

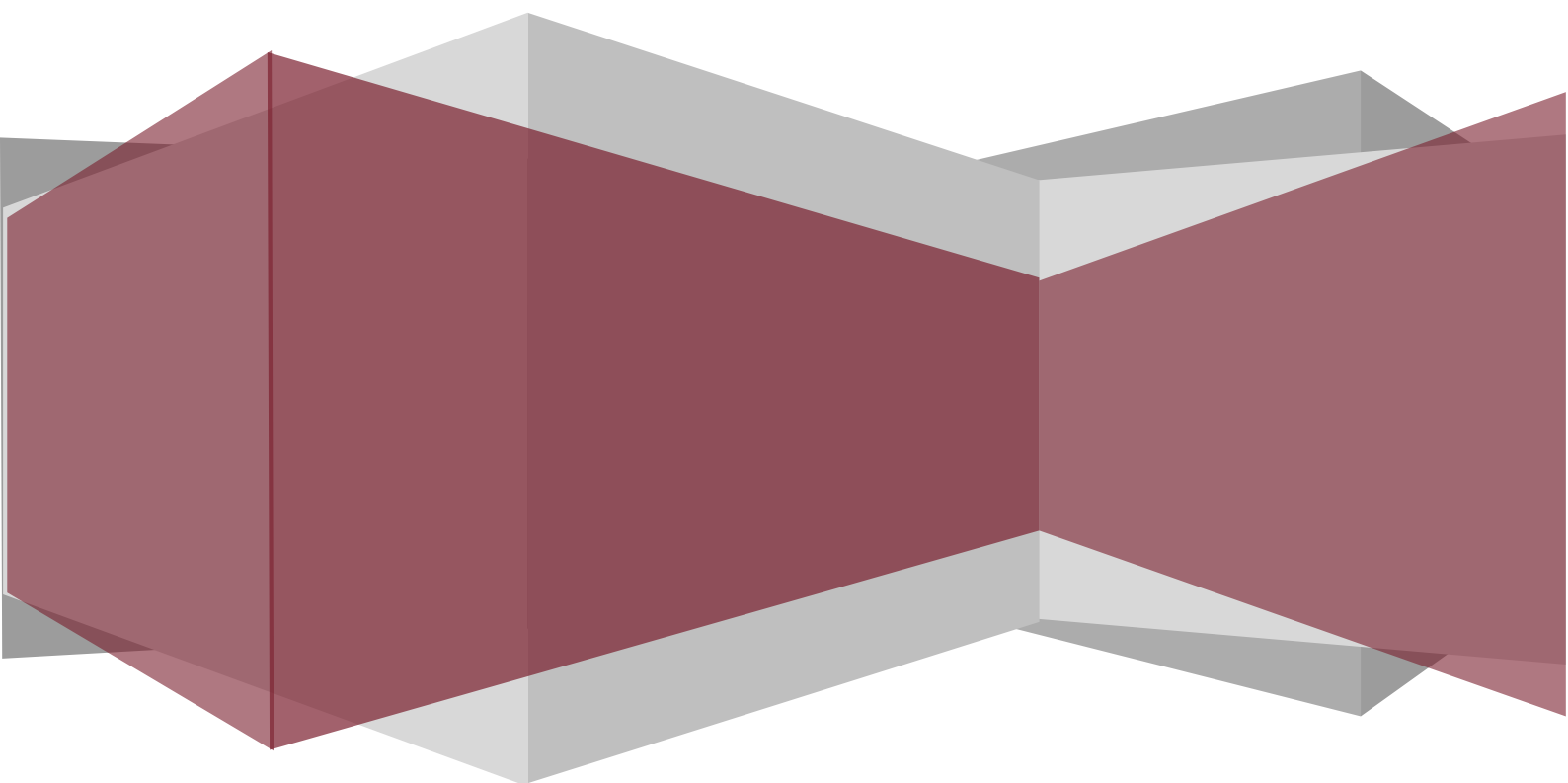


IBM Maximo Asset Management 7.6

Kim Woodbury, Senior Product Manager at IBM

Pam Denny, BI Architect at IBM

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Abstract

The latest iteration of IBM's flagship Enterprise Asset Management solution, the IBM Maximo 7.6 offers enriched user experience and powerful new capabilities including advanced analytics, embedded mobility and a host of changes specifically based on end-user feedback and client recommendations.

This white paper demonstrates these cutting-edge technological advancements to the popular asset management solution and how customers can benefit from the much-awaited platform update. The new technology solution enables single point of control over all types of assets and is geared toward enhancing user productivity and reducing cost.

This white paper is based on the webcast titled "IBM Maximo asset Management 7.6", presented by Kim Woodbury, Senior Product Manager at IBM, and Pam Denny, BI Architect at IBM.

Improve Visibility, Increase Resource Utilization and Reduce costs

The IBM Maximo asset Management 7.6 is developed with a focus on enhancing user experience with the new look and feel to complement new capabilities introduced to improve enterprise asset management. The platform update brings advanced analytical and visualization capabilities through reporting, dashboards and KPIs to empower key decision makers with insightful information, displayed with superior visual clarity and expanded business intelligence functionalities.

The functional enhancements include improved Crew management and service addresses supporting map APIs to include visualized asset locations and locations directly on the map user interface. On the technology side, customers can take advantage of multitenant data model within the same database, for which IBM continues to support the configuration matrix of platforms, browsers and databases, while ensuring strict security access policy enforcement tailored to meet customer requirements. Built-in mobility capabilities include browser-based access, maximizing productivity of the mobile workforce. The platform also boasts user experience improvements such as intuitive navigation for users and increased serviceability.

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Improving the User Experience

- Introduction of a new look and feel, more intuitive navigation, providing more information to the user, and offering more configuration of the start center will allow for reduction of training costs and increased user satisfaction.

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User Interface styling - apps

Provide the ability to have multiple detail icons on a single field to allow single quick access to frequently used actions.

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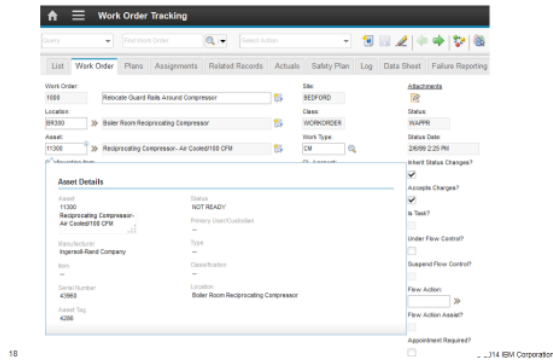
User Experience Updates

The latest platform update introduces new fonts, colors and styling of applications to complement application navigation. The idea of a hover dialog box is introduced in Maximo 7.6 to give users more information about any field of application simply by placing the cursor over it, and this information can be added to appropriate fields by administrators beforehand. Improvements in configurability include the ability to record and access separate information sets such that the original information remains intact and available for future reference.

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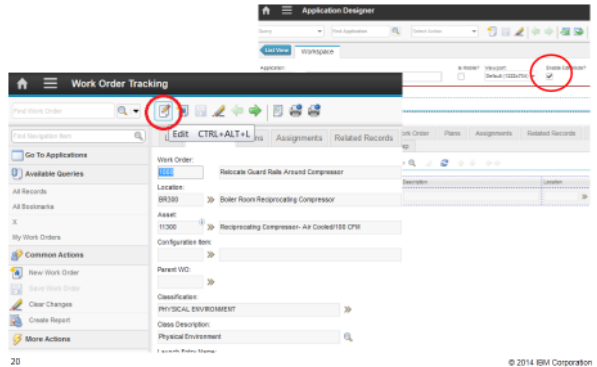
Hover Dialogs provide detailed information more quickly



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Enabling Exclusive Edit Mode to prevent record conflicts



Focus on Analytics

The IBM Maximo 7.6 platform update brings C-suite executives into the game with multiple new Business Intelligence (BI) and Analytics tools. The updated report architecture provides entitlement to the powerful Cognos BI Server enterprise products. Business intelligence packs, provide detailed performance metrics across key areas of your business including Work Order, Asset, Asset Failure and Inventory Management. New KPI applications and performance improvements enable you to access data quicker and in a larger variety of formats. Users can create simple to advanced calculations, along with attribute summaries, with the enhanced ad-hoc reporting capabilities.

Functional Enhancements

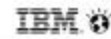
The Crew management capabilities are offered as part of core with this release providing users with additional options pertaining to scheduling. The addition of service addresses for asset or locations and ultimately work orders allow for mapping capabilities. The public open map API and Application Designer for the map control allows users to see objects on popular map services by Google and Microsoft, among others. The new update also brings the long requested communication log tab into quick reporting and purchasing applications to keep a record of all communications and other activities against the record.

Investments in technology

IBM introduced the IBM install manager technology for the Maximo 7.6 platform to enable a consistent user experience across installations of most of the IBM offerings. Configuration scenarios such as login credential changing, middleweight reconfiguration and language deployment have been automated to enable better installation and progressive disclosure.

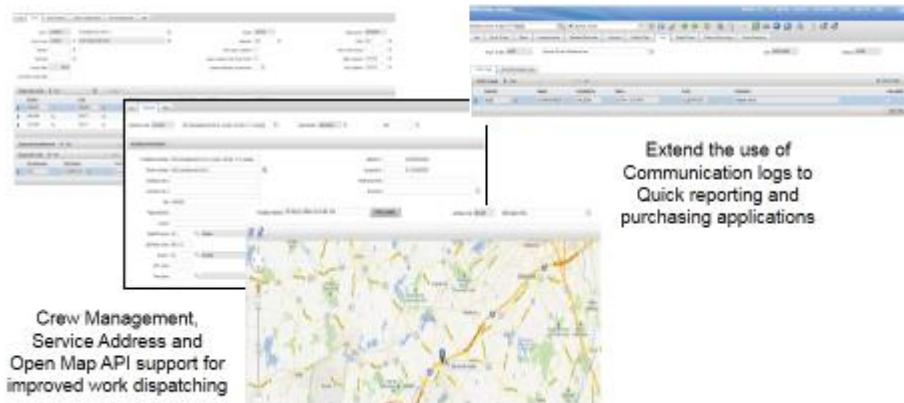
Support for multi-tenants in a single environment is offered as a one-time choice for customers, who must make the decision to go multitenant at the time of installation and deployment. Users can also leverage scripting enhancements to customize objects, attributes and the integration framework including object structures, end points and exits.

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Invest in asset management capabilities

- Improved flexibility of work assignment through crews and visibility on maps.



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Everyplace Embedded

The IBM Maximo Everyplace solution previously sold separately will be embedded into the Maximo 7.6 asset management platform with integrated Maximo application designer module. The system enables configuration of IBM Maximo applications for optimal viewing on mobile devices of various form factors. And since these applications are accessed via browsers, users can access these cloud-based services without having to install them on each device.

The IBM Maximo 7.6 with Maximo Everyplace solution also allows users to record the necessary information as it happens on-site, instead of accessing the solution on a desktop computer. Maximo Everyplace is a key enabler of today's mobile workforce that must travel across the workplace to collect valuable pieces of information, and Maximo Everyplace allows users to maintain accurate records of this information without having to remember or note it elsewhere until they reach their office desks to access the asset management solution.

Analytic Features: Cognos

IBM has extended Business Intelligence capabilities of the Maximo 7.6 Asset Management solution by entitling you to the Cognos BI Product suite.

These new tools Cognos BI product suite enable you to analyze Maximo data at a deeper level. Additional access points quickly launch power and business users to Cognos so they can visualize and action on the vast amounts of data Maximo produces. Capitalizing on Maximo's Integration framework, Site/Set/Org data restrictions are automatically applied to the Cognos metadata to ensure secure data access across a diverse user-base. Performance features such as simplified

installation process and consolidated namespaces reduce deployment time .

Cognos Product Entitlement – By Release

MORE in Maximo 7.6!

	Maximo 7.5 TCR 2.1, Cognos 8.4	Maximo 7.6 Cognos 10.2.1
Cognos Connection	BI Server	
Cognos Administration		
Report Studio		
Query Studio		
Framework Manager		
SDK		
Cognos Workspace Advanced	BI Server	
Cognos Workspace		
Cognos Insight		
Cognos Life Cycle Manager		
Cognos Dynamic Query Analyzer		

NEW! Maximo 7.6 Cognos Features

1. Direct log in to Cognos Portal (Business/Power User)



2. Application of site restrictions on meta data to insure user consistently sees what they only have access to



Analytics Features: BI Packs

With the new Cognos entitlement, BI Packs provide visual insights into your vast amounts of Maximo data. Focusing on the key areas of Work Order, Asset, Asset Failure and Inventory, advanced graphic display enable immediate understanding of performance status and trends. Configuring the dynamic, palate capability of the BI packs provides users with critical business information eliminating the need to export Maximo data to analyze it in other BI dashboard solutions.

The eye catching dynamic visual representation of Maximo data can be modified by adding or removing content based on specific analyses criteria.. The platform also allows users to share the results and saved workspaces via email, add comments and link to detailed report results as required.

Maximo BI Packs: *Content*

Four Areas of Focus



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Two types of Workspaces in Maximo 7.6

Application Workspaces



Trending Workspaces



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Analytics Features: BIRT Reporting

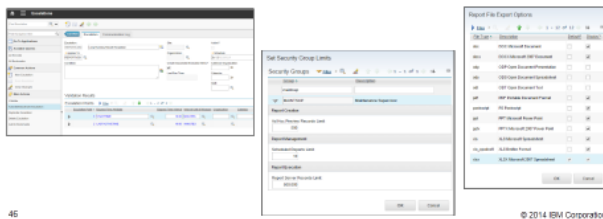
The IBM Business Intelligence and Reporting Tools (BIRT) functionality is the embedded reporting tool in the Maximo Asset Management solution and undergoes significant updates for the 7.6 version.

The updated BIRT functionality with improved display options allows users to configure file export options in report viewer. Performance improvements include Report Server Limits preventing massive reports from executing enhanced report cancellation processes and automated notifications for long running reports through Report Escalations. The platform also provides additional logging information to debug report failures and export individual reports via the user interface.

Other additional BIRT features in the Maximo 7.6 include enhanced architecture for report-only server (BROS) and Direct Print with Attachments process to reduce wait time.

NEW! BIRT Features

1. **Enhanced architecture** for report only server (BROS)
2. **Automated notification of Long Running** reports thru Escalations
3. **Additional Email Export** File Options -> file size, graphs
4. Configurable **file format export options** from Report Viewer
5. Addition of report server **limits to prevent** massive report execution
6. Updates to **Direct Print with Attachments** process to **reduce wait time**



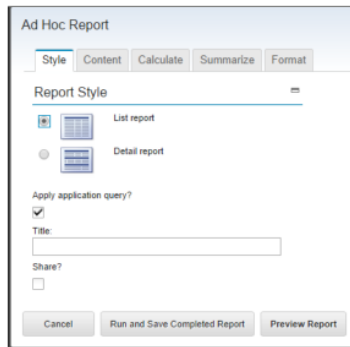
Analytic Features: Ad Hoc Reporting

Ad Hoc reporting capabilities enable users to generate reports on the fly. The end goal of this functionality in the Maximo 7.6 version is to reduce the time spent customizing reports and enhance user productivity. IBM has also introduced performance enablers to control the number of records executed against Ad Hoc Reports as part of the BIRT functional enhancements.

The Ad-Hoc reporting update significantly reduces Asset Management cost, development timelines and upgrades with advanced calculation, expression libraries to control SQL features, user expression validation, summary features and automated generation of template-based customized reports. The revamped dialog box enables consistent user experience with feature icons designed for visual clarity. Users can also define preview limits to minimize record sets during report development as well as ensuring data integrity with role-based restricted access.

New Maximo 7.6 Ad Hoc Dialog

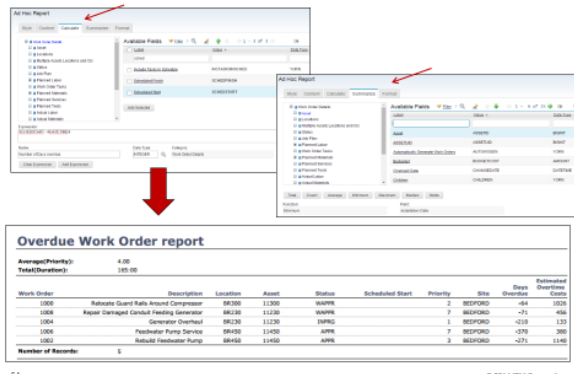
Streamlined and Enhanced!



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NEW! User Defined Calculations and Summaries for Ad-Hoc reports



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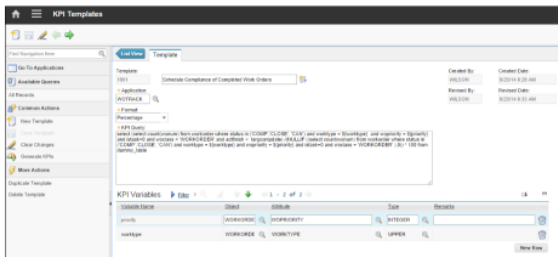
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Analytic Features: KPIs

New additions to the Key Performance Indicators (KPI) areas of Maximo focus on improving visibility and collaboration on the Maximo 7.6 Asset Management solution. The new KPI Template application streamlines how your administrators develop and distribute KPIs. The new KPI Viewer application provides end users with details on how KPIs are calculated and historical values of configured KPIs. Users will also receive reporting information via KPI Scheduling features when required. Updates to the KPI Manager application include individual scheduling features, CronTasks to manage archived KPI records, restricted KPI access based on user privileges, and quick access to the applications via the New Analytics Module.

NEW! Maximo 7.6 KPI Template Application

Streamlines creation/maintenance of KPIs for *Administrators*

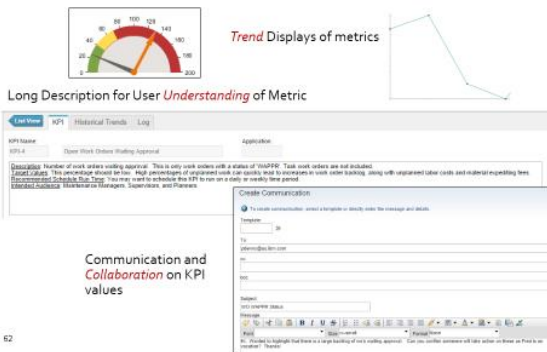


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NEW! KPI Viewer Application

Display of metrics outside of the Start Center for *Improved Performance*



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Benefits with Technology-Driven Feature Improvements include:

- Reduced administrative time spent training for Maximo installations.
- Manage multiple tenants in a single environment for lower cost of ownership for hosting partners.
- Increased user productivity and customer satisfaction with improvements to CronTask performance and system interaction.
- New integration options
- Expanded scripting options and support for Enterprise Services, Object Structures and Publish Channels.
- Automated configuration of common scenarios.
- OSLC/JSON Integration support.
- Includes administrative and serviceability item support such as log separator and Maximo Monitoring.
- Resilient server connections in long-running processes.
- Serviceability improvements such as easier isolation of tests blocks within log files.
- Scheduler performance improvements.

Serviceability Improvements

- Message improvements with descriptive pointing to object/attribute and LDAP mapping test to avoid null pointer exceptions.
- CronTask improvements in load balancing and server isolating functionality.
- Custom log message, In-Session/User scoped logging, Static UI IDs and additional logging captured in code for troubleshooting purposes.
- Additional utilities to add new attributes to object structure exclude list during upgrades and configuration.
- An all-new Maximo Management Interface (MMI).
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Custom log message

- New dialog enabled on an application basis
- Enter text to show up in log before and after problem reproduction



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Maximo Management Interface

MMI current agent list

- Integrated into Maximo framework
- Real time access to environment
- Extendable by IBM, partners, clients
- Uses Maximo standard security
- Provides input to monitoring tools
- Standardized JSON output

Resource Name	Description	Parent Name	Property Name
args	JVM arguments information	jvm	spl:toolsArgs
browseMessages	Browse JMS messages	queues	spl:BrowseMessage
childidrs	Child directory information	globaldir	spl:childIDrs
classinfo	JMS class information	dbmanager	spl:JMSClass
dbconn	Database connection creation trace	dbmanager	spl:connectionTrace
dbinfo	Database information	dbinfo	spl:dbInfo
dbmanager	Database connection pool information	dbinfo	spl:dbConnection
eventtree	EventTopicTree information	dbinfo	spl:EventTopicTree
globaldir	Integration global directory information	globaldir	spl:integrationGlobalDir
http	Ping an HTTPD URL	http	spl:httpPing
interfaces	JMS class interface information	classinfo	spl:implements
jmsp	JMS provider information	jmsp	spl:jmsp
jvm	JVM information	jvm	spl:jvm
luggers	Application logger state information	luggers	spl:loggerState
mibcount	MIB count information	mibcount	spl:mibCount
memory	JVM memory information	memory	spl:serverMemory
operSystem	Operating System information	operSystem	spl:operatingSystem
oscache	Object Structure cache	oscache	spl:osCache
osstablecache	OSLC Stable Cache information	osstablecache	spl:osslcStableCache
queues	Integration queues information	queues	spl:integrationQueues
resources	Resources in OSLC stable cache	osstablecache	spl:stableResources
sysprops	JVM system properties information	jvm	spl:systemProperties
testProviderConnection	Test connection to JMS provider	queues	spl:testConnection
testWInMessage	Test read JMS message	queues	spl:testWInMessage
testWInInMessage	Test write JMS message	queues	spl:testWInInMessage
threadDump	Thread dump	threads	spl:threadDump
threads	JVM thread information	threads	spl:threadInfo

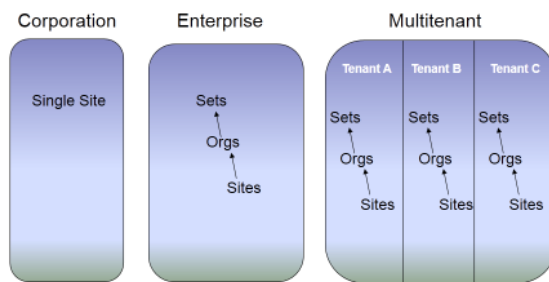
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Multitenancy Capabilities and Considerations

- Separate Install Package within Passport
- One time choice – cannot move between multitenancy and non- multitenancy.
- Cannot upgrade into a multitenancy enabled environment.
- Support for DB2 only.
- Reduced administrative overhead for Hosting scenarios.
- Template data supports the ability to quickly onboard new tenants and encourages best practices.
- Provides true separation of data and configurations between ‘tenants’ within the same instance of Maximo.
- Allows individual tenant business processes and screen designs.
- Robust data security (no cross visibility).
- Overall improvements to performance due to potentially expediential increase in users.


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Evolution of Maximo from single instance to multitenant



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Upgrade

- Upgrade will be available at the time of release
 - Maximo 7.5 Industry Solutions and add-ons will be certified to run-on Maximo 7.6 (May require an incremental patch level)
 - Supported Migration Paths
 - Upgrade to 7.6 supported paths
 - 7.1.1.12 -> 7.5.0.6 -> 7.6
 - 7.1.1.13 -> 7.5.0.7 -> 7.6
 - 7.5.0.6 -> 7.6
 - 7.5.0.7 -> 7.6
- Here are some possible routes that clients could update from 7.5.0.0
- 7.5.0.0 -> 7.5.0.1 -> 7.5.0.6 -> 7.6
 - 7.5.0.0 -> 7.5.0.1 -> 7.5.0.2 -> 7.5.0.3 -> 7.5.0.4 -> 7.5.0.5 -> 7.5.0.6 -> 7.5.0.7 -> 7.6
 - 7.5.0.1 -> 7.5.0.6 -> 7.6
 - 7.5.0.1 -> 7.5.0.7 -> 7.6

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Platform Support – Maximo 7.6

	Supported	Deprecated
OPERATING SYSTEMS	AIX 7.1 Windows Server 2012, 2012 R2 Red Hat Enterprise Linux 6.7 (x86-64 & 2Linux) SUSE Linux Enterprise Server 11 (x86-64 & 2Linux)	AIX 6.1 HP-UX 11i v3 Solaris 9.10, 11 Windows Server 2003, 2008, 2008 R2 Red Hat Enterprise Linux 5, 6 SUSE Linux Enterprise Server 10, 11
DATABASES	IBM DB2 10.1, 10.5 (Workgroup and ESE) Oracle 11g Rel2, 12c Microsoft SQL Server 2012	IBM DB2 ESE 9.5, 9.7, 9.8 Oracle 10g Rel2, 11g Rel1, RAC 10g Microsoft SQL Server 2006, 2008 R2
BROWSERS	Internet Explorer 8, 9 Internet Explorer 10, 11 (standards mode) Mozilla Firefox 31 Google Chrome 36 Safari 7 (MAC only)	Internet Explorer 7.0 Mozilla Firefox 3.0, 4.0, 10.0, 17.0, 24.0
Application Servers	IBM WebSphere 8.5, 8.5.5 Oracle WebLogic Server 12c	IBM WebSphere 7.0, 8.0 Oracle WebLogic Server 10.3.3
REPORTING	BIRT 4.3.1 COGNOS 10.2.1	JDK 1.7.0

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