

IBM Watson IOT

Maximo

Strategy, Investment and Innovation

Jens Cajus Pedersen

cajus@dk.ibm.com

+45 2880 4360



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Maximo Investment Strategy

Innovation and technology advancements

- Modern UX technologies
- IOT/Cognitive Analytics
- Cloud services (SaaS)

Extending and enhancing core capabilities

- Asset Based Augmented Reality
- Visual Inspections
- Supply Chain

Expanding beyond EAM

- Health & Safety compliance
- Asset Reliability & Predictive Maintenance
- Field Service Management

Continued focus on industry requirements

- Best practices & industry standards
- Support for on-going regulatory changes
- Cross industry innovation & technology

Real-time Data Acquisition

- Anywhere Mobile apps
- Industry Anywhere app

Maximo Asset Management



Maximo Portfolio 2018

Core Solution

Maximo Asset Management
BIM Integration

SaaS Solutions



Industry Solutions

Maximo for Transportation

Maximo for Nuclear
Cal

Maximo for Life Sciences
Cal

Maximo for Utilities
Spatial

Maximo for Oil & Gas
HS&E

Maximo for Aviation

Add-on Solutions

Maximo Scheduler

Maximo Service Provider (managed)

Maximo Asset Configuration Manager

Maximo Spatial

Maximo Asset Health Insights

Maximo Anywhere

Maximo Scheduler Plus

Maximo Service Provider (internal)

Maximo Calibration

Maximo Linear

Maximo Archiving

Maximo Health Safety & Environment Mgr

Integrations and Adaptors

Maximo ERP Adaptors

IBM Watson IoT Platform

IBM Weather

IBM Cognos

IBM Watson Analytics

Maximo Release 7.6.0.x Feature Packs

7.6.0.6

GA October, 2016

- Inclusion of Building Information Modeling (BIM) integration
- Removal of java applets with updated Workflow designer
- New License Tracking utility
- Continuing evolution of Maximo's UI/UX with the Service Request app

Platforms

- WebSphere 9 with JDK 1.8
- WebLogic 12.2.x with JDK 1.8
- DB2 11.1

- Cumulative bug fixes

7.6.0.7

GA February, 2017

- Importing data through application – notifications on record limits
- Modifications to the BIRT Report Viewer to prevent SQL Injection possibilities. Changed report framework to pass "where" parameter through database.

Additional Items -

- Reduce DB Downtime on password reset - Add action to DB Config that performs a Live Refresh of the db connection
- Dropping Asset Topology Viewer

License Usage Tracking

- Utilities for Concurrent

- Cumulative bug fixes

7.6.0.8

GA May, 2017

- New - Budgets
- New - Inspections
- New Timezone configuration app
- Admin mode indication
- Json format support for bulk property retrieval of maxproperties from cache
- Raw data streams as a parameter REST API's

License Usage Tracking

- Utilities for Authorized & Limited, Express for concurrent

Platforms

- Windows Server 2016
- SqlServer 2016
- Oracle EBS 12.2.6

- Cumulative bug fixes

7.6.0.9

GA December, 2017

- Work Center improvements to platform and administration, updated Technician, Supervisor
- Inspection enhancements
 - Scheduled w/Work Order
 - Meter readings
 - Images/Photos as part of the Inspection results
 - Follow up Actions

Platforms

- Multi-Tenant improvements
 - Migration Manager
- Cognos 11 (certified/supported)
- DB2 Advanced Workgroup Server V11.1.1(certified/entitled)
- WAS V9.0 (certified/entitled)

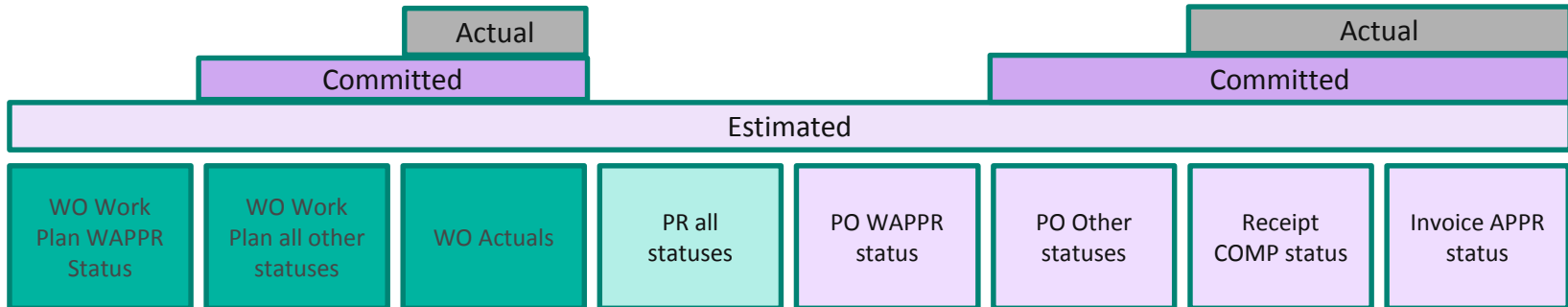
- Cumulative bug fixes

Budget Monitoring

Annual or Financial Period based budgets improve overall fiscal tracking and compliance.

Budget administrators can create budget lines around 9 ootb axis points (*WO, Asset, Location, Chart of Accounts, 6 GL Components, configurable*)

Manage calculation rules to determine how Estimate, Committed and Actuals are applied against the budget line. (*64 ootb, configurable*)



Focus Areas for 2018

**Simplifying the
User Experience.**



**Investing in Industry Solutions
and Add-ons.**






**Creating new experiences
using innovative technology.**



**Expanding
integration and
technical
capabilities
across the
platform.**



Maximo – Planned 2018 Roadmap

	Maximo Release
	Industry Solutions/Add-ons
	New Industry Solution/Add-ons

Q2 2018

Q3 2018

Q4 2018

- Regulatory:**
- Initial GDPR update (SaaS & on-prem)

Maximo – 7.6.X

UX/Modernization - Work Centers (new/updated)

- Supervisor & Technician
- Inspections
- Self Service Request
- Business Analyst
- Storeroom Clerk
- Personalization/ Configuration
- CSS update to align with Work Centers
- Maximo Management Interface (MMI)

Required System Updates:

- JDK 1.8
- Cognos 11
- DB2 Advanced Workgroup Server 11.1.1 (bundled)
- WAS 9.0 (bundled)
- WAS Liberty
- Oracle db 12.2.0.1
- TLS 1.2 (SaaS Security)
- Latest Browser Versions

Certifications

- GDPR Certification
- ITLM License tracking
- Section 508 Accessibility
- SaaS - FedRamp

Industry Solutions/Add-on's

- Asset Health Insights 7.6.x
- Aviation 7.6.x
- Linear 7.6.x
- Spatial 7.6.x

Anywhere 7.6.x

- Simplify Install & deployment
- UX Enhancements
- Performance, Serviceability

SAP ERP Adapter 7.6.x

- S/4HANA support

Industry Solutions

- Nuclear 7.6.x

Maximo Business Network on Blockchain 7.6.x

Maximo - 7.6.x

- UX/Modernization**
- Work Centers (new/updated)
 - Plant Visualization

System Updates:

- License Tracking Updates
- BIRT 4.8 (Security)

New Innovative Offerings

- A/R, Peer Guidance for Maximo
- Cognitive, Visual & Acoustic Insights

Industry Solutions/Add-on's

- Spatial 7.6.x
- Linear 7.6.x
- Asset Health Insights 7.6.x

Anywhere 7.6.x

- Windows Universal Support
- Anywhere - off line Inspections
- Application Enhancements
 - Crews
 - Time Reporting

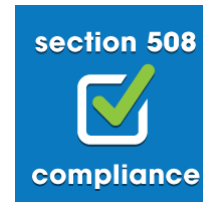
Maximo Asset Management 7.6.next

Continuing to deliver on the value of Enterprise Asset management

- Modernizing the Maximo User Experience with new and innovative Work Centers.
- Introducing a fresh look to Maximo with an updated skin.
- General Data Protection Regulation (GDPR) - data protection framework to give citizens back the control of their personal data.
- Supporting Program updates - JDK 1.8, WAS 9 / WAS Liberty / DB2 11.1 (AWSE) / Google Polymer 2.0
- Cognos 11 Entitlement
- Section 508 Accessibility - updates to meet current standards
- 11 • SAP ERP Adapter - support for S/4 HANA



IBM Cognos
Analytics

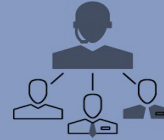


Modernizing the Maximo User Experience with Work Centers

Simple: Redesigned Maximo components so that interacting with the system is as simple as possible.



Role-based: Work Centers are designed for a specific persona incorporating their goals, needs, and interests.



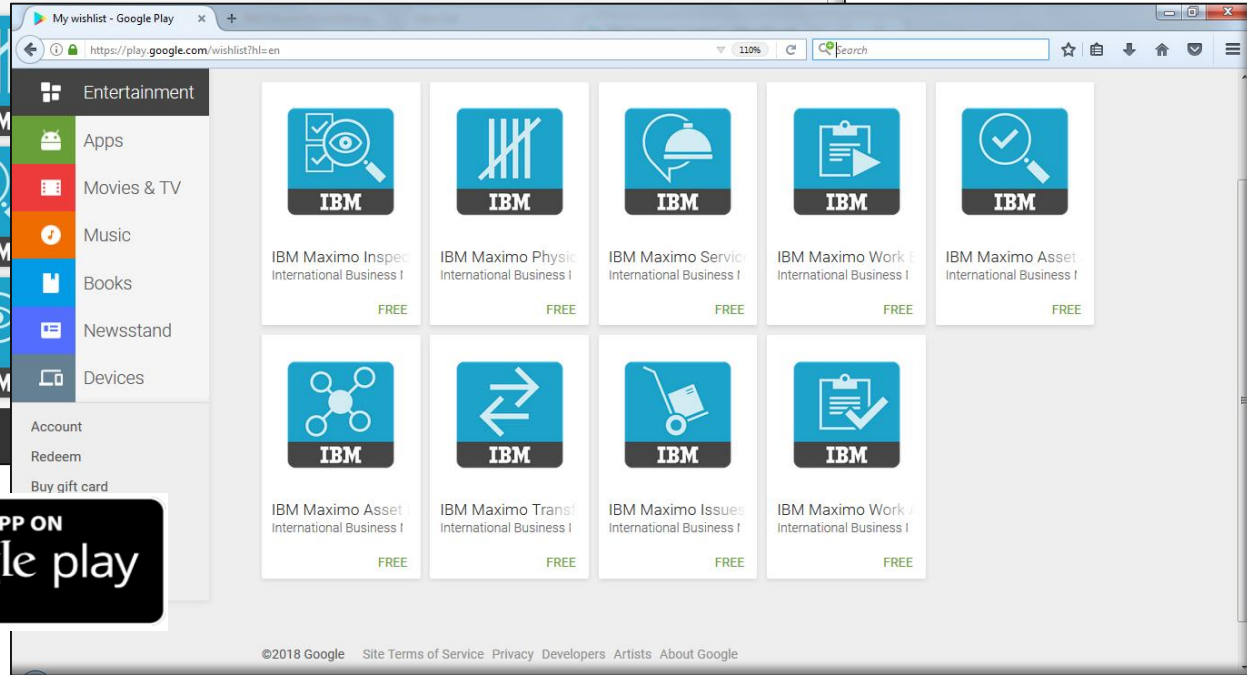
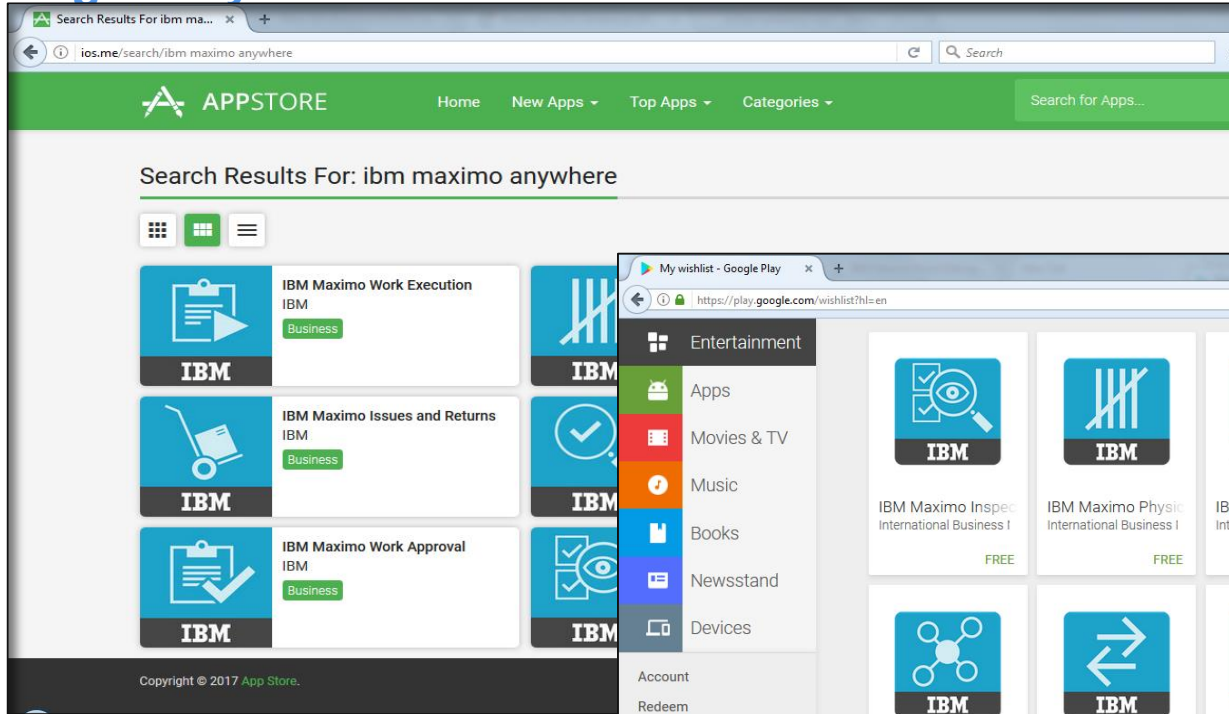
Responsive: Users have the same experience no matter what device they use.



Intuitive: Users can understand the behavior of the Work Centers without the need for special training.



All 9 Core Anywhere Apps available for download from Apple App Store and on Google Play



Take the new IBM Maximo Developer Center for a test drive.



developer.ibm.com/assetmanagement

Watson IoT™

Designed by developers, for developers – all the right ingredients in one place:

- A digital community space to connect, create, collaborate, explore, learn – and, most importantly, build GREAT apps
- APIs, sharing code, app samples, tools and SDKs – to accelerate the creation of applications, add-ons and solutions
- Develop faster; search, explore and try the APIs easily; find up-to-date documentation; discover practical examples and tutorials

developer.ibm.com/assetmanagement

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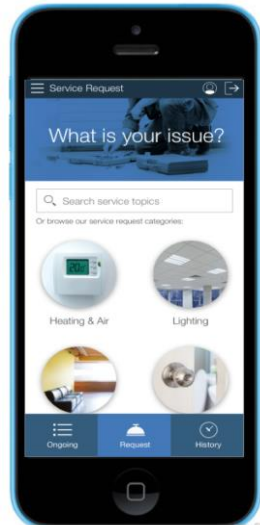
The IBM logo, consisting of the letters "IBM" in a bold, sans-serif font, positioned in the bottom right corner of the slide.

New Maximo Work Centers

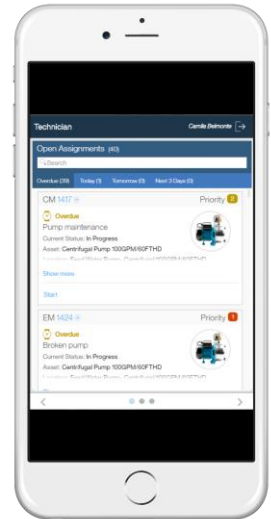
Initial Offerings – a focus on Work Management and Analytics.



Work Supervision



Service Requester



Work Technician

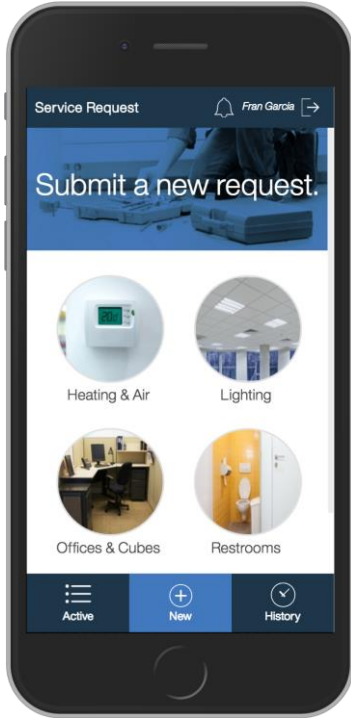


Business Analyst

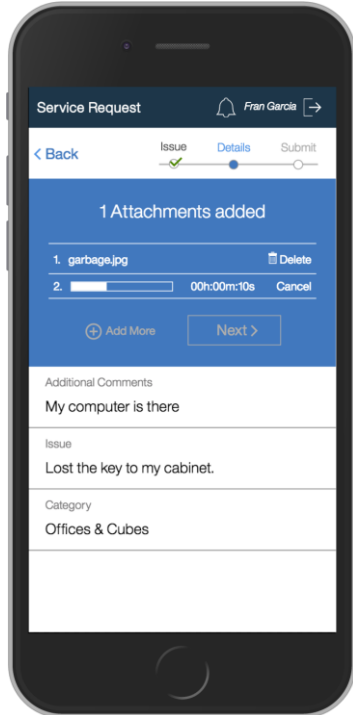
Maximo Self Service Requests

“anyone can report a problem or submit a request”

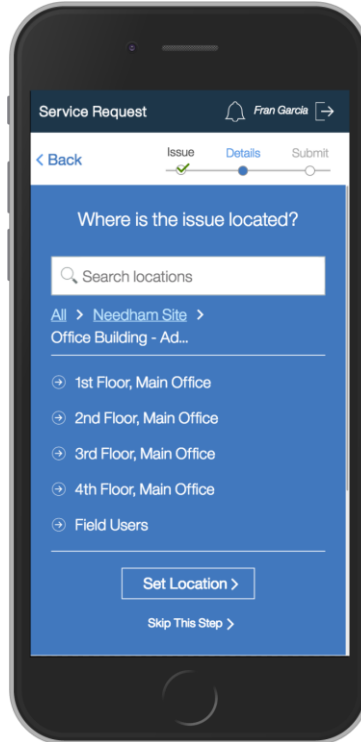
New SR



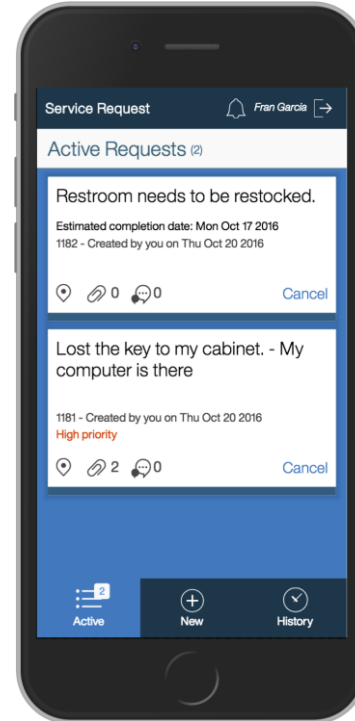
Add Attachments



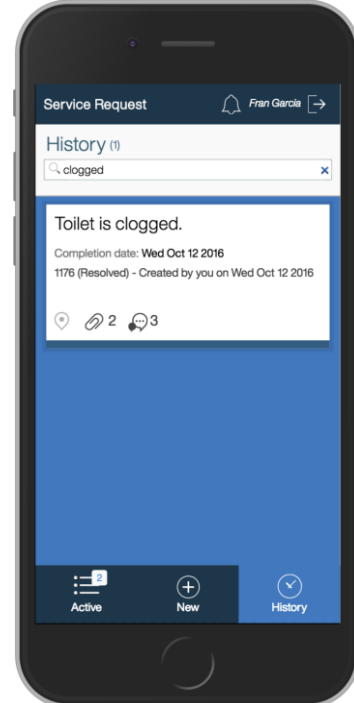
SR Location



Active SRs



SR History



Business Analyst Work Center opens new analytical insights

Focus on evaluating vast amounts of data from Maximo.

The screenshot displays the IBM Maximo Business Analyst interface, which is divided into several key sections:

- Summary Metrics:** A top row of four cards showing performance indicators: "EM Work with no Downtime" at 10%, "EM Work with no Failure Data" at 44% (with a warning icon), "Closed Work with no Actuals" at 3%, and "Work Orders" at 433.
- Data Set Designer:** A panel on the right titled "Data Set Designer" with a sub-header "Configure Content (Step 2 of 4)". It includes a search field for "Available fields" and a table of fields categorized by "Object Set".

Object Set	Fields
Asset Details	ANCESTOR, Ancestor
Asset Items	ASSETHEALTH, Asset Health
Asset Safety Plan	ASSETID, Asset
Contract Asset Details	ASSETID, Asset
Inventory	ASSETNUM, Asset
Location	ASSETTAG, Asset Tag
Manufacturer	ASSETTYPE, Type
Meters	ASSETUID, ASSETUID
Preventive Maintenance	ASSETUID, ASSETUID
Spare Parts	AUTOWOGEN, Automatically Generate Work Orders
Specifications	BINNUM, Bin
Status (Must Be Fields)	
- Data Set Library:** A left-hand panel with a search bar and a list of data sets including "Assets_Org999", "PO_ORGLGT999", "WO_Canceled", and "WO_Emergency".
- Work Management:** A central panel with tabs for "All", "Priority 1", "Priority 2", "Priority 3", and "Priority 4". It features a "Work Management" header and a chart titled "Overdue Work (Quantity)" showing a horizontal bar chart for various asset types (e.g., ZHANG_Q, STU_V, PETERM, LOU, JU_L, HUNTER, CSWILSON, BRIAN, ASHOK) with a color-coded scale from 20 to 80. Below this is a "Backlog V" bar chart with categories EM, CM, PM, SA, CP.
- IBM Watson Analytics:** A bottom-right panel titled "IBM Watson Analytics" and "IBM Maximo: Asset Management". It features a video player showing a storybook about asset management performance, with a text overlay: "Review critical asset management performance features in this storybook. Intended for Vice Presidents of Manufacturing, Plant or Operations Managers, key asset metrics of total costs, asset down times, priorities and more display for the various sites in your organization." Below the video are buttons for "Expert top findings" and "Ask a question".
- Asset Performance Metrics:** At the bottom, there are two panels: "Asset Total Costs" and "Asset Total Downtime", each with a corresponding bar chart.

Inspection Form Builder and Inspection Execution

Defining, executing, reviewing and acting upon the results of an inspection.

The screenshot shows the 'Inspection Form Builder' interface in IBM Maximo Asset Management. The form is titled 'School Facility Conditions Evaluation'. The 'Form Questions' section is active, showing a list of response fields on the left and a detailed view of a question on the right. The question is 'Is the air odorless (No smell of gas)?' and is marked as 'Required'. The question type is '1. Single Choice'. The options are: 'Option 1: Yes', 'Option 2: No', and 'Option 3: N/A'. The 'Required?' toggle is set to 'Yes'. Below the question, there is a '2. Text Response' field with a description 'Building/Classroom:' and a 'Required?' toggle set to 'No'. The interface includes 'Cancel' and 'Save' buttons at the bottom.



The screenshot shows the 'Inspection Execution' interface in IBM Maximo Asset Management. The form is titled 'School Facility Conditions Evaluation'. The interface is displayed on a tablet and a smartphone. The tablet screen shows a list of questions with radio button options: '4.2. Are there visible signs of wear?' with options 'Yes', 'No', and 'N/A'; '4.3. Are the systems running quietly?' with options 'Yes', 'No', and 'N/A'. The smartphone screen shows a question: '3.2. Are the pipes broken?' with options 'Yes', 'No', and 'N/A'. The interface includes a progress bar at the bottom showing '50 / 110' and '22 / 24 Required', and 'Exit Inspection' and 'Submit' buttons.

New Supply Chain/Inventory Work Centers

Continuation of current work centers and new capabilities for supply chain personas.

Supply Chain - 2018

ID	Name	Bin	Balance	Available	Reserved	Staged	Shipped
22310	5 ft. X 6 ft window pane	53	390	390	3	0	1
22079	Light bulb 100w	Multiple	390	390	4	1	0
18232	2" X 4" X 6' Pine Plank	B120	0	0	1	0	0
55837	Tubing, Copper-1 in		4	4	4	0	3
26043	Break Shoe Kit		0	0	0	0	3
50115	Tubing, Copper-1 in	Multiple	13	11	2	1	0
		B1	3	3	0	0	0
		B2	4	4	0	0	0
		B3	2	2	0	0	0
		B4	3	1	2	0	0
22256	Motor Support Bracket		4	1	1	0	1
66635	GoodYear G362 11R22.5 tire		0	0	0	0	3
37486	Motor Support Bracket		4	3	3	0	3
31685	Bolts, 4in #2		0	0	0	0	3

Focus on Inventory

Personas : Storeroom Manager(Clerk), Goods Receipt Specialist and Functional Inspector.

Initial focus:

- Items & Inventory Management
- Bin Management - New app to create and manage Bins with Storerooms
- Stock Out - Record when an item is not available for a reservation at time of issue

Subsequent:

- Include Count Books in Work Center
- Pick & Stage - Gather items from storeroom and/or direct orders for a specific Work Order in a specific storeroom bin
- Functional Receipt Inspection - new receipt inspection process for the functional characteristics of a rotating asset.

Work Center Configuration

Initial delivery of Configuration and Personalization for Work Centers.

The top screenshot displays the 'Configuration Library' for a 'SUPERVISOR' work center. It includes a navigation bar with 'Header', 'Work Progress', 'Closed Work', and 'Create Work'. Below this are tabs for 'Template', 'Approve Work', 'Assign Work', 'Monitor Work', and 'Close Work'. The main area contains configuration fields: '*Description:' with a text input, '*Collection:' set to 'MXAPIWODETAIL', and '*Card:' set to 'Work Detail with Approve action'. An 'Active' toggle is also visible.

The bottom screenshot shows the 'Card Designer' interface. It has a navigation bar with 'Select Template', 'Choose Object Structure', 'Specify Fields', 'Define Actions', 'Specify Drilldown', and 'Review'. The main area prompts the user to 'Select a layout for your card.' and offers four options:

- Text Only:** Maximum content of 7 fields.
- Text and Image:** For display of 5 fields or less and 1 image.
- Text and Action:** For display of 5 fields or less and 1 action.
- Text, Image and Actions:** For display of 5 fields or less, 1 image and up to 2 actions.

Introduce Configuration Library as centralized application for configuration and personalization of Work Centers

Starting with subset of Work Centers and features, enable configuration of:

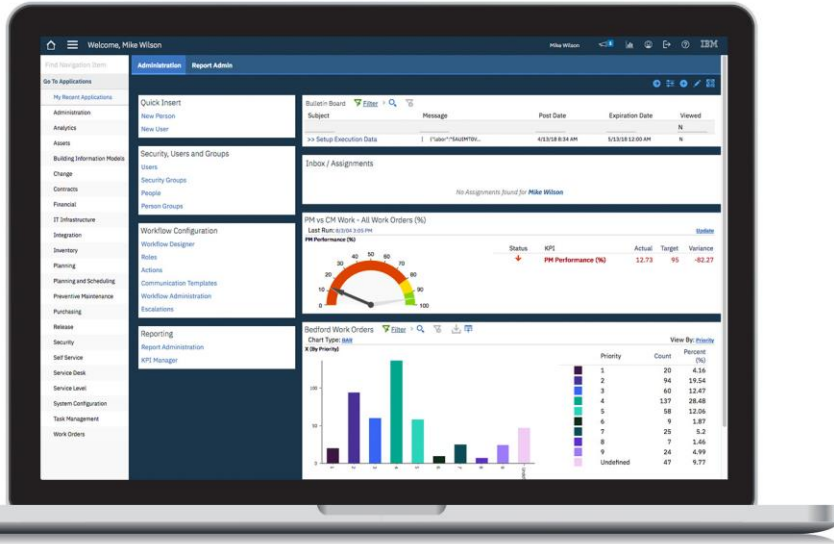
- Work Center name
- Container query
- Card content
- Filters

Enable building of simple new Work Centers using Configuration Library.

Expand Configuration Library to contain features that are heavily used in Maximo today

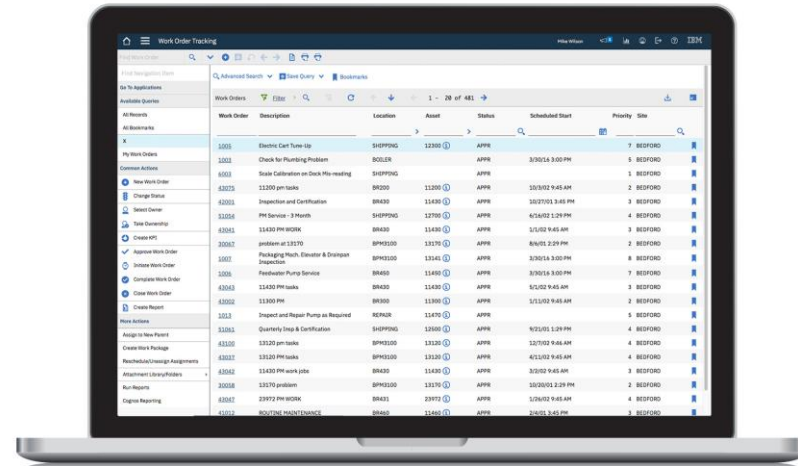
- KPIs, Result Sets, Cognos visualizations

Fresh new look to Maximo

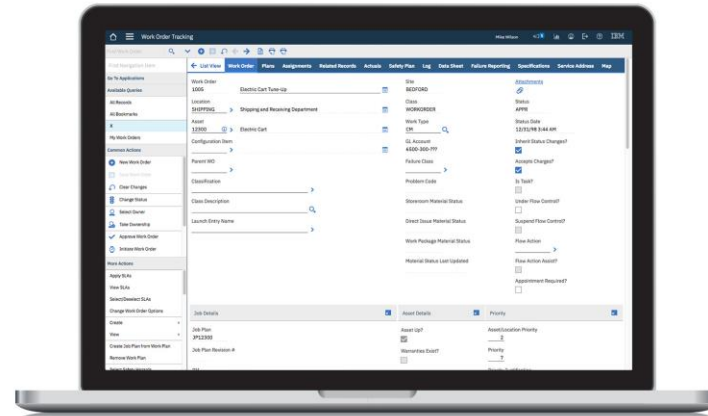


IBM Maximo Asset Management

IoT18 Skin
Start Center



IoT18 Skin
Work Order List

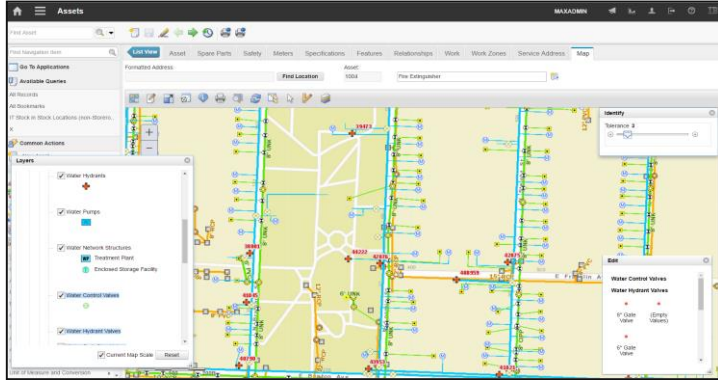


IBM Maximo Asset Management

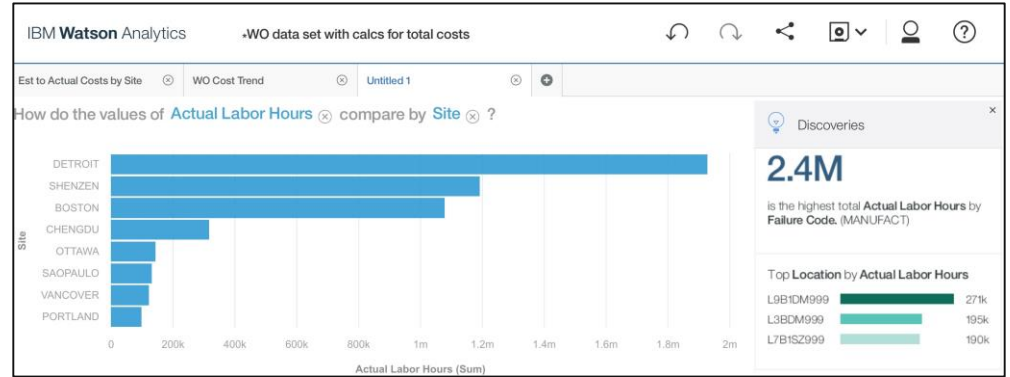
IoT18 Skin
Work Order Details

Maximo Data Visualization

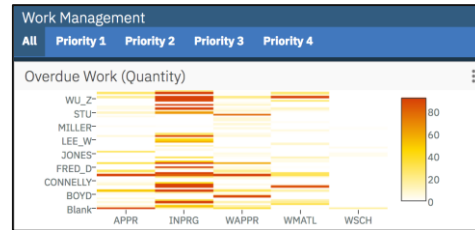
Mapping – ESRI, Google, BING



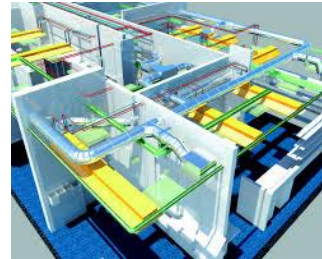
Analytics



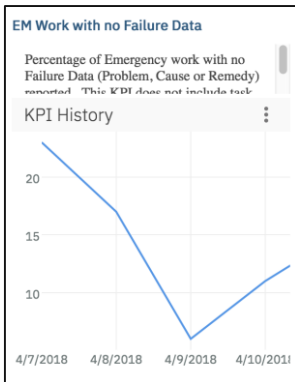
Charts



BIM



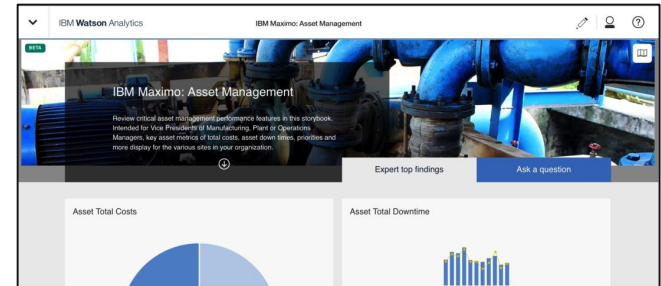
KPIs



*2D-3D Location/Asset



Storyboards

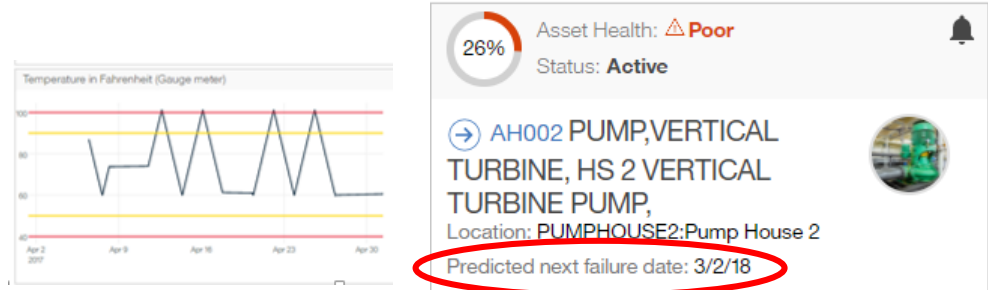
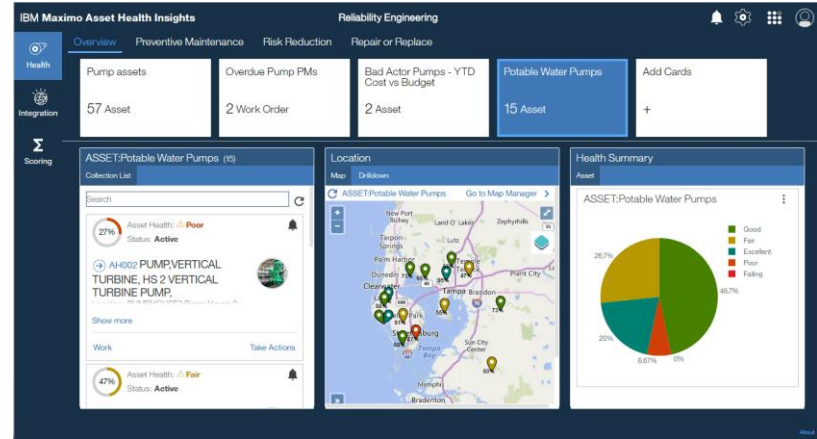


Maximo Asset Health Insights help drive improved asset strategies

Eliminate downtime and reduce maintenance cost by understanding current asset health.

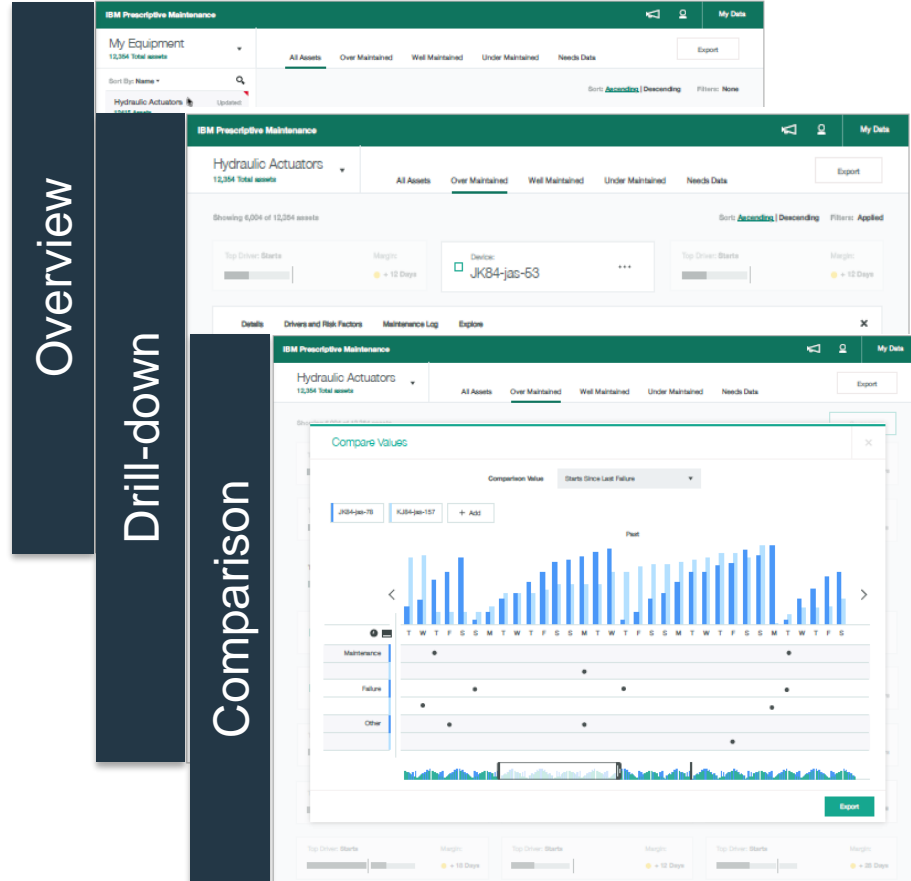
Capabilities

- Visibility into asset condition, from an asset lifecycle perspective.
- Consolidates Asset data, historical and real-time, including data from external data systems, weather data, etc.
- Advanced dashboard view enables proactive maintenance and/or refurbish/replacement decisions.
- Pre-integrated with PM on Cloud to enable visibility into predicted next failure date



...In addition, IBM can provide enhanced accuracy and optimization with Prescriptive Maintenance on Cloud

- Predictive models which determine likelihood of asset failure and time to failure based on statistical modeling – Shown within the Maximo Asset Health work center!
- Identify top failure modes
- Recommended optimal maintenance schedules and maintenance procedures
- Ongoing optimization through machine learning and physics based models



Maximo Scheduler and Scheduler Plus

Ability to plan, schedule, dispatch and track all work.

Allows planners and schedulers to view upcoming work graphically, compare the required resources against those available, and adjust accordingly. Dispatchers can use maps to graphically monitor field technicians, work in progress, and status. Field technicians can receive work and provide real time status updates to the dispatcher.



- Embedded engine delivers objective based optimization models.
- Scenario based work planning.
- Graphical crew management capabilities.
- Optimized spatial scheduling for reduced crew windshield time.
- Ability to make customer appointments within a scheduled window.
- Managing large projects with dependencies across work orders and tasks.
- Incorporate weather data into planning/scheduling and dispatching.

Maximo Anywhere

Improving the efficiency of the work management with mobility.



Broadening the scope of asset information provided to the mobile user to enable sound decision making.

- Seamless connected and disconnected support
- Role and Task Based Applications ~ 15 Apps
- Perform work, asset and inventory process
- Works Across iOS, Android, Windows Tablet
- Camera / Barcode support
- QR Code / RFID support
- Voice to Text / E-Signature / Real Signature
- GPS Support
- Offline and Online Mapping
- Push Notification



'Maximo Blockchain Network' Roadmap

✓ Enable Maximo business processes, workflows, escalations to be stored in IBM Blockchain

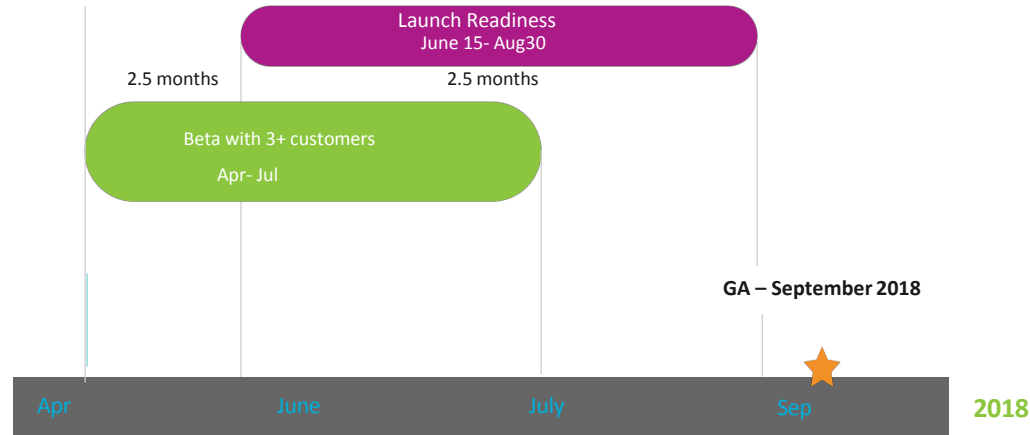
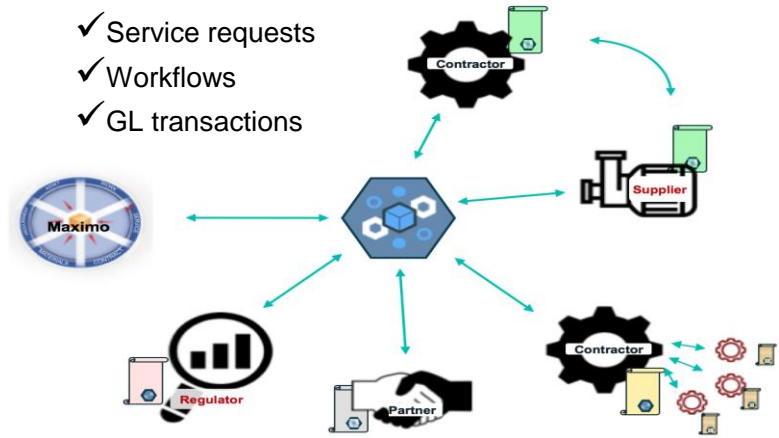
✓ Capability to support authorization and authentication with Smart Contracts

✓ Web-based applications that support security and interaction in the blockchain network across participants

✓ Work can be done between two participants - and governed by smart contract - without active involvement from Maximo Supervisor

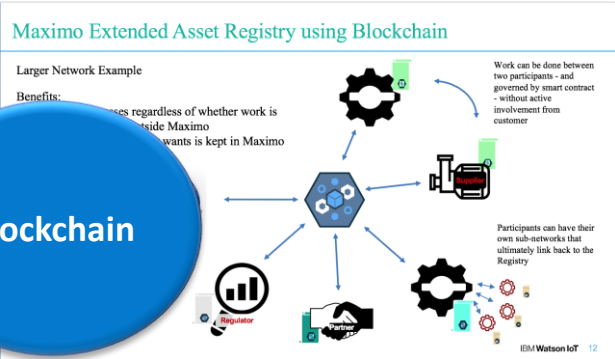
✓ Immutable, secured storage of information

✓ Consensus, provenance, trust in a single source of truth

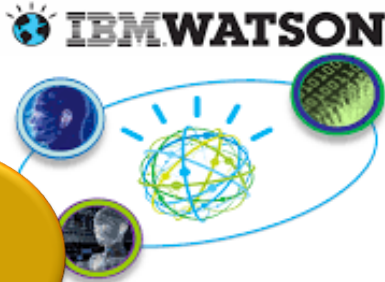


Extending Value to Maximo thru Innovation

Blockchain



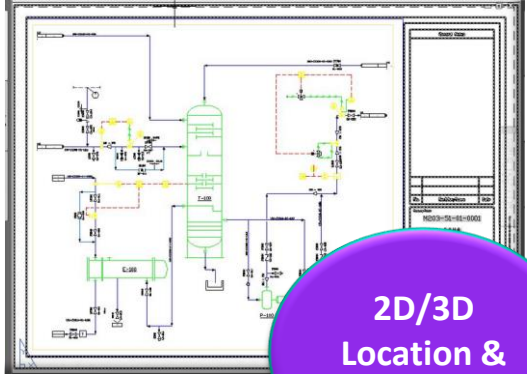
Drone Inspections



Cognitive Analytics



Augmented Reality



2D/3D Location & Assets

Maximo is GDPR Ready

Maximo People Data Management Utility efficiently removes Personal Information

What is GDPR?

The General Data Protection Regulation seeks to create a more harmonized, unified data protection law framework across the European Union, with goals that include (1) reinforcing and enhancing data protection rights of EU data subjects (2) facilitating the free flow of data and (3) modernizing the law in line with emerging technologies.



5 Key GDPR Obligations

- Rights of EU Data Subjects
- Security of Personal Data
- Consent / Legal Basis
- Accountability of Compliance
- Data Protection by Design



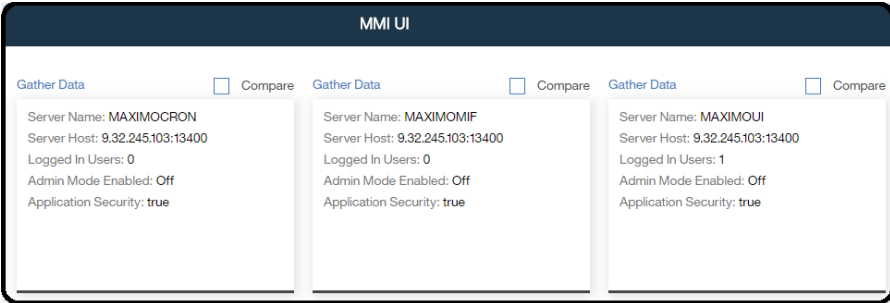
- ✓ Out-of-the-Box capability to manage personal information found in the Phone, SMS, Labor, Maxuser, Person and Email objects
- ✓ Manage PI in historical/transactional objects like Service Requests, Work Order, etc.
- ✓ Extensible to include other objects, as needed
- ✓ Works on Maximo versions 7.5.0.11 - 7.6.0.9
- ✓ English only

Download here: <https://ibm.co/2v2DNKz>

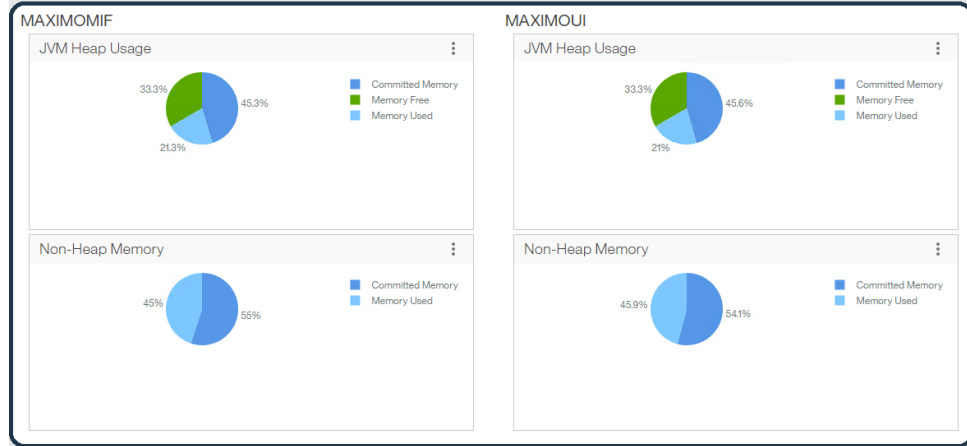
Maximo Management Interface (MMI)

Use Maximo's API to view real-time system information.

Allowing administrators to see directly into their Maximo environment's status to quickly troubleshoot and monitor application health.



- MMI information displays in a new Work Center
- Shows information in 14 main categories
- Changes made in Maximo are displayed live. Includes Database, MBO, Memory, JVM, Queue information and more.
- Easy collection of data for sharing
- More to come!



3 Take Aways

- Continued Investment in Maximo
- Expanding beyond EAM
- Modernization & Innovation



Thank you!



Technical Improvements to Maximo

Ongoing Feature Pack enhancements to improve configuration options and access to latest technologies.

Formula Engine



Watson IoT Integration



Enhanced Scripting



Federated Mbos



IBM Weather Integration



Enhanced Security Integration



Additional Resources

Sources for Maximo information available to our customers:

IBM Knowledge Center:

https://www.ibm.com/support/knowledgecenter/en/SSLKT6_7.6.0/com.ibm.mam.doc/welcome.html

IBM DeveloperWorks wiki:

<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM%20Maximo%20Asset%20Management/page/Home>

IOT Support Youtube Videos:

https://www.ibm.com/developerworks/community/blogs/a9ba1efe-b731-4317-9724-a181d6155e3a/entry/Maximo_Youtube_videos_are_now_available_on_the_new_IBM_IoT_Support_channel?lang=en

Maximo 7.6 Resources

- Maximo Info Center
 - https://www.ibm.com/support/knowledgecenter/SSLKT6_7.6.0/com.ibm.mam.doc/welcome.html
- Maximo 7.6 What's New
 - https://www.ibm.com/support/knowledgecenter/SSLKT6_7.6.0/com.ibm.mam.doc/overview/c_ctr_wn_mam_7.6.html
- System Requirements
 - <https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM%20Maximo%20Asset%20Management/page/Maximo%20Asset%20Management%20system%20requirements>
- Upgrade Resources
 - <https://www.ibm.com/support/docview.wss?uid=swg21266217>
- Upgrade Frequently Asked Questions
 - <https://www.ibm.com/support/docview.wss?uid=swg21368150>
- Upgrade Requirements/Compatibility Matrix
 - <https://www.ibm.com/support/docview.wss?uid=swg21440174>
 - ibm.biz/MaximoSupportPlatformMatrix