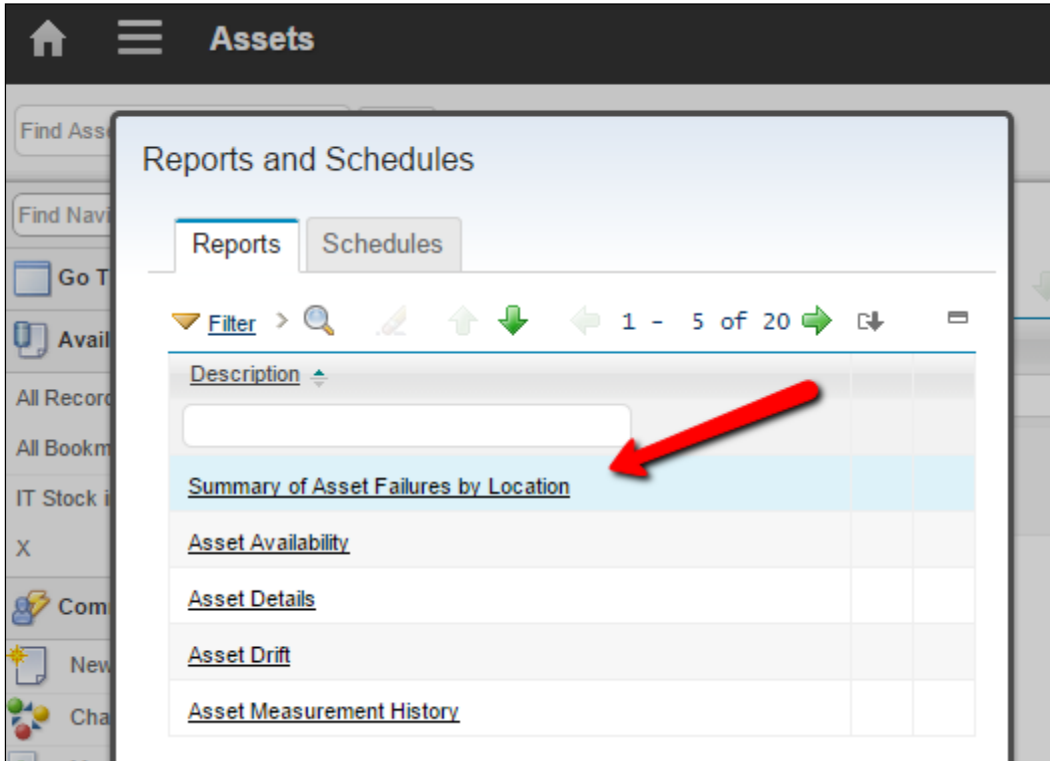
Unlike the report's toolbar sequence value (Browser View, Direct Print) the display order field does not have to be unique within the application. This eases the management for report administrators as new reports get added or others deleted. The combination of the sequence field and the report's description (ascending order) determines the display order of the reports.

The screens below show this functionality. Within the Asset application, users requested the heavily accessed 'Summary of Asset Failures' report to be displayed first. So, the administrator accesses the Report Administration application, and sets its 'Display Order' Field to 1.



The screenshot displays the 'Report Administration' application interface. At the top, there are tabs for 'List View', 'Report', 'Security', and 'Performance'. The 'Report' tab is active. Below the tabs, the 'Report File Name' is 'sumasset_fail.rptdesign' and the report title is 'Summary of Asset Failures by Location'. The 'Report Type' is 'BIRT', the 'Application' is 'ASSET', and the 'Report Folder' is 'ASSET'. A red arrow points from the 'Report File Name' field to the report title. Below this is the 'Settings' section, which includes several checkboxes and input fields: 'Limit Records?' (unchecked), 'Max Record Limit' (input field), 'Display Order' (input field with '1'), 'No Request Page?' (unchecked), 'Use Both Parameter Options?' (unchecked), 'Schedule Only?' (unchecked), 'Browser View?' (unchecked), 'Browser View Location' (input field with 'NONE'), and 'Direct Print?' (unchecked). A red arrow points from the 'Display Order' field to the 'Max Record Limit' field.

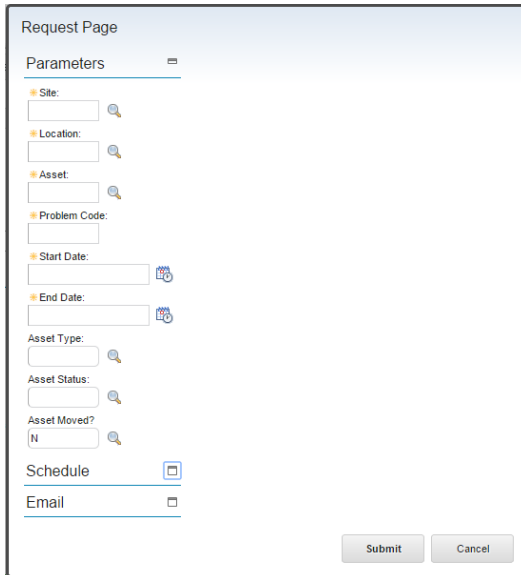
After saving and regenerating the request page XML, the Summary of Asset Failures report then displays first in the list of Asset Reports.



Number of request page columns

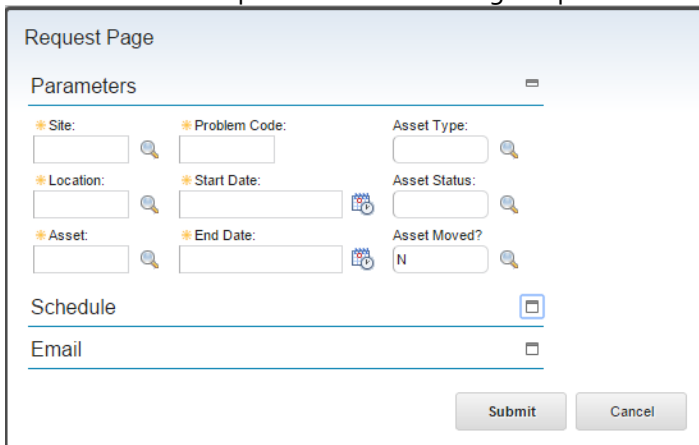
In Maximo 76, a new feature has been added for you to configure the number of columns your parameters display on the request page. This can be especially helpful for reports with large number of parameter values to reduce vertical scrolling.

To highlight this feature, notice the delivered report 'Drilldown of Asset Failures' contains 9 parameter values. Its request page is extremely lengthy and has extra horizontal space.



The screenshot shows a 'Request Page' form with a single-column layout. The 'Parameters' section contains the following fields: Site, Location, Asset, Problem Code, Start Date, End Date, Asset Type, Asset Status, and Asset Moved? (with a value of 'N'). Below the parameters are sections for 'Schedule' and 'Email'. At the bottom right are 'Submit' and 'Cancel' buttons.

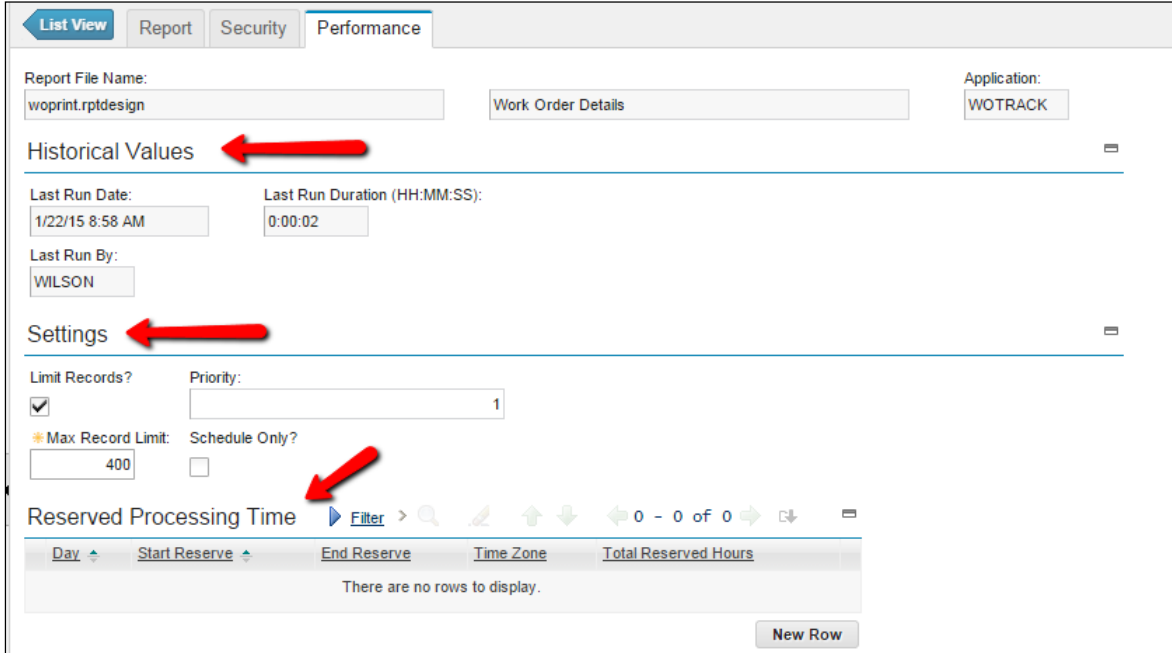
To change this, go to the Report Administration application. Set the value for 'Number of Request Page Columns' to 3. Save and regenerate the xml. Now when you view its request page - it maximizes the space available making the parameter values and the page easier to work with.



The screenshot shows the same 'Request Page' form but with a three-column layout. The 'Parameters' section is organized into three columns: Site, Problem Code, and Asset Type in the first row; Location, Start Date, and Asset Status in the second row; and Asset, End Date, and Asset Moved? in the third row. The 'Schedule' and 'Email' sections and 'Submit'/'Cancel' buttons remain at the bottom.

6.3 Performance Tab: Individual Report Performance

The Performance tab provides information on report performance and configurable settings. This is critical information for both very simple and complex reports.



The first section of the Performance Tab is Historical Values. This contains value information from the last time the report was executed. In the example below, it shows that the 'Work Order Details' report registered in the Work Order Tracking application was last executed by user Wilson on 1/22/15 at 8:58 am. The report executed in 2 seconds.

This information is held in the REPORTUSAGELOG table and can also be displayed by executing the Report Usage report.

Enabling the display of these values quickly gives administrators a data point on how long reports are taking to execute. This is valuable information in a development-type environment as administrators can identify long-executing reports, and enable features like 'Schedule Only' or 'Record Limits' to minimize their performance impact.

The second section of the Performance Tab is Settings. This contains the settings that directly impact performance. These settings are also displayed on the Report Tab, but are also enabled here for ease of use by the administrator. For example, if he sees a long executing report, he can quickly set its 'Limit Records?' Flag here on this tab.

The third and final section of the Performance Tab is Reserved Processing Times. This is functionality enabled for 'Schedule Only' reports. Details on this functionality are contained within this document.

6.4 Administration: Report Usage

In addition to monitoring performance, administrators are often asked to monitor report usage to assist in answering key questions often raised by Development and IT, including:

'Which reports take the longest to execute?'

'Who uses this report? If no one is using it, can it be archived?'

'Are users taking advantage of the scheduling functionality? Or are they causing performance constraints by always running reports immediately?'

Monitoring of report usage is enabled thru the REPORTUSAGELOG database table. Each time a user executes a report, an entry is made in this table. This data includes when the report request was submitted or scheduled, when it actually executed, how long it took to execute, and what server it was executed on. This information is vital to answering the questions on report execution and performance above.

The REPORTUSAGELOG table can get populated very quickly as it records data whenever any report is executed – whether it is an enterprise report or a Query Based Report. Therefore, a cron task is used to delete the entries from the REPORTUSAGELOG table in a specified period of time. The cron task enables you to configure both the frequency of the database cleanup and the length of time the usage records are retained to a schedule that is best suited for them.

This cron task is called, REPORTUSAGELOG, and has a default value of 30 days.

The screenshot displays the 'Cron Task Setup' interface. On the left is a navigation sidebar with options like 'Go To Applications', 'Available Queries', and 'Common Actions'. The main area shows the configuration for a cron task named 'Report Usage Log Cleanup Task'. A red arrow points to the task name. Below, the 'Cron Task Parameters' section is visible, with a red arrow pointing to the 'NOOFDAYS' parameter, which is set to the value '30'.

Cron Task Instance Name	Schedule	Run as User	Active?	Keep History?	Max Number of History Records
REPORTUSAG	30m*****	MAXADMIN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0

Parameter	Value	Description
NOOFDAYS	30	


6.4.1 Administration: Report Usage Report

The data in the REPORTUSAGLOG Table can be evaluated via a delivered report, called Report Usage (reportusage.rptdesign). It contains information on reports that are executed immediately, scheduled to execute at a future time, accessed via hyperlinks or are QBR Report Types.

One of the most important fields in the Report Usage Report is the Run Time Field. The data from this field comes from REPORTUSAGLOG.RUNTIME, which is stored in the database in milliseconds. The Run Time field is the amount of time the BIRT Report Engine takes to execute the Report, which is the REPORTUSAGLOG.ENDDATE – REPORTUSAGLOG.STARTDATE.

If a user executes an immediate report, the runtime may be less than the physical time the user actually experiences. This is because the report runtime does not include the time for tasks like opening up the report browser, and copying the report temporary files. However because of the report scheduling queuing process, this is the best consistent indicator of a report’s run time.

The Report Usage Report converts the runtime data from milliseconds to HH:MM:SS Format for ease of analysis.



Report Usage


Report Name: Overall Equipment Effectiveness By Asset
Application: ASSET
File Name: oeeqpl_by_asset.rptdesign

Start Date	End Date	Run Time (HH:MM:SS)	User	Applicatio	Schedulec	Email	File Type	Server	Success	Cancel?	Details
1/9/15 11:21:40 AM	1/9/15 11:21:45 AM	00:00:05	WILSON	ASSET	N			MXServer-ORA-51PLSV	Y	N	
1/9/15 11:20:08 AM	1/9/15 11:20:12 AM	00:00:04	WILSON	ASSET	N			MXServer-ORA-51PLSV	Y	N	

Report Name: Overall Equipment Effectiveness By Location
Application: ASSET
File Name: oeeqpl_by_location.rptdesign

Start Date	End Date	Run Time (HH:MM:SS)	User	Applicatio	Schedulec	Email	File Type	Server	Success	Cancel?	Details
1/9/15 01:47:37 PM	1/9/15 01:47:49 PM	00:00:12	WILSON	ASSET	N			MXServer-ORA-51PLSV	Y	N	
1/9/15 01:47:37 PM	1/9/15 01:47:44 PM	00:00:07	WILSON	ASSET	N			MXServer-ORA-51PLSV	Y	N	
1/9/15 01:47:37 PM	1/9/15 01:47:39 PM	00:00:02	WILSON	ASSET	N			MXServer-ORA-51PLSV	Y	N	

Query Based Reports (QBRs) are also captured in the Report Usage Table. Because these reports often may be executed only a single time, their corresponding run times will be displayed in a separate section, called 'Transient Reports' at the end of this Report.



Report Usage

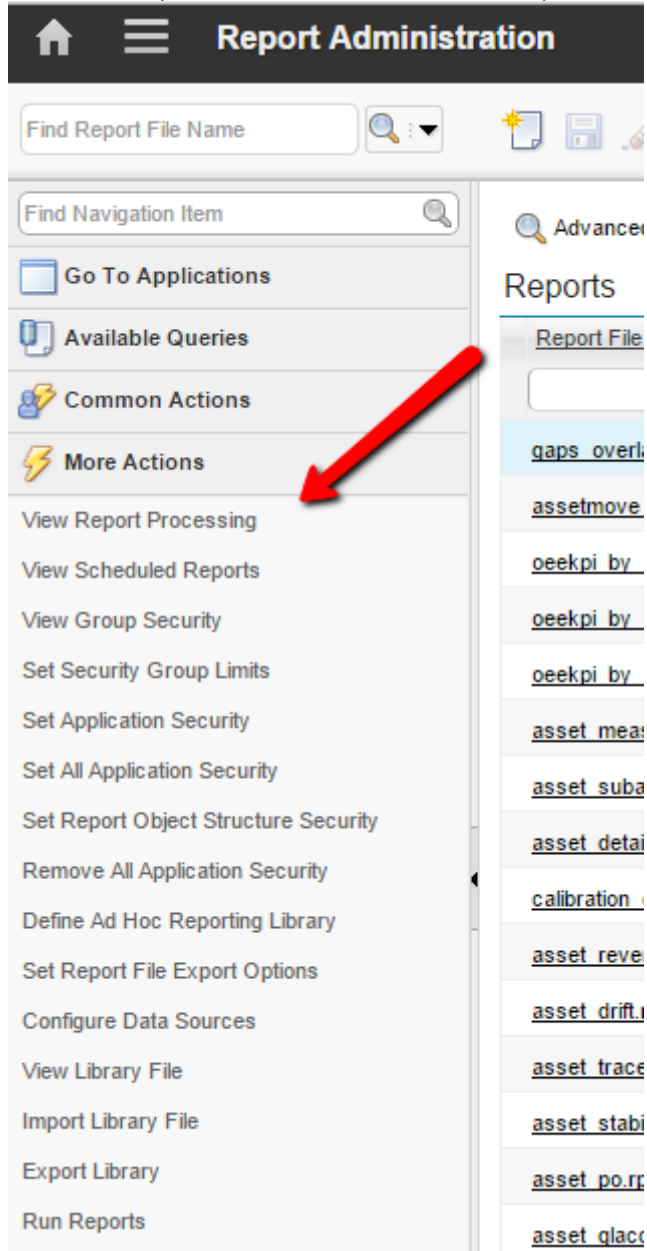
Transient Reports

Start Date	End Date	Run Time (HH:MM:SS)	User	Applicatio	File Name	Server	Success	Cancel?	Details
1/20/15 02:59:39 PM	1/20/15 02:59:49 PM	00:00:09	WILSON	WOTRACK	WOTRACK_WILSON_14217831	MXServer-ORA-51PLSV	Y	N	
1/20/15 02:55:31 PM	1/20/15 02:55:41 PM	00:00:10	WILSON	WOTRACK	WOTRACK_WILSON_14217831	MXServer-ORA-51PLSV	Y	N	
1/20/15 02:54:17 PM	1/20/15 02:54:23 PM	00:00:06	WILSON	WOTRACK	WOTRACK_WILSON_14217831	MXServer-ORA-51PLSV	Y	N	
1/20/15 02:50:55 PM	1/20/15 02:50:56 PM	00:00:01	WILSON	WOTRACK	WOTRACK_WILSON_14217831	MXServer-ORA-51PLSV	Y	N	
1/20/15 02:50:31 PM	1/20/15 02:50:35 PM	00:00:04	WILSON	WOTRACK	WOTRACK_WILSON_14217831	MXServer-ORA-51PLSV	Y	N	

7 Report Administration Actions

Multiple actions are available within the Report Administration application to enable the administrator to monitor, manage, define and view individual reports and features.

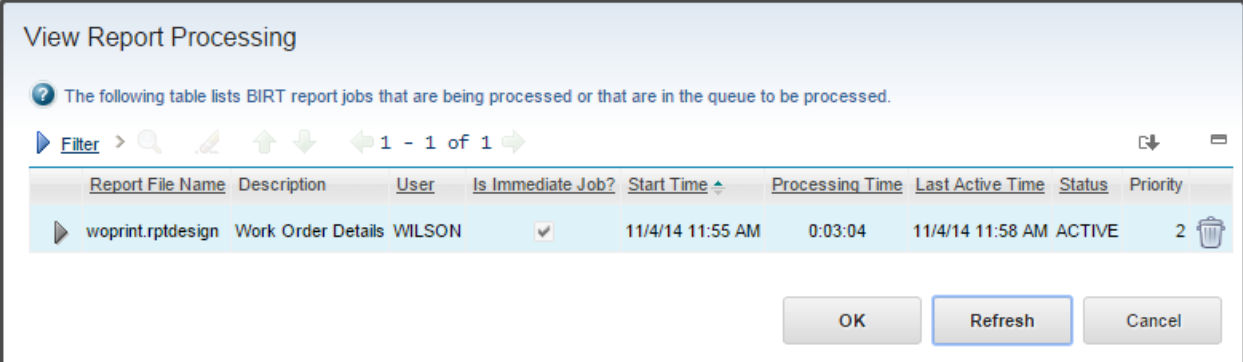
This next section highlights actions available on the list tab of this application. The list tab actions are system level actions - like security - or those that apply to multiple reports.



Action	Description	Additional Information
View Report Processing	Displays reports that are either being processed by the report engine, or are in the queue waiting to be processed	Page 69
View Scheduled Reports	Enables the administrator a view of all the scheduled reports currently in the system.	Page 71
View Group Security	Displays which applications the selected group has report access to	Page 71
Set Security Group Limits	New in Maximo 76, this dialog enables you to specify Report Server, Ad Hoc Preview and Scheduled Reports Limits	Page 72
Set Application Security	Grants report security access to all reports within a selected application	Page 73
Set All Application Security	Grants reports security access to all reports for all applications that a security group has access to	Page 74
Set Report Object Structure Security	Report Object Structures (ROS) are base of Ad Hoc Reporting. Each application can have multiple ROS, so this action defines which security groups have access to individual ROS	Reference Document "V76 QBR Ad Hoc Reporting"
Remove All Application Security	New in Maximo 76, this dialog quickly removes security group access to all reports	Page 74
Define Ad Hoc Reporting Library	New in Maximo 76, the Ad Hoc reporting library defines which sql expressions are available to power users in the 'Calculate' portion of ad hoc reporting	Reference Document "V76 QBR Ad Hoc Reporting"
Set Report File Export Options	New in Maximo 76, this dialog enables you to configure the report file export options available from the Report Viewer	Page 75
Set Report Email File Options	Introduced in Maximo 7.6.0.9, this dialog enables you to configure the report email file types from the report's request page.	Page 76
Configure Data Sources	Enables use of non-production database for report execution	Reference Document "Enabling secondary Database Configuration for BIRT reports"
View Library File	Displays all library files in Maximo database	Page 77
Import Library File	Imports individual library into Maximo database	Page 78
Export Library	Provides the ability to export the selected library file	Page 79

7.1 View Report Processing and Cancellation

You can view which reports are being executed via the 'View Report Processing' action. It shows all reports that are either being processed by the report engine, or are in the queue waiting to be processed. The records are displayed based on ascending order of Start Time. This display of records enables the administrator to focus on those report jobs that are taking the longest time to execute.



The screenshot shows a window titled "View Report Processing". Below the title is a help icon and a message: "The following table lists BIRT report jobs that are being processed or that are in the queue to be processed." Below this is a toolbar with a "Filter" button, search, edit, and refresh icons, and a pagination indicator "1 - 1 of 1". The main area contains a table with the following data:

Report File Name	Description	User	Is Immediate Job?	Start Time	Processing Time	Last Active Time	Status	Priority
woprint.rptdesign	Work Order Details	WILSON	<input checked="" type="checkbox"/>	11/4/14 11:55 AM	0:03:04	11/4/14 11:58 AM	ACTIVE	2

At the bottom of the window are three buttons: "OK", "Refresh", and "Cancel".

The unique values in this view include:

Start Time: The date/time the report began executing.

For Immediate Jobs

The Start time is the time that the job is accepted when report processing is available.

For Scheduled Jobs,

The Start Time is the time that it (1) enters the report queue and (2) is locked by a worker thread to begin processing. The time that it begins processing may not be the exact time it was scheduled for due to unavailability. For example, if a report was scheduled to execute at 6:00 AM, it may not actually execute until 6:01:46 – due to availability. So – the actual Start Time of a report will not always be the Report's scheduled time.

If a scheduled report job has (1) entered the report queue but has not been locked by a worker thread to begin processing, its Start Time will be null. In this case, its Status will be queued.

Processing Time: The amount of time the report has been processing, and can be recalculated at any time when the user clicks on the 'REFRESH' Button on the screen. It is calculated by:

Current Server Time – Start Time

Last Active Time: Highlights the last time processing was performed on the report job. This is critical information for determining if a report is stuck. If a report has not been active for some time, the administrator may want to cancel the report job.

Status: Status of the report Job. Status values can be ACTIVE or CANCEL. After a report is cancelled, this value changes to CANCEL.

Important notes on View Report Processing:

It is important to note that there are two main phases for reports: Run and Render.

For immediate reports:

The Run phase is where the user sees the 'view report processing' dialog in the report viewer. After the run phase has completed, the report is rendered and displays in the report viewer.

When the report contents are exported to pdf, xls etc, the render phase takes longer due to the additional processing time

Within the report administration view processing dialog, immediate reports only display if they are in the run phase. If an immediate report is rendering, it no longer shows in the view report processing window and cannot be cancelled

Additionally, the time displayed in the reportusagelog for immediate reports is for the run phase only

For scheduled reports

There is only one process which includes both the run and render phases. Therefore, scheduled reports display in the report processing window and can be cancelled.

The time displayed in reportusagelog for scheduled reports is both the run and render phases.

7.1.1 Cancelling Report Jobs

After viewing the report jobs that are processing, administrators can cancel user's report jobs by selecting the Garbage Can next to its individual report request.

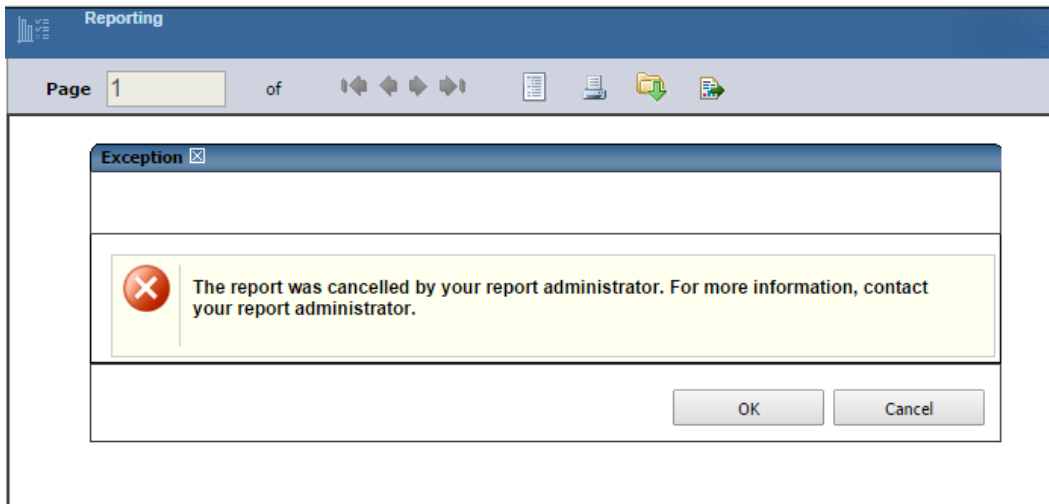
Unique Events triggered from Cancelling Scheduled Report Job

When a scheduled report job is cancelled by the administrator, the following occurs.

1. An email is sent to the user who scheduled the report. The 'To' Email field is the Email address of the user who scheduled the report.
2. The scheduled report job no longer appears in the 'View Report Processing' window. Note - there may be a delay from the time the report is cancelled until it is cancelled on the server..

Unique Events triggered from Cancelling Immediate Report Jobs

When an immediate report job is cancelled by the administrator, the end user will receive a notification in the Report Viewer that his report job has been cancelled.



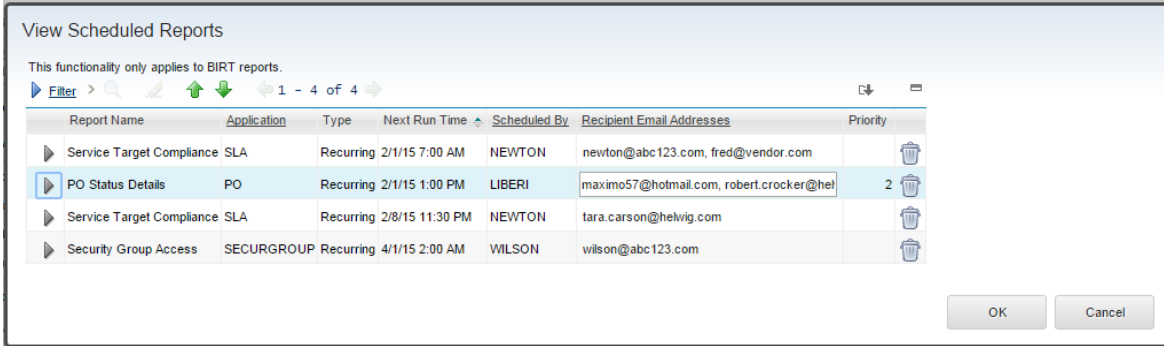
NOTES:

1. If a user closes the report browser while an immediate report is still running - the report will continue to execute in the background.
2. Report job cancellations are logged in the REPORTUSAGE Table.

7.2 View Scheduled Reports - Administrator

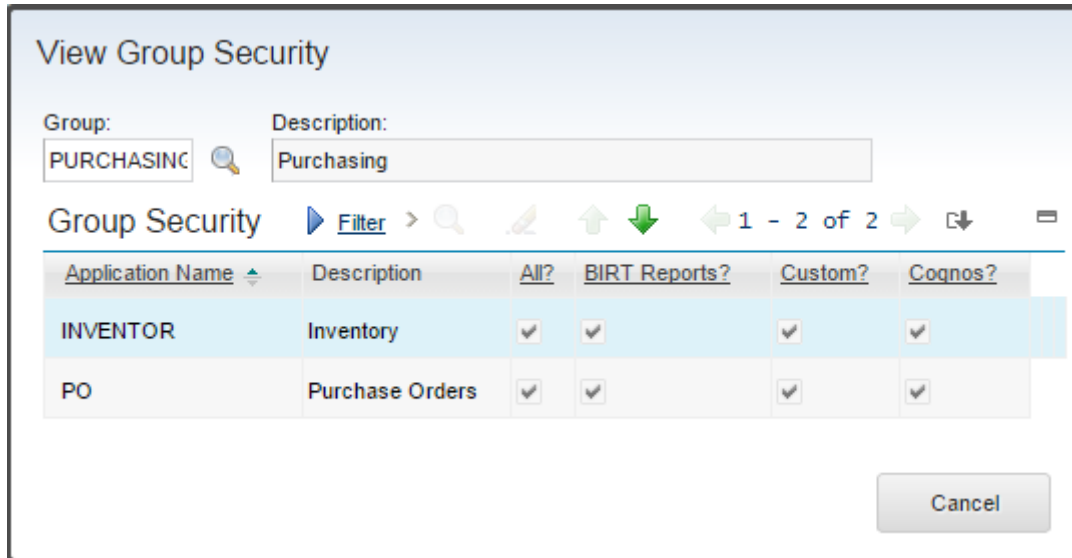
The Report administrator can view and manage all Scheduled Report jobs via the 'View Scheduled Reports' action. This view includes information on the type of Schedule (Recurring or Once) who scheduled it, and the report's priority.

This is useful for the administrator to view the report schedule load on the server, and potentially distribute the load more evenly if required. Additionally, he has the ability to delete obsolete scheduled report jobs by clicking on the garbage can icon by the individual scheduled report request.



7.3 View Group Security

This action provides the administrator with a view as to which selected security groups have application report level access. This view is especially important during the initial configuration of a system or security group.



7.4 Set Security Group Limits

Introduced in the Maximo 76 release, the Set Security Group Limits dialog provides the administrator a central location to configure three key values:

Ad Hoc Preview Limits - Preview limits prevent your business and power users with access to create reports - from creating 'previewing' ad hoc report content against large database records.

Scheduled Reports Limits - This value limits the number of report jobs your user can schedule. Setting this limit forces your users to manage their scheduled report content, and delete scheduled jobs they no longer require.

Report Server Records Limits - This limit evaluates all records in the report's hierarchy and cancels the report job if the limit is exceeded. This prevents massively large reports from executing and causing negative performance impacts. This value should be set very high, and you may only want to use it for a subset of your security groups.

To configure any of these limits, select the 'Set Security Group Limits' action. Input any value or values for the selected Security group.

Set Security Group Limits

Security Groups Filter > 1 - 1 of 1

Group	Description
<input type="text" value="purchasing"/>	<input type="text"/>
<input type="checkbox"/> PURCHASING	Purchasing

Report Creation

Ad Hoc Preview Records Limit:

Report Management

Scheduled Reports Limit:

Report Execution

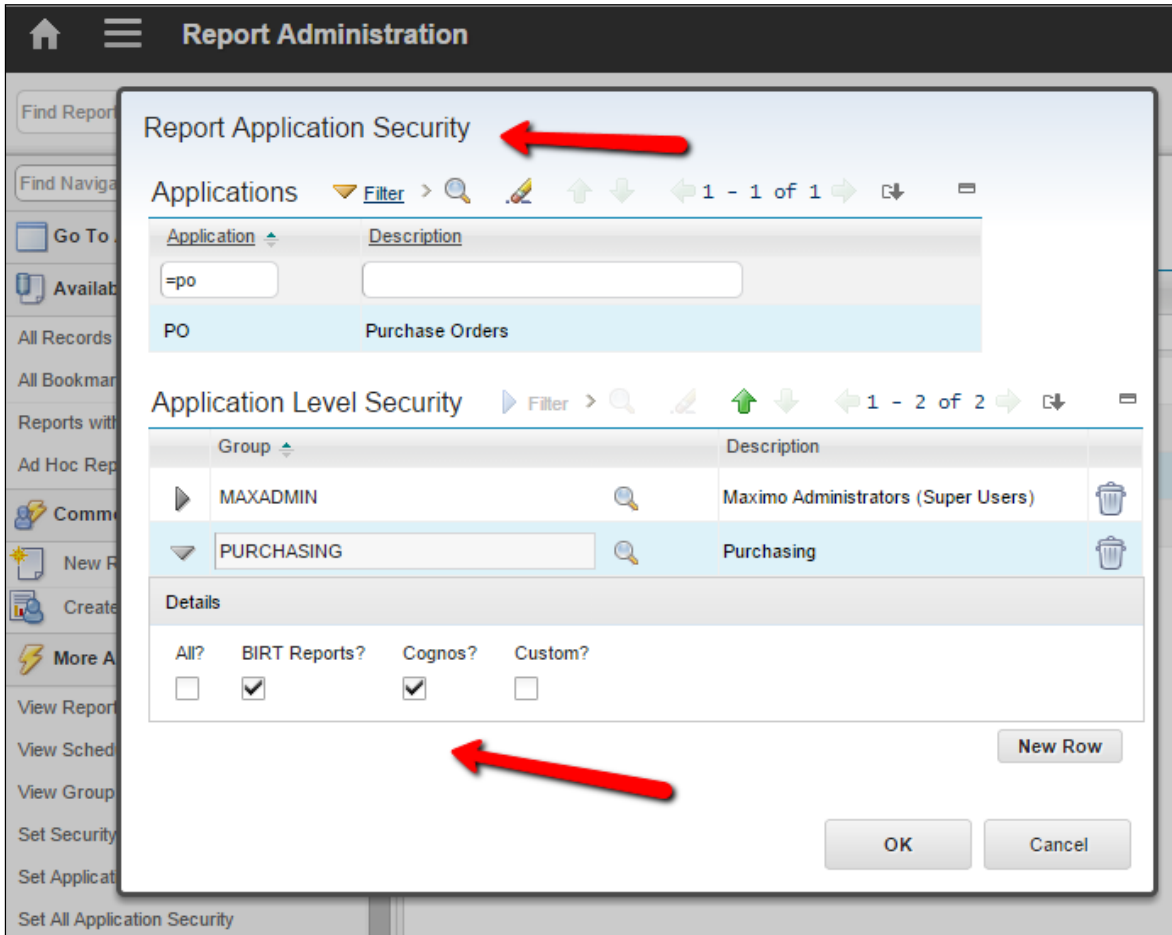
Report Server Records Limit:

OK Cancel

7.5 Setting Application Level Security

To grant access to all reports within an application, click Set Application Security from the Action Menu in Report Administration. This brings up a listing of all applications that have reports registered to them. Select the application, and then click New Row to grant a new Group Access. Clicking on the lookup displays a listing of all groups that have 'Run Report' Access to that application.

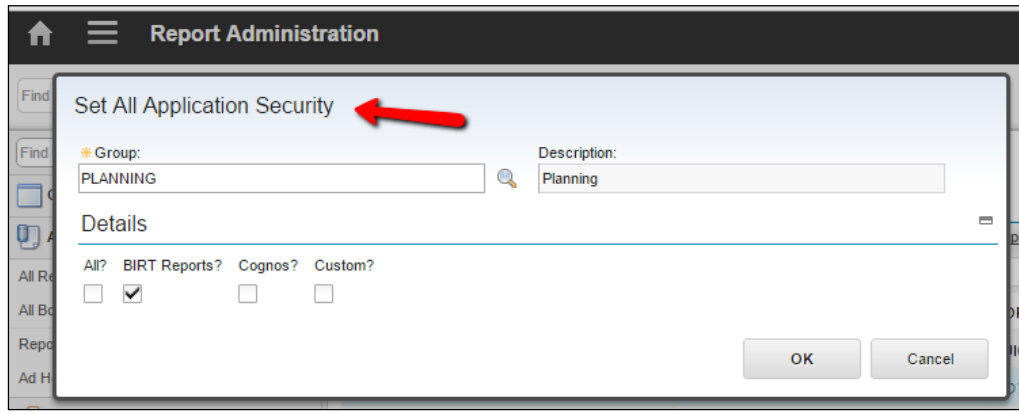
Additionally, select 'ALL' to grant access to all report types registered to that application – or select one or more of the individual report types. At least one type must be selected.



7.6 Setting All Application Level Security

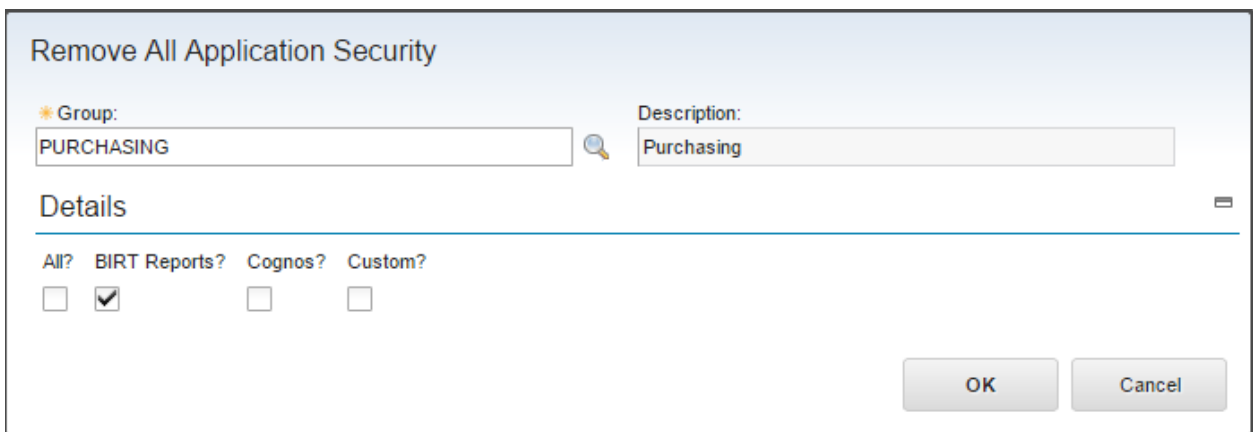
For your business or power users, you may want to quickly grant them access to all reports that the group has access to. To do this, click Set All Application Security from the Action Menu in Report Administration.

Select the security group or groups that you want to grant access to. Then, select 'ALL' to grant access to all report types registered to that application – or select one or more of the individual report types. A minimum of one option must be selected.



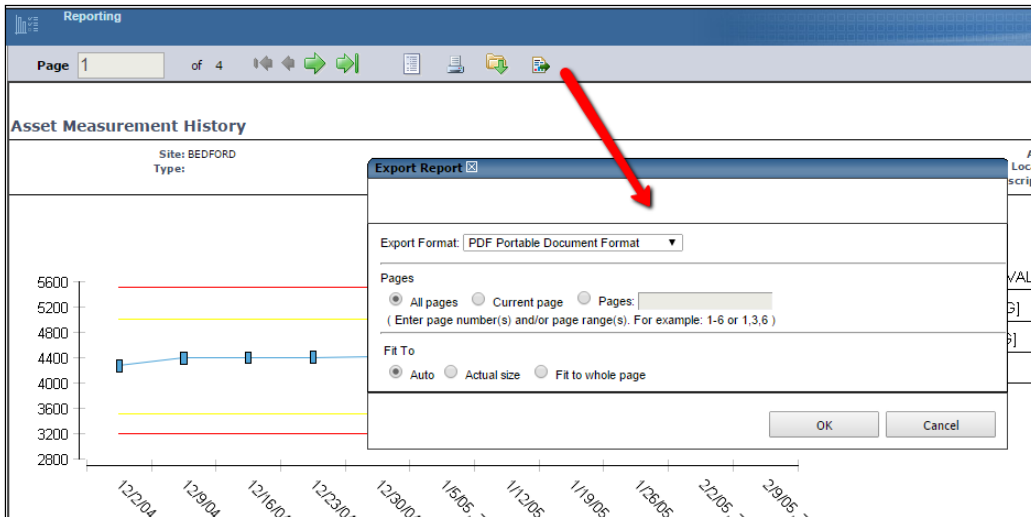
7.7 Remove all application security

Likewise, you may need to remove all application security access for a selected security group. Added in the Maximo 76 release, this feature enables you to quickly do this via one step. This action can be especially useful during the initial configuration of a system or security groups.



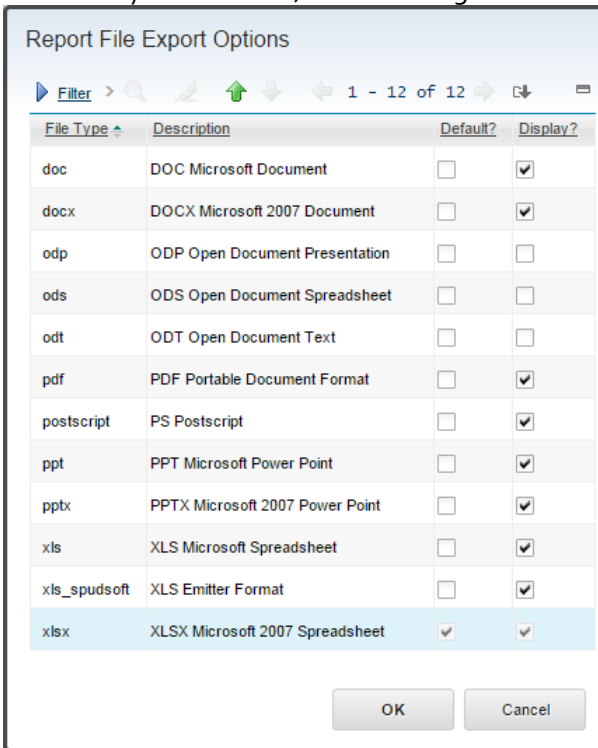
7.8 Set Report File Export Options

Starting in Maximo 76, you can define which report file export options are available in the Report Viewer, and which option is the default option



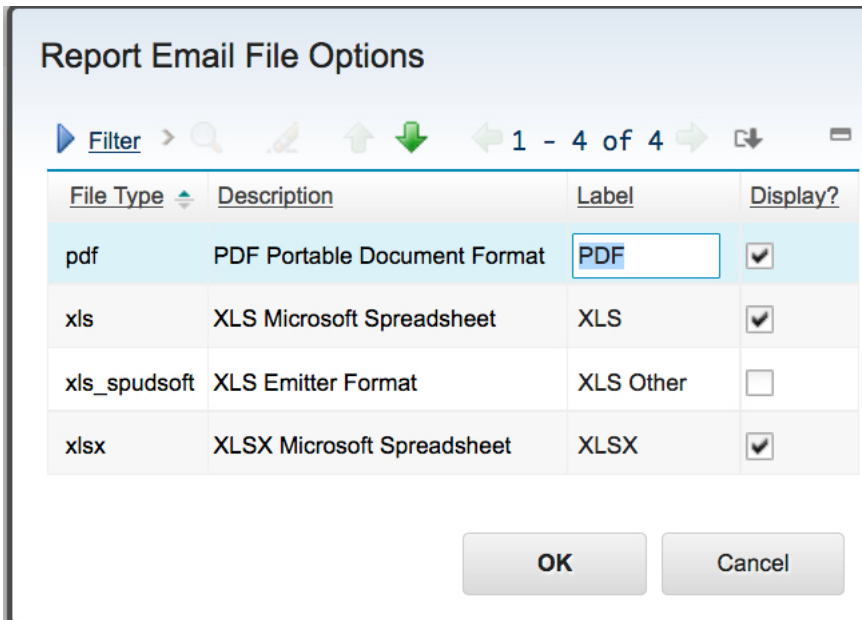
To configure this, access the 'Report File Export Options' action from Report Administration. In this dialog all the available report file export options are displayed. Select all the options that you want your users to have access to, including the default option.

After selecting the values, you must restart the server (including all servers where the report viewer may be accessed) for the changes to take effect.



7.9 Set Report Email File Options

Introduced in Maximo 7.6.0.9, you can configure which of 4 file formats are available for report emailing. The 4 file types are pdf, xls, xls_spudsoft and xlsx.

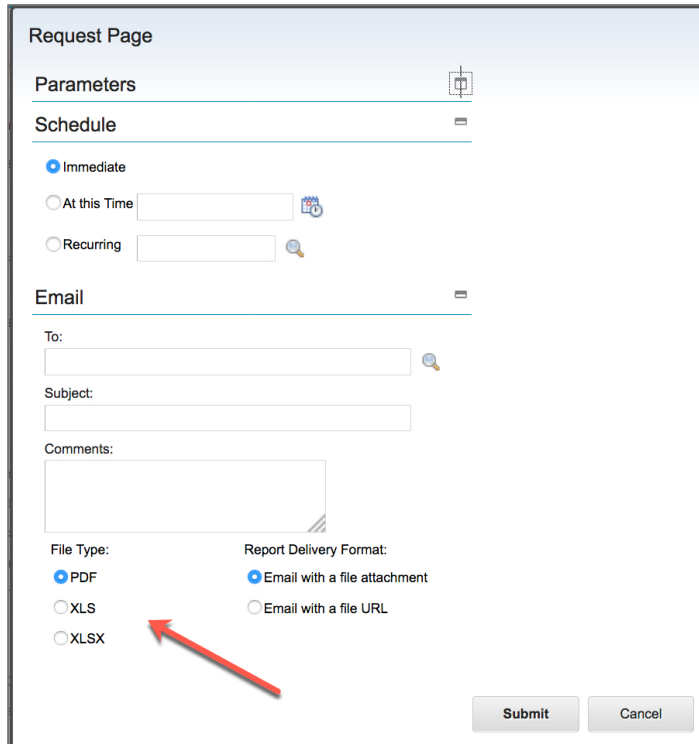


The dialog box titled "Report Email File Options" contains a table with the following data:

File Type	Description	Label	Display?
pdf	PDF Portable Document Format	PDF	<input checked="" type="checkbox"/>
xls	XLS Microsoft Spreadsheet	XLS	<input checked="" type="checkbox"/>
xls_spudsoft	XLS Emitter Format	XLS Other	<input type="checkbox"/>
xlsx	XLSX Microsoft Spreadsheet	XLSX	<input checked="" type="checkbox"/>

Buttons: OK, Cancel

After you select which of the 4 report file types are available to your users, be sure to Generate the Request pages. Your users will then see the applicable file types on the report request pages.



The "Request Page" configuration form includes the following sections:

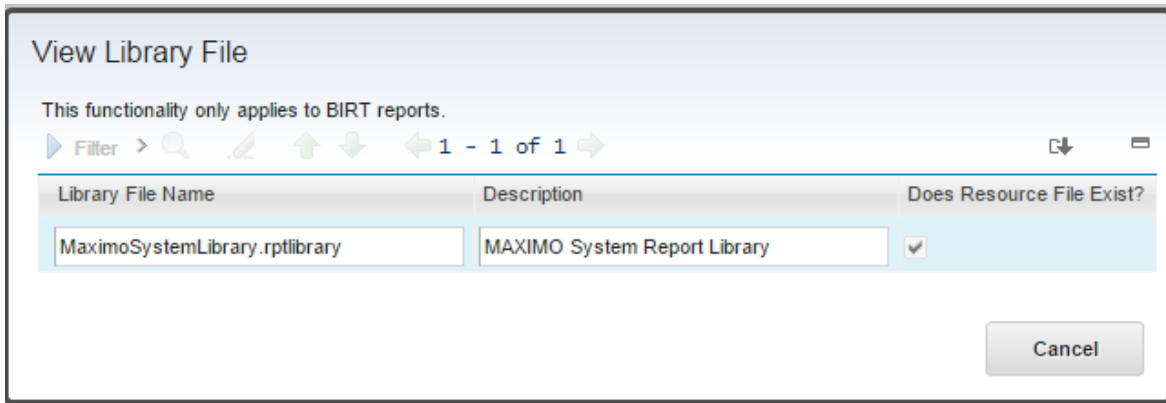
- Parameters**: A section with a refresh icon.
- Schedule**: Includes radio buttons for "Immediate" (selected), "At this Time" (with a time input field), and "Recurring" (with a frequency input field).
- Email**: Includes input fields for "To:", "Subject:", and "Comments:".
- File Type**: Radio buttons for "PDF" (selected), "XLS", and "XLSX". A red arrow points to the "PDF" option.
- Report Delivery Format**: Radio buttons for "Email with a file attachment" (selected) and "Email with a file URL".

Buttons: Submit, Cancel

7.10 View Library Files Action

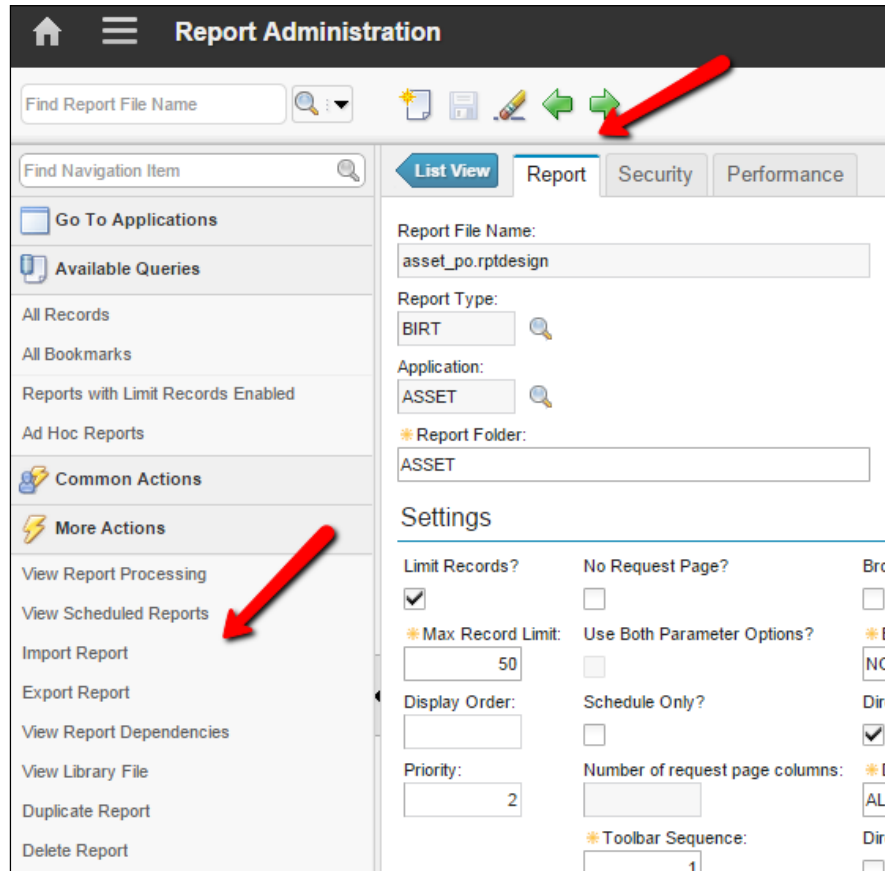
You can also view all the libraries that are in the report repository via the 'View Library File'. This view is useful when you may want to import a new report design file. You can view the action to insure that all the libraries for the new report have already been added.

****NOTE:** This will not show a listing of the report dependencies on this file. Instead, it gives a listing of the libraries currently in the REPORTDESIGN Table (where REPORTDESIGN.ISLIB = '1')



7.11 Report Specific Actions

Additionally, there are a number of report specific actions available specific for the maintenance of the individual reports.



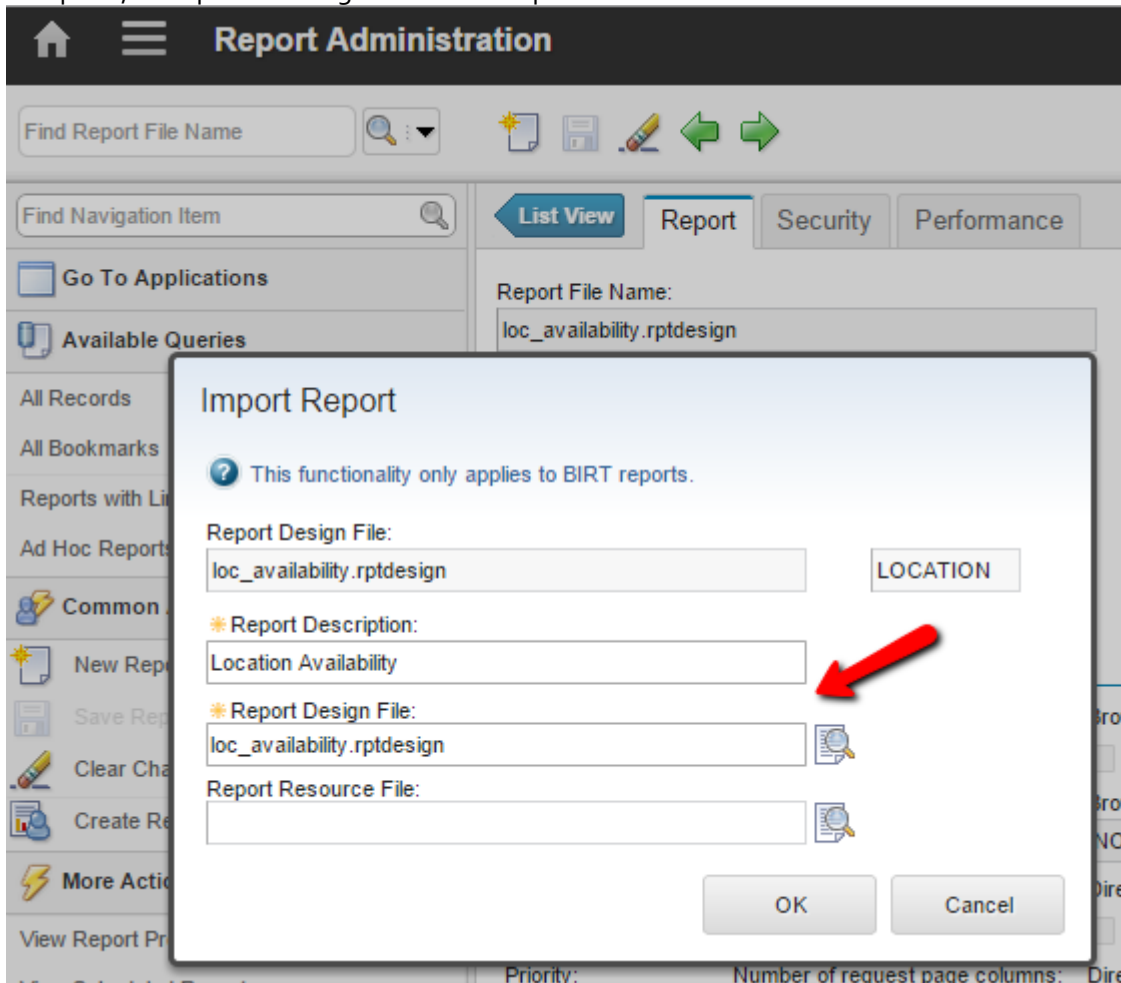
Action	Description	More Information
Import Report	Imports report into Maximo database	Page 79
Export Report	New in Maximo 76. Exports report from Maximo database	Page 80
View Report Dependencies	Displays report files that the report depends on	Page 81
Duplicate Report	Duplicates report record	Page 82
Delete Report	Deletes report record	Page 83

7.11.1 Import and Exporting Individual Reports

The Maximo database is the repository for the BIRT report design files and libraries. To move content in and out of the database, you can use the import and export features within the Report Administration application. These actions are best suited for either an individual or small set of reports. If you have large amounts of reports to import or export, it would be much quicker to utilize the Import or Export Utility Commands.

Importing Files

To import a new or updated file into the database, locate the individual design file in Report Administration, and from the action menu, select 'Import Report'. Browse to the location of the design file, and the report resource file if required. Follow the prompts in the windows, and once complete, the updated design file will be imported in the database.





Import Notes:

1. Importing overwrites the existing records in the database with the new design/and or dependant report files. Report records do not utilize revisions.
2. If you are importing a new design file, you must first create its record in Report Administration, and then import the file.
3. Resource files are image files (gif, jpg). These must be imported thru a zip file. These are not typically imported. You only need to import if you have modified or new images to import.
4. Libraries must be imported before report designs.
 - If the report design references a library that has not been imported, the report design will not import.
 - If the report references an existing library (MaximoSystemLibrary.rptlibrary) that is already in the database, you do not need to import another copy of that library.
5. Once the process is completed, the 'Imported By' and 'Last Import Date' fields will be updated with the latest values.
6. Do not copy/paste the location of any of the files to be imported. (Report Design File, Report Resource File or Library File.) You must use the browse button to properly import the correct file.
7. The import process validates that the design file being imported matches the current record. There is no validation on the report design's file during the import process. Errors in the report design file will import - it is up to the developer/administrator to insure that the design file is correct.

Exporting Files

You may need to export a report file for backup or for modification. To export a file, navigate to its location in Report Administration. Select the 'Export Report' action, and a zip file of the contents will be exported to your default download directory.

The content of the zip file contains the design (.rptdesign) file, along with the properties file as shown below.

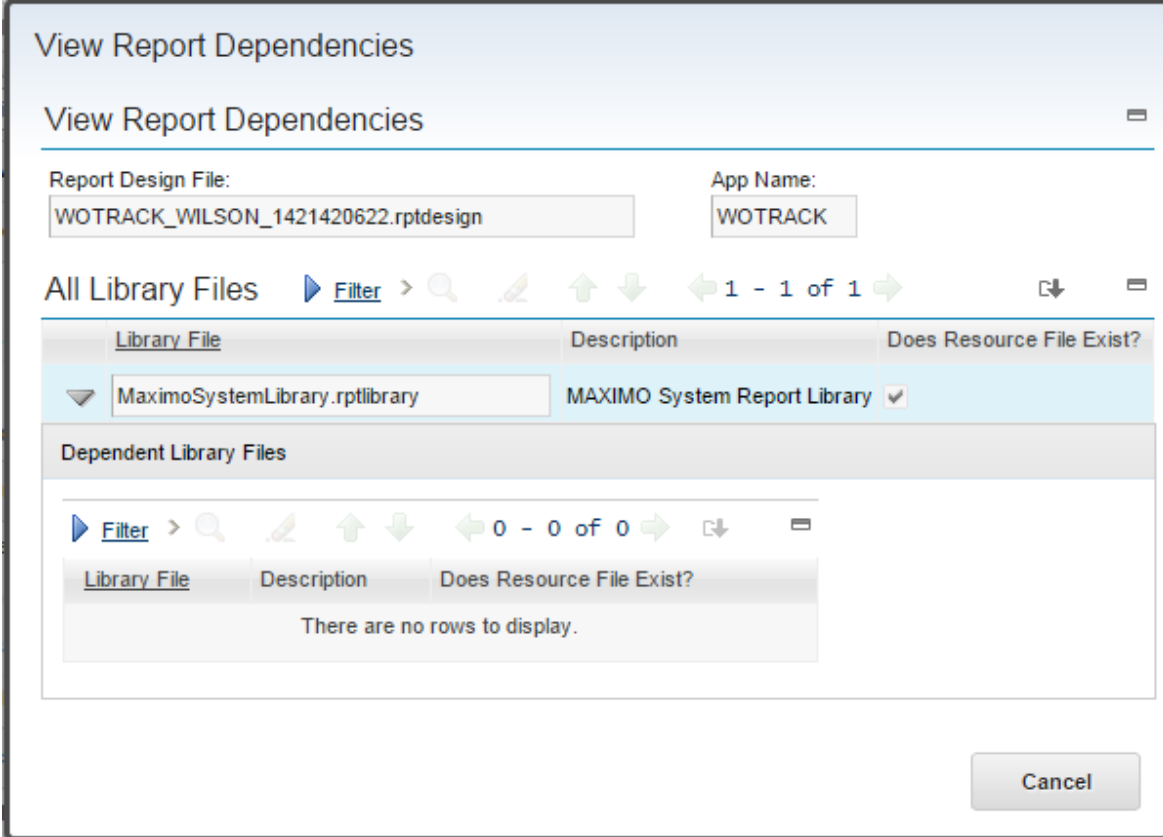
 WOTRACK_WILSON_1421420622.rptdesign	RPTDESIGN File
 WOTRACK_WILSON_14214206221421420864582.properties	PROPERTIES File

Similar processes for importing and exporting library files exist in Report Administration

7.11.2 View Report Dependencies Action

You can view all the files that an individual report is dependent on by using the action 'View Report Dependencies'. These files could either be library files or other design files.

The example below shows the report dependencies for an Ad Hoc report.



The results for this view are derived from the REPORTDEPEND table.

In the bottom portion of this view, there is a 'Dependant Library Files' section. This will show any children of the selected Library Files. For the Maximo 76 reports, there are no values in this section. The Maximo System Library does not have any child libraries.

7.11.3 Duplicating Reports

You may want to duplicate a report so it can be accessed from a cloned application. Or you may want to duplicate an ad hoc report, so the duplicated report can be exported to the Report Development tool for additional modification.

The items below are key characteristics to consider when duplicating a report

- A. If you are duplicating a report so it can be accessed from another application, make sure the main table name of the two applications is the same. This is required so the where clause can pass the correct information to the application of the duplicated report.

For example, if you duplicated a work order report and registered it to the Invoice application, the duplicated report would not execute from the Invoice application. This occurs because the main table used in the work order report is WORKORDER, whereas the main table passed from the Invoice application is Invoice.

- B. When you duplicate a BIRT Report,
 - The report file name will display exactly like the record it is copied from
 - The application name and report folder will be blank.
- C. You can then make any adjustments to the report entries, but you must specify an application name (along with defaulted report folder) before saving.
- D. If you do not change the report file name and use the same application as the duplicated record, a message will display on saving that this is not a valid combination. (The combination of report file name and application make the record unique.)
- E. Once the user has a unique combination, you are able to save the record, and the duplicated report will display on the screen.
- F. When duplicating a report, the individual report security authorizations are not copied.

When duplicating reports, a copy of the duplicated report's design file is made in the REPORTDESIGN table. If you want to use a different report design file, make sure to Import the correct design either via the Action menu in Report Administration, or via the Import Command Utility.

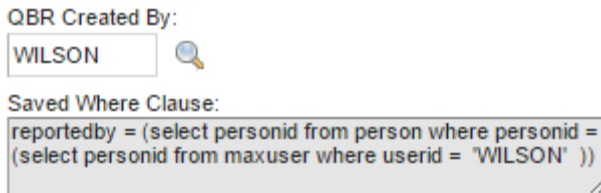
7.11.4 Deleting Reports

Administrators may want to delete reports when they are no longer used or needed. Depending on the type of report being deleted – either Enterprise or Ad Hoc – the removal process will vary slightly.

Deleting Enterprise Reports

An administrator may want to delete an Enterprise Report because it is no longer executed by users. Enterprise reports differ from Ad Hoc Reports in that they are developed in the report development tool by developers, and then imported into the Maximo database via the command utilities or report administration applications.

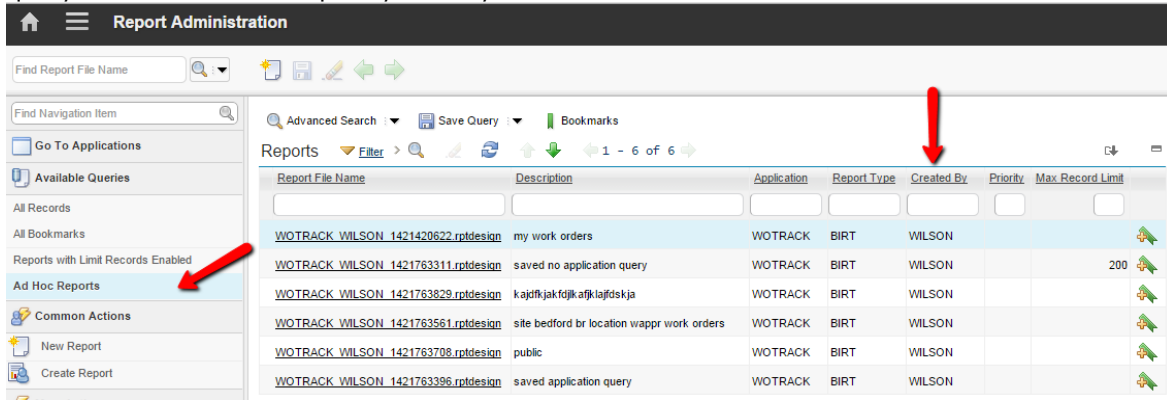
Enterprise reports do not display the field 'QBR Created By' or 'Saved Where Clause' on the report tab.



To delete an Enterprise Report, locate the specific record and select 'Delete Report' from the action menu. After the report is deleted, to prevent the report from being re-imported again on Server Restart or during a future patch release, its entry must be removed from the reports.xml file. The reports.xml file is located in <Maximo>\reports\birt<name of Report Folder>

Deleting Ad Hoc Reports

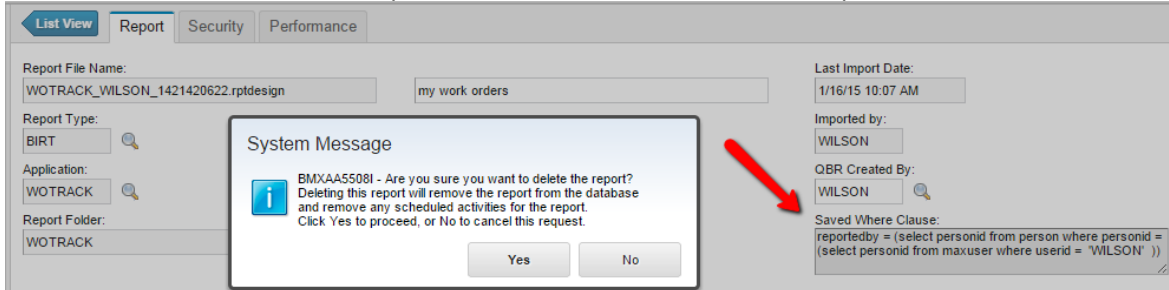
From within the Report Administration application, you can quickly identify ad hoc reports as their 'Created By' field is populated. You could sort on this field on the list tab or use a default query as shown below to quickly identify them.



You can form your own application query to identify ad hoc reports using the simple sql statement of: userid is not null

You may want to delete an Ad Hoc (QBR) report is no longer used by the users who created them, or when a user leaves his job position or the company.

The screen shot below is an example of an Ad Hoc Report. The message displays when the administrator selects 'Delete Report' from the Action Menu for this report.



BMXAA5508I - Are you sure you want to delete the report? Deleting this report will remove the report from the database and remove any scheduled activities for the report. Click Yes to proceed, or No to cancel this request.

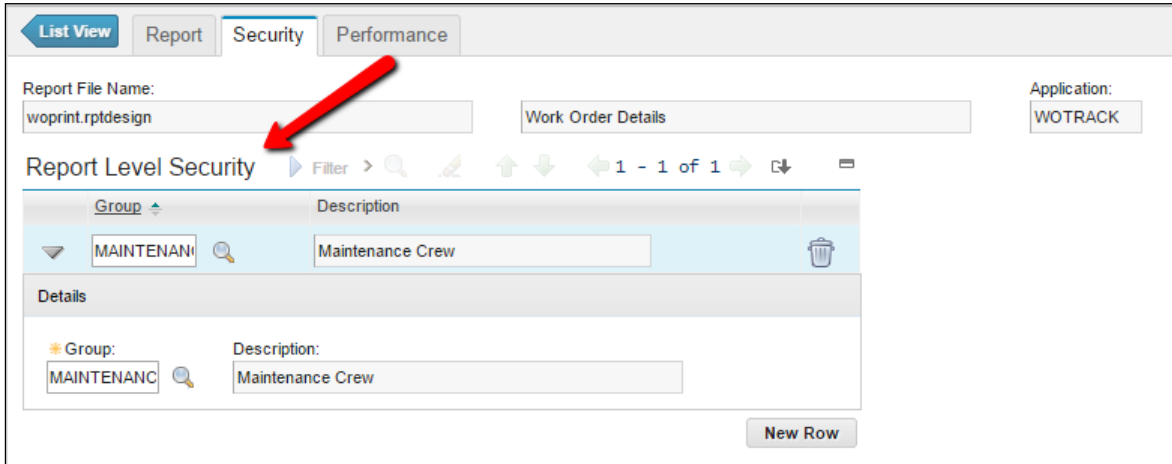
If you select No, the message will disappear and you will remain on the Report Tab.

If you select Yes, the report entries will be deleted from the Maximo database

Additionally, if you select Yes, any scheduled job requests for this report will be deleted.

7.11.5 Setting Individual Report Security

After a report is imported or registered, the administrator can click on the Security Tab to grant access to the individual report to security groups. The standard functionality of clicking 'New Row' adds a new entry. Clicking on the lookup displays a listing of All Security Groups who have 'Run Report' Access for the application the report is registered to.



8 Miscellaneous Features

8.1 Report List Portlet

You can configure Start Centers for your individual security groups by creating individual templates (tabs) for users to quickly view and access applications and data. One of the primary purposes of the templates is to show data via KPI Displays, which provide immediate, visual status of particular business metrics. Another purpose is to enable quick access to applications, result sets or reports.

The report list portlet enables a listing of reports on the Start Center. With this functionality, you can configure a listing of your most frequently used reports to streamline access.

This functionality can be described by using the example of an SLA Administrator who wants to configure his Start Center for his SLA Related Activities, including a listing of his favorite SLA reports for quick and easy access.

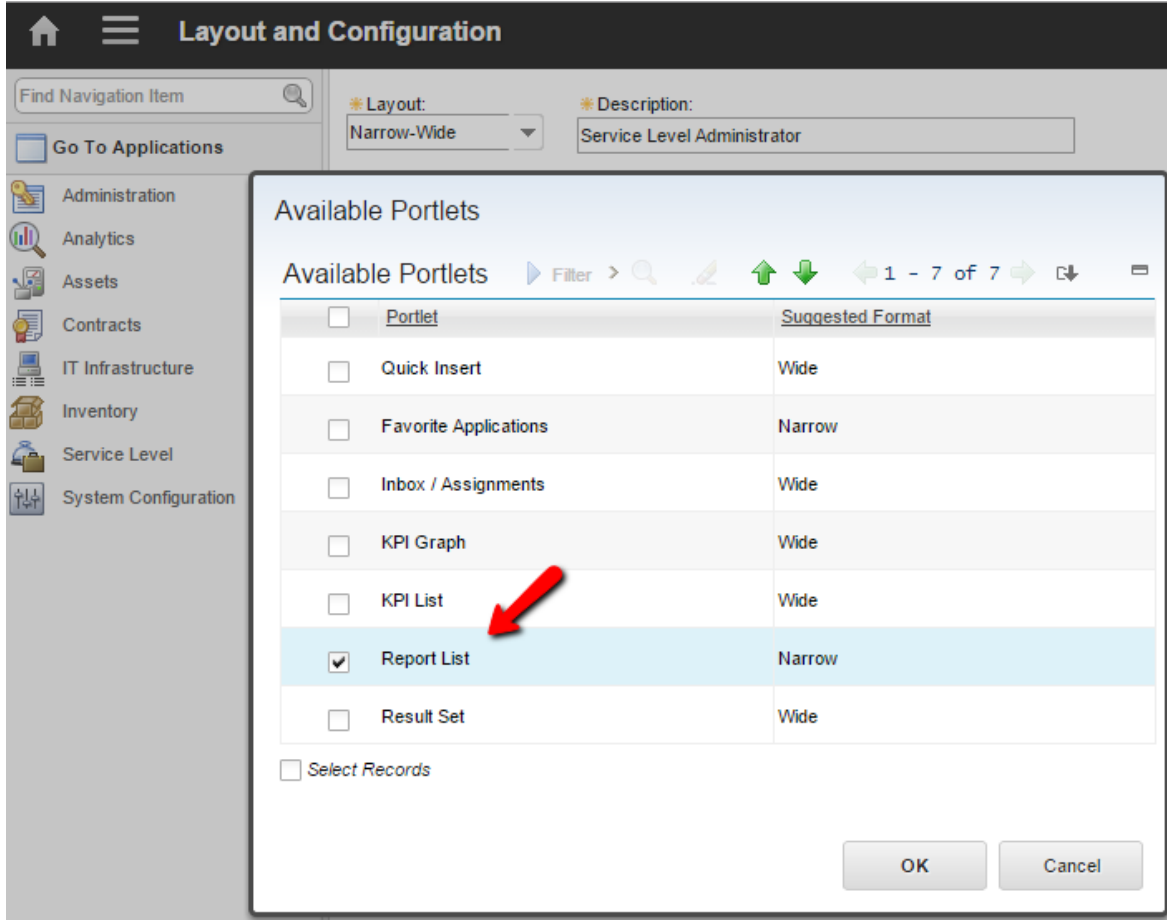
To configure the Report List Portlet, security rights first need to be granted to each Security Group who will use this functionality. (In this case, it is the SLAADMIN group). To do this, follow the steps below:

1. Access the Security Group Application.
2. Select the Security Group. On the Applications tab, enter 'report list' in the description field.
3. When the results return, select Report List Setup Application. This is the Report List Portlet.
4. Grant access to 'Read/Modify access to Report List Portlet' and save.

The screenshot shows the 'Security Groups' application interface. At the top, there is a navigation bar with a home icon, a menu icon, and the text 'Security Groups'. A notification banner at the top right says 'BMXAA4205I - Record has been saved.' Below the navigation bar is a search bar labeled 'Find Group' and a set of navigation tabs: 'List View', 'Group', 'Sites', 'Applications', 'Storerooms', 'Labor', 'GL Components', 'Limits and Tolerances', and 'Data'. The 'Applications' tab is selected. On the left side, there is a sidebar with various actions like 'Go To Applications', 'Available Queries', 'All Records', 'All Bookmarks', 'Common Actions', 'New Group', 'Save Group', 'Clear Changes', 'Create Report', 'More Actions', 'Override Password Duration', and 'Security Controls'. The main content area shows the configuration for the 'SLA Administrator' group. Under the 'Applications' section, there is a table with columns 'Description', 'Main Object/Table', and 'Original Application (if copied)'. A red arrow points to the 'report list' entry in the 'Description' column. Below this, the 'Report List Setup' application is selected, showing 'Report List Portlet' as the main object/table. Under the 'Options for Report List Setup' section, there is a table with columns 'Description', 'Grant Access?', and 'Condition'. A red arrow points to the 'Read/Modify access to Report List Portlet' entry, which has a checked checkbox in the 'Grant Access?' column.

After granting the security group access, sign out of Maximo to refresh the settings. The next time you sign in, the Security Group should have access to the Report List Portlet.

To enable the report list portlet, click on the Change Content/Layout Section of the template. Select the 'Report List' from the Available Portlet window.



This enables the Report List Portlet to display on the Start Center.

Then, click on the Edit icon, and add the frequently accessed reports for display on your portlet. Note: This list of report that displays are only those that you have security rights to execute.

Report List Setup

Find Navigation Item

Portlet: Report List

Display Name: Report List

Go To Applications

My Recent Applica

Administration

Analytics

Assets

Contracts

IT Infrastructure

Service Level

System Configurat

Select Reports

Available Reports Filter 1 - 10 of 45

<input type="checkbox"/> Description	Report File Name	Application
<input type="checkbox"/> Asset Availability	asset_availability.rptdesign	Assets
<input type="checkbox"/> Asset Details	asset_detail.rptdesign	Assets
<input type="checkbox"/> Asset Drift	asset_drift.rptdesign	Assets
<input type="checkbox"/> Asset Measurement History	asset_measurehist.rptdesign	Assets

After saving the selections, the selected reports are displayed on his Start Center for quick access.

Report List

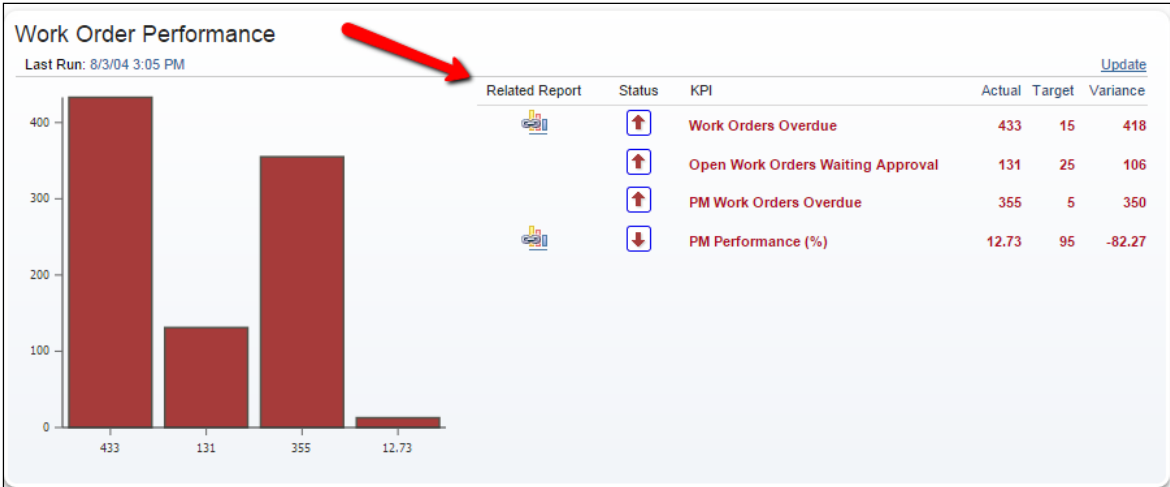
- Service Desk Contact, Response and Resolution
- Service Level Exception
- Service Target Compliance

1 - 3 of 3

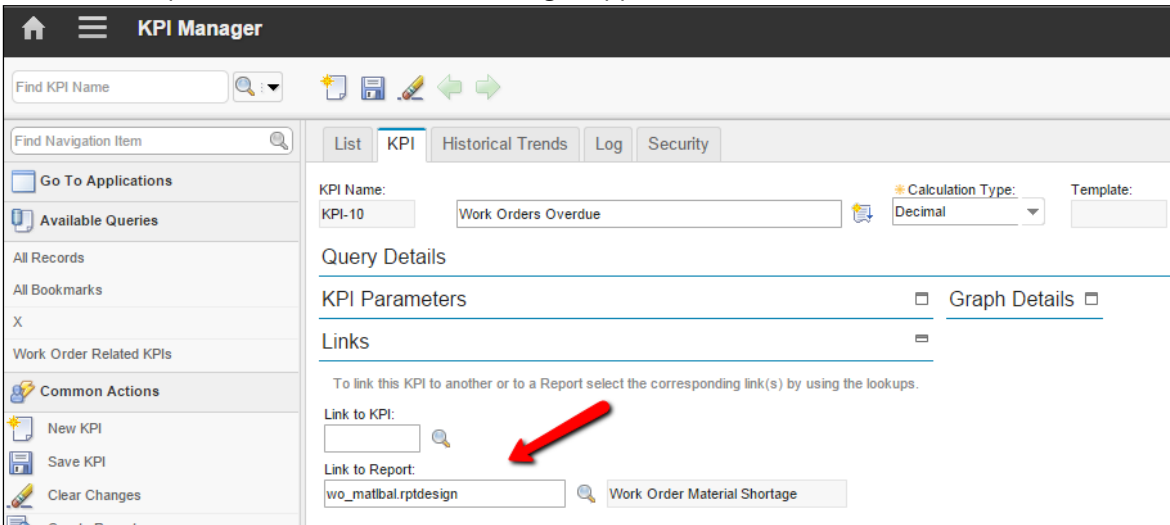
8.2 Multiple KPI Report Linkage

KPIs can be linked to a related report via the KPI Graph or List Portlet on a user's Start Center. This enables you to drill down into additional details on the KPI, which can be critical for KPI's in red or yellow status.

This functionality is shown below. Notice that some KPIs have Related Reports and KPIs, and others do not. If a report hyperlink is configured, the report's name displays via a mouse over.



The related report is defined in the KPI Manager application.



8.3 Property Files and Cron Tasks

A top level listing of the System Properties used by Reporting is shown below

Property Setting	Description	Default Value
mx.e.report.birt.maxconcurrentrun Used for Performance Maintenance	Manages the number of BIRT immediate and Scheduled Reports that can be run concurrently	5
mx.e.report.birt.queueidletimeseconds Used for Performance Maintenance	Frequency that the Queue Manager polls the Queue for new report jobs	60
mx.e.report.birt.disable.queuemanager Used for Multi-Server Configurations, Performance Maintenance	Defines whether the queue manager is enabled. If the queue manager is disabled (value set to 1) scheduled reports will not be executed on the server.	0
mx.e.report.birt.viewerurl Used for BIRT Report Only Server (BROS) Configuration	BIRT Viewer URL for cluster or separate report server, ex: http://myhost:myport/maximo/report	
mx.e.sessiontoken.timeoutseconds Used for BROS Configuration	Token based session timeout in seconds. Used in the authentication of the user to the Report Server.	180 seconds or 3 minutes
mx.e.Reportsinapage	Defines the number of reports to display in the Report Window	5
mx.e.report.adhoc.editWithGroupAccess For QBR (Ad Hoc) Reporting	Enables editing of Ad Hoc report (QBR) when any security group has access to the report. -If QBR is created with Public security Access -If the setting is No, the creator of the QBR cannot edit it -If the setting is Yes, the creator of the QBR can edit it	0 (No)
mx.e.report.adhoc.previewLimit For QBR (Ad Hoc) Reporting	No longer used in Maximo 7.6. This property setting has been replaced by the Security Group Setting, Ad Hoc Preview Record Limits	
mx.e.report.DisableHyperlinkExport	New in 76. Disable hyperlinks from exported report contents in various file types including xls and pdf.	0 (No)
mx.e.report.birt.cancelreportinterval	New in 76. Frequency, in seconds, that the server checks database to see if reports canceled. This should be used for clustered environments only	20 seconds
Other Related Property Settings		
mx.e.email.content.type	Sent the content type for all communications Impacts display of email text received from the Comment section of the report request page. If you want text to be delivered with carriage returns, set value to text/plain. Reference Blog: http://ibm.co/JOKHEr	Text/html

Key Report Property Settings – Direct Print, Direct Print with Attachments

Property Setting	Description	Default Value
mxe.activex	Determines if ActiveX Controls can be used for Direct Print (DP) and Direct Print with Attachments (DPA)	Yes
mxe.directprint.inherited.attachment	Defines if inherited docs should be enabled for printing with Direct Print with Attachments Functionality	No
mxe.doclink.defaultPrintDocWithReport	Default value of printing attached document with report if printable type	Yes
mxe.report.AttachDoc.validateURL	Property to determine if the URL of the attached document should be validated before printing from the Maximo Server.	Yes
mxe.directprint.javaconsole.debug	Enable output to Java Console for troubleshooting of Direct Print, Direct Print with Attachments	No
mxe.directprint.printtime.wait	Maximum duration in seconds the current print process waits before moving to the next process Notes: Due to architecture changes in Maximo 76, this setting is recommended to be set much lower than previous releases	10
mxe.report.birt.PrintSeparateRecord	Enables printing of each record separately when no attachments are in the record set.	No
Other Related Property Settings		
mxe.doclink.securedAttachment	Identifies if the attachment is secured or not If you set this value to true, and you want to print attachments which are Microsoft Office attachments, additional configuration may be required depending on the release you are using. See the Direct Print guide referenced below for additional details.	False

Additional details on these property settings for Direct Print and Direct Print with Attachments can be found in the Report Application Toolbar Access Direct Print Guide. The latest versions of this guide are listed here: <http://ibm.co/14r8jK7>

JVM System Properties

Property Setting	Description
mxe.report.birt.tempfolder	<p>Specifies location of temporary folder on the Server for BIRT Runtime and temporary files created during the report execution process.</p> <p>*Note: Do not include any spaces in the directory path for this temporary folder.</p> <p>The setup of this property varies for Websphere or Weblogic.</p>
io.tmpdir	<p>The IO Temp directory is used for intermittent, individual BIRT report file generation. This temp directory is deleted when the report completes execution.</p> <p>For details on specifying it in Websphere, see below.</p>

To set the report temp directory (mxe.report.birt.tempfolder) in Websphere:

1. Login to Websphere Integrated Service Console
2. Go to servers -> Application servers
3. From the right panel click on the server where you have deployed maximo.
4. Under "Server Infrastructure" click on "Process Definition".
5. Under "Additional Properties" click on "Java Virtual Machine"
6. Add the following to the generic JVM Argument
Dmxe.report.birt.tempfolder=c:\tempReport\BIRT-TEMP

Where you specify the directory of your choice without any spaces

7. Save and restart the server.

To set the IO temp directory, follow the same procedure above, and add the following to Generic JVM Argument

-Djava.io.tmpdir= c:\tempReport\BIRT-TEMP-IO

Where you specify the directory of your choice without any spaces

8.4 Cron Tasks

Cron Task	Description
REPORTSCHEDULE	Used for Scheduling of BIRT Reports. *NOTE: Its Access Level is set to READONLY. Administrators should monitor report schedules via the Report Administration application.
REPORTLOCKRELEASE	Monitors the locks on report jobs
REPORTUSAGECLEANUP	Determines frequency that entries in REPORTUSAGELOG Table are deleted
REPORTOUTPUTCLEANUP	Determines frequency that scheduled report outputs in the Report Viewer application are deleted
REPORTADHOCLOCINST	<p>Determines the frequency that newly created report request pages are enabled in multi-language environments.</p> <p>*Note: This is for multi-language environments only. If you using a single language environment, this cron task should remain inactive.</p> <p>This process in how this cron task is used includes: When a report is saved in a multi-language environment, the SYNCREPORTLABELS maxvar is set to true. The REPORTADHOCLOC cron task will check the flag and when true, will launch the process to synchronize the labels. After completion, it will set the maxvar flag back to false.</p>
PurgeReportRelatedRecords	<p>New in Maximo 76. This cron task should be active if you utilize either Attached Documents or BROS server. It removes old records from REPORTBROS and REPORTATTACHDOCS objects.</p> <p>Default value is 5 Days.</p>

8.5 Important Considerations

1. The following features are not currently supported with the Maximo BIRT integration

A. Ability to run a report immediately and email the report at the same time.

- If a user wants to email a BIRT Report, it must be scheduled.
- If a user wants to run a report and retain a copy, the report can be downloaded to .csv or .pdf and a local copy can then be made.

B. Report Browser Back Button

The Report Browser Back Button is not supported. This is best described by the use case below.

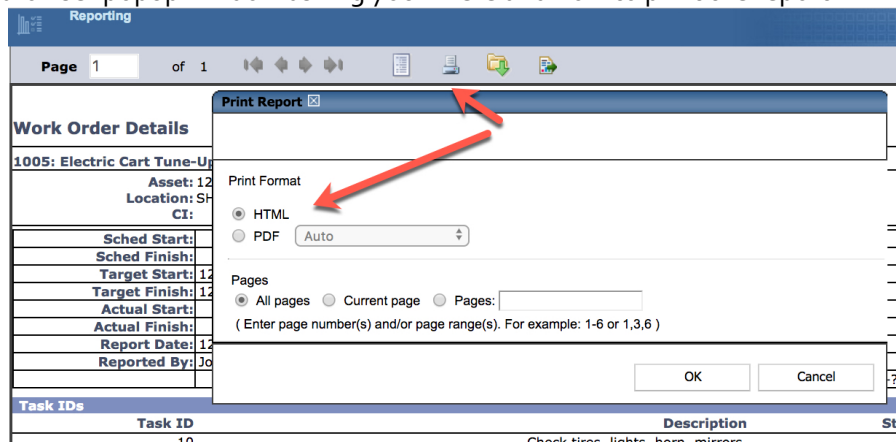
A user executes three reports in the same browser session. When the third report is displayed, he cannot use the arrow buttons to go back to the first or second report.

- This is because the executed reports are stored as temporary files on the application server, and the file paths are not retained. The user may be able to go back – but the functionality is NOT supported – as reports will not consistently display.

2. Report Printing

When printing a BIRT report from within the report browser session, the print behavior you will see will vary depending on the browser type and browser version used.

For example, if you print the report to HTML as shown below – you may or may not see an additional browser popup window asking you where and how to print the report.



REFERENCE MATERIALS

A variety of materials are available for you for additional information on BIRT, Cognos and the External reporting tools. This section lists new reference materials in Maximo 76, along with other reference materials noted throughout this guide.

1. Maximo 76 Video Recordings

Access this url for a variety of BIRT, QBR and Cognos demos including an introduction to the content, navigation and customization of the workspaces for your environment.

<http://ibm.co/1BZ4nwl>

2. Maximo 76 Report Reference materials

This page contains the latest listing of report reference materials, including description, revision levels and hyperlinks to the documentation. Included within these pages are the reference guides listed below

<http://ibm.co/1ybttl2>

3. Maximo 76 BIRT Performance Guide

<http://www-01.ibm.com/support/docview.wss?uid=swg21693526>



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