Evolving with Maximo Enterprise
Asset Management –
Discover IBM's new Maximo EAM
Offerings and Roadmap

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What you'll take away from this session...

- Learn about Expanding the Maximo Portfolio
- ❖ IBM's Maximo Investment Strategy
- Advancing with Innovation
- Product Roadmap

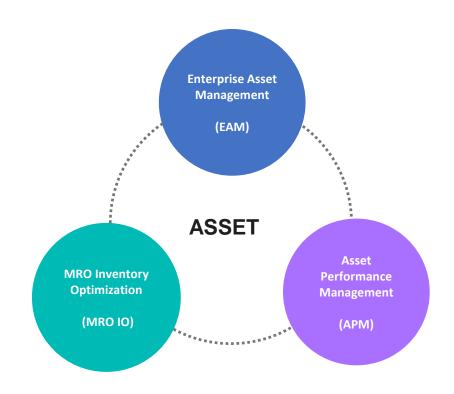


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We are helping customers improve operational effectiveness and efficiency

IBM has identified three major disciplines that help industrial companies respond to the global productivity crisis with improved efficiency, reduced risks, and lower costs:

- EAM to capture asset data and manage execution of work
- APM to optimize performance through prediction and prescriptive actions
- MRO IO to improve uptime and cost with better inventory control



Our expanded portfolio of industry-leading Maximo solutions

IBM Maximo Solutions

Core Components

Enterprise Asset Management

Keep critical assets operating at maximum efficiency.

- Core Enterprise Asset Management (EAM)
- EAM Industry Solutions
- FAM Scheduler
- EAM Spatial
- EAM Linear
- EAM ERP Adapters
- EAM Health, Safety, Environment (HSE)
- Maximo Worker Insights
- EAM Anywhere
- Workforce Assistant (EMA)

Asset Performance Management

Improve equipment performance with analytics and AI.

- APM Health
- APM Predict
- APM for Energy & Utilities

MRO Inventory Optimization

Reduce costs and minimize asset downtime.

Spare Parts Inventory Optimization

Foundations

Tailored insights from AI and analytics Connect, Collect, Analyze, Optimize, **Watson IoT Platform** models and algorithms (Visual & Acoustic) Govern and Deliver Industry, domain Industry solutions with pre-integrated **IBM Services** and IoT expertise AI / Machine Learning capabilities

IBM Maximo MRO Inventory Optimization



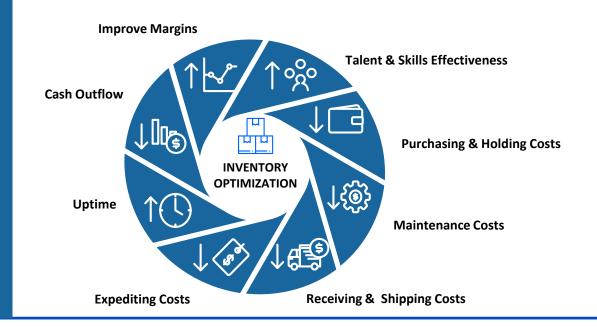
Addressing key operational challenges



Delivering rapid payback to fund broader transformational operations initiatives

Typical implementation is 3-5 months

Payback period typically <1 year



Up to 50% reduction in unplanned asset downtime



20-40% reduction in inventory costs



15-35% savings in maintenance budgets



10-25% increase in service levels



Maximo Enterprise Asset Management Portfolio

Core Solution

Maximo Asset Management

SaaS Solutions **Maximo** EAM Maximo EAM SaaS SaaS Flex (multi-tenant)

Industry Solutions

Maximo for **Transportation** Maximo for Nuclear

Maximo for **Life Sciences** Cal

Maximo Asset

Configuration

Manager

Maximo for **Utilities** Spatial

Maximo for Oil & Gas HS&E

Maximo for **Aviation**

Maximo for Civil Infrastructure

Add-on Solutions

Maximo Scheduler

Maximo Scheduler Plus Calibration

Maximo Service Provider

> Maximo Health, Safety & **Environment**

Maximo **Spatial**

Maximo Linear

Maximo Anywhere

Maximo **Archiving**

Maximo Workforce Assistant FMA

Maximo **ERP Adapters**

Maximo Augmented Collaboration

Maximo APM Health

Integrations

Maximo

IBM Watson IoT Platform

IBM Weather

IBM Cognos **Analytics**

IBM Worker Insights

IBM Control Desk **Maximo APM Predict**

Maximo APM for E&U

Introducing IBM Maximo for Civil Infrastructure

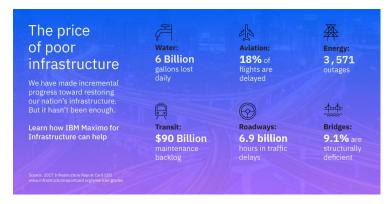
Extend the life of highways, bridges and utilities with digital monitoring for early warning signs

Infrastructure Operations & Optimization

- Situational awareness
- · Geospatial infrastructure optimization and management
- · Maintenance planning and management dashboard
- Logical Asset relationship and cascading impact

Key Ecosystem Partnerships

- IBM Research focused on Civil Engineering Assistant creation of analytical models with SMEs from Sacertis
- Sacertis focus on proprietary algorithms for optimizing the position, number and type of sensors required to verify structure integrity
- IBM GBS Denmark engagements implementing asset hierarchy for Sund & Bælt





IBM Maximo: Investments and Innovation



1. Maximo EAM modernization

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Persona Based Experience Responsive Work Centers Configurable



2. Mobility

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Anywhere
Augmented Collaboration
Equipment Maintenance Assistant
Watson Assistant



3. Asset Performance Management

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Health

Predict

Energy & Utilities

Maximo EAM Releases

7.6.1 – July, 2018 7.6.1.1 – May, 2019

New Work Centers and enhancements to existing ones.

Supervisor

Technician

Inventory Management

Inspections

Service Requests

Administration

Asset Manager

Business Analyst

Maps



Improving the user experience

Modernized User Interface

Advanced mapping capabilities

Ease of build and deployment features – installation videos

Free 3-day online training course



Strengthen work management with mobility

Artificial Intelligence with Equipment Maintenance Assistance.

Hands- free with Watson conversation.

Worker Safety

Token Licensing



Innovation and technology advancements

Updates to meet industry and regulatory requirements.

- Aviation
- Asset Configuration Manager
- Service Provider
- Transportation
- Scheduler
- Spatial / Linear



Continued focus on Industry
Solutions

Scheduler Optimization models for capacity planning, resource assignment and dispatching

Business Intelligence using Cognos 11

Business Analyst dashboard and KPIs



Analytic insight for improved decision making

Technical investment to reduce total cost of ownership

Continuing to improve and expand the foundation of Maximo.

Providing tools that address serviceability, integration and security requirements.

Meeting the needs of the modern Maximo customer.

Install/Deployment



Expose object structures through Swagger to enable live testing and documentation. Wizard based initial configuration for cloud deployments. Token based licensing model. Containerization Support.

Serviceability Interface



Monitor Application Health with access to real-time system information to quickly troubleshoot Maximo. Continue to add metric points.

API Security Improvements



API security and Keys provide more robust and enhanced capabilities. Shorten authentication integration time by using published templates. Option to manage security at business logic level in addition to UI.

Configurability

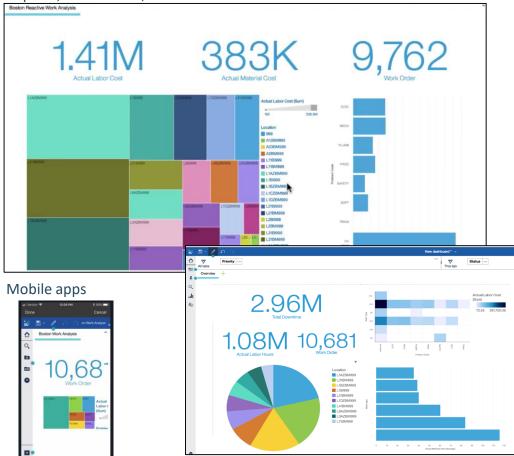


Embedded automation scripting editing tool. Additional trigger points available for scripts.

Maximo Analytics enabled by Cognos

- Extend your data analysis capabilities into the Self-Service reporting and dashboard features provided by Cognos Analytics.
- Create insightful reports and dashboards from packages you publish from Maximo or via new web based models.
- Visualize, explore and share insights on your Maximo data in Cognos governed environment.
- Offers Cognos mobile apps
- Sign up for a free trial of Cognos Analytics today https://ibm.co/2zFQU2U
- Demo Videos: Google Maximo 761 Cognos Analytics

Reports, Dashboards, Modules



Modernizing the Maximo User Experience with Work Centers

Maximo just got a whole lot simpler and more intuitive.

The new user experience is designed with specific roles in mind.

The work centers are responsive to the device you are using.

Modernized to use web component technology

Work Technician/Supervisor



Works on assignments and report actuals with minimal effort.

Inventory Management



Improve order fulfillment to minimize asset downtime.

Business Analyst



Analyze Maximo data for better decision making.

Service Requestor



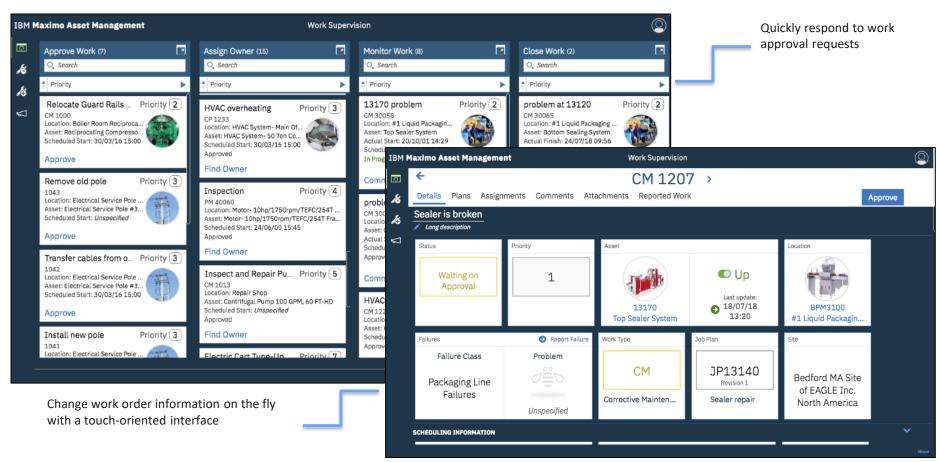
Submit a problem quickly and efficiently.

Inspections

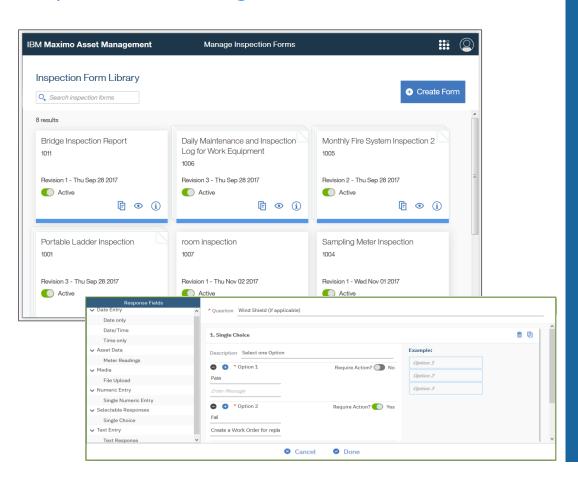


Complete inspections with hands free capabilities.

Maximo Work Center Examples



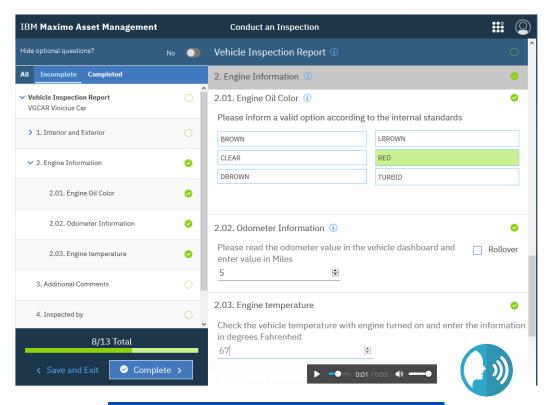
Inspections – Manage Forms



Provides capabilities to define an electronic inspection form:

- Accommodate requirements of traditional paper based inspections.
 - Group questions, mark required.
 - Attach documents, free form text, meter readings.
 - Conditional Questions
 - Colors and Icons to indicate response
- Revision control.
- Audio guided inspections and follow up actions.
- Used for Job Plans and Routes.
- PM can be set up for recurrent inspection on assets and locations.

Inspections – Conduct an Inspection



Leverages Watson services to conduct a hands free inspection by just using voice responses.

- Report results in a connected mobile device.
- Inspection statuses are managed automatically and differentiate pending, in progress and completed results.
- Easy and intuitive navigation to report and visualize single or multiple inspection results.
- Search and evaluate individual completed inspection results.
- Associate results to Assets and Locations, WOs and tasks.
- Historical Inspection results are presented in both Assets and Location applications.

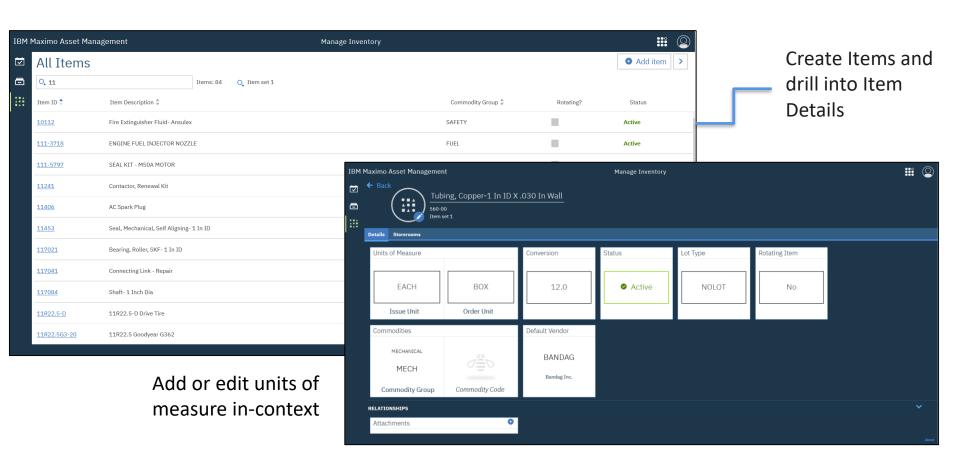
1. Easier set-up

- Add storerooms
- Set up item master
- Define units of measure
- Bins, lots, and rotating items
- Create initial balances

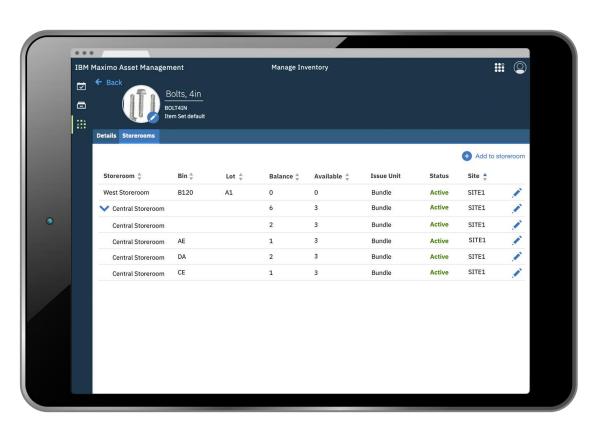
2. Faster transactions

- Update balances
- Issues and transfers
- Fulfill reservations
- Return issued items
- Physical counts

New Work Center - Manage Inventory supports Supply Chain processes



Manage Inventory: Easier setup

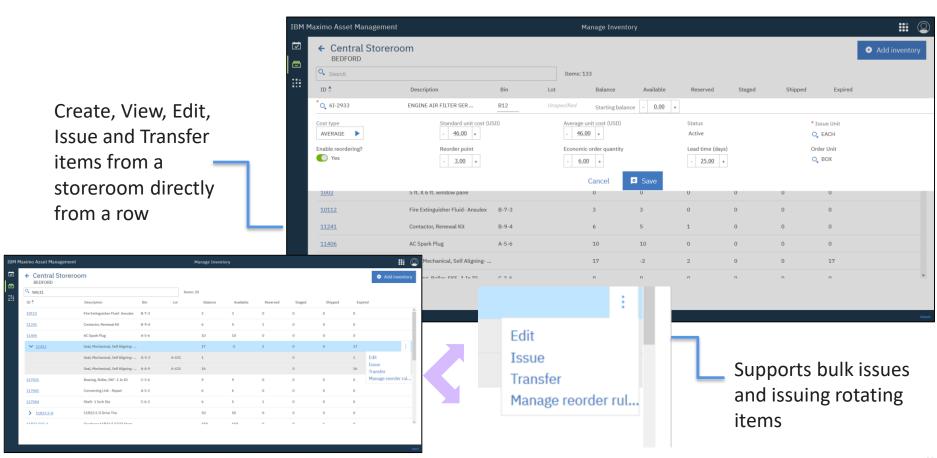


Item storerooms

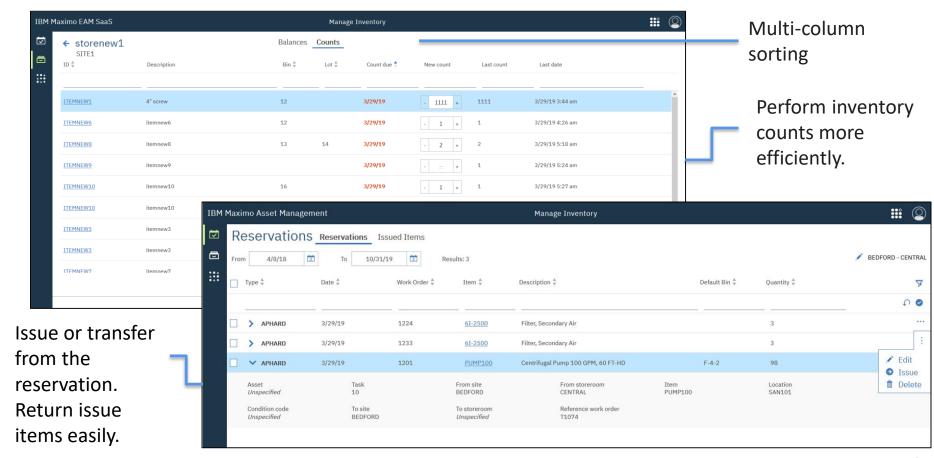
Balances for a single item across the org

Bins as child rows with balance roll-up

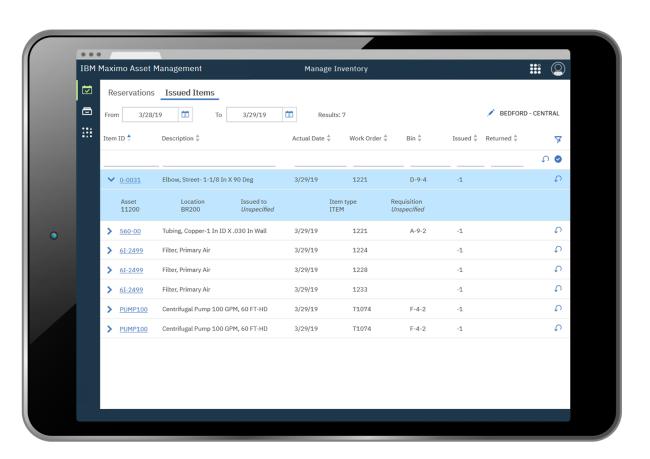
Manage Inventory – Issue and Transfer Items from Storeroom



Manage Inventory - Perform Physical Counts and Manage Reservations



Manage Inventory: Faster transactions

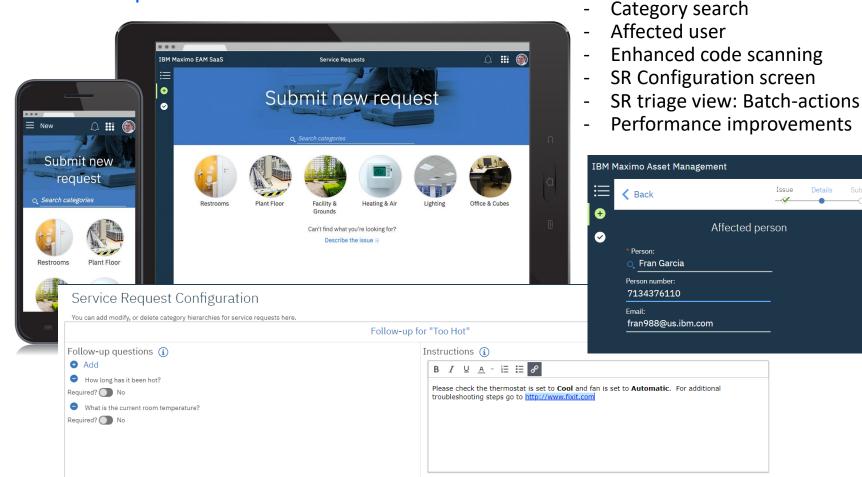


Issued items list

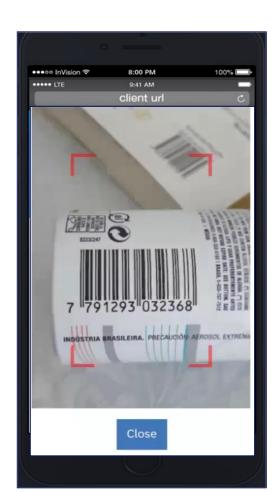
See what has been issued from your storeroom

Return items to the bin & lot they came from

Service Requests in 7.6.1.1



Service Requests in 7.6.1.1 - Improved code scanning



- Camera is now opened in video mode instead of photo
- Red view finder frame is overlaid to help the user focus
- When the code is in focus it snaps to the picture and renders the ID
- An audible beep will sound to indicate success

Supported codes:

- Codabar
- Code-39
- Code-93
- Code-128
- EAN

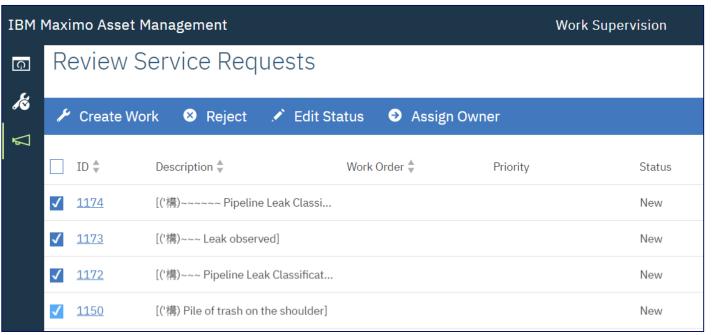
- EAN-8
- Interleaved 2 of 5
- QR code
- UPC

Devices:

- Android/Chrome
- Apple/Safari
- Windows/Edge

Service Request processing page Enhancements

Perform an action against multiple requests





5 Reasons to start using **Work Centers...** today!



The new UX is the future of how users will interact with Maximo Asset Management. Get ahead of the curve, now.



Drive better business outcomes with sleek and modern data visualizations that help your users grasp key Maximo information.



Increase your users' satisfaction by giving them simple tools that save time.



With easy-to-use tooling, users spend less time in Maximo and more time doing real work, helping to reduce MTTR.



Reduce training costs by providing a consistent user experience across all devices.

Get started with Work Centers

 Visit our <u>preview site</u> to get your hands on the work centers.

 Experience the hands-on demo and talk to work center experts at the IBM booth

 Join one of our persona-focused user groups For <u>documentation</u>, see our knowledge center.

 We also have videos you can take a look at on <u>YouTube</u>

Dynamic Job Plans - 7.6.1.1

Job Plan

Unit of work: 1 km



1 labor for 20 minutes

Work Order



Total Work Units: 4 km



Total labor = 20 minutes * Total Work Units / Unit of Work 20*4/1 = 80 minutes

A job plan resource (or resources) can be scaled proportionally based on the scope of work Note: Labor and tools can be scaled by qty or duration or both

Static – Job plan quantity/duration applied directly to work order (standard Maximo option)

Proportional – Calculate the work order quantity/duration by dividing the quantity/duration on the job plan by the job plan work units multiplier for a given work order / asset combination.

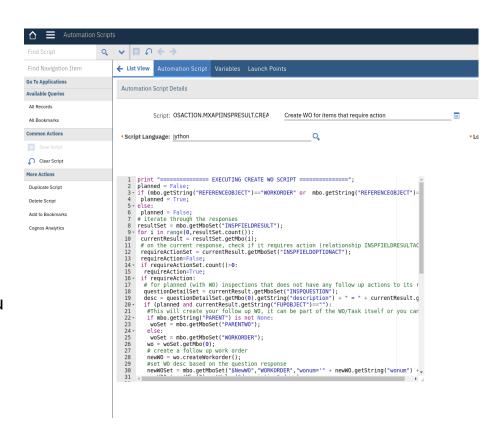
Level – Select the quantity/duration based on a pre-defined threshold (for example only one foreman is required for work under 5 miles in length. Any work over 5 miles requires 2 foremen)

New Action within Job Plan application

 Selection Action > Simulate dynamic job plan

Scripting Editor embedded in Automation Script application 7.6.1.1

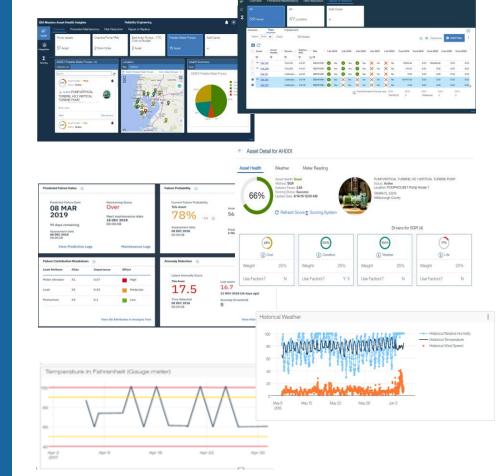
- Syntax highlighting and Line numbers for improved readability
- Collapsible code blocks
- JavaScript validations prior to save
- Auto-complete reserved words, common functions, etc for Python and JavaScript
- Supports some auto-completion of existing variables and methods
- Tab will indent the code instead of taking you to the next Maximo Field
- Supports Ctrl-z for Undo



IBM Maximo APM

Reduces downtime and maintenance costs with asset health metrics and predictive insights

- Asset Health Insights—Provides asset health assessments using asset records, sensor data, and other external data to inform maintenance and replacement decisions
- Predictive Maintenance Insights—Predicts asset health using statistical models and machine learning. Includes failure date/probability, key drivers, degradation curves, and anomaly detection
- APM for E&U Industry specialized solution for distribution, transmission, and generation companies. Enables the understanding of asset health and criticality



Workforce Assistant Solutions

- Integration with AI and Augmented Reality
- Hands-free conversation thru Watson Assistant
- IoT and wearables for improved worker safety



More Efficient UX

Persona-based interface
Persona Responsiveness
Device Responsive
UI Configurability
Worker Assistance – with AI/AR to remove technician pain points

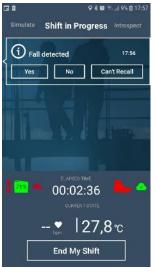
IBM IoT Worker Insights Integration to Maximo O&G/HSE



- Visibility during hazardous conditions
- Traceability and notification

Putting compliance at the center of safety, helps to identify and eliminate hazards in the workplace.

- Combining IoT data from wearables, environmental sensors and other data.
- Real-time insights, putting time and place into context, along with trending and forecasting analyses, and worker information.
- See Hazards and Notifications and trigger Incident processes in Maximo HSE.





Maximo Augmented Collaboration

Augmented Reality enabled communication between a technician and an expert.

- Provides training and operational guidance on pre-modeled 3D objects.
- Technician can send a scene model and images to an expert for additional guidance.
- Supports a variety of use cases promoting better asset maintenance practices.
- Complementary to Equipment Maintenance Assistant (EMA)

Beta 2H 2019

Provide the Technician with more tools in their tool box to help them do their job.

Seek Advice Fix & Learn Collaborate Guide Fix and Learn while saving Seek Advice and Launch from Maximo Work Execution center sessions for training Check terminals, cables and batter I'm busy This area is not my expertise **✓** Accept

IBM Maximo – Equipment Maintenance Assistant



Solution

- Al Assistant for field service teams
- Unlock insights from documents and data in your EAM system
- Create knowledge base by importing from major CMS systems
- Continuous response improvement based on technician feedback

Capabilities

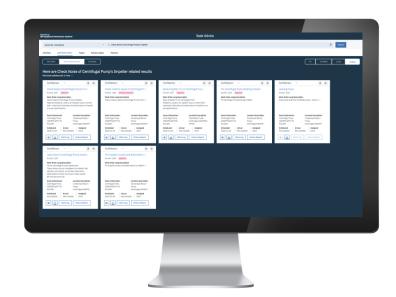


- Insights engine for document understanding
- Diagnosis Models for troubleshooting problems
- Knowledge graph for capturing asset hierarchies
- Query analytics for tracking performance
- Plug and Play integration with Maximo Work Execution WC
- Intuitive technician UI with smart device compatibility



Benefits

- Improve first time fix rate by up to 25%
- Reduce Mean Time to Repair by 10-15%
- Improve diagnosis accuracy and cut diagnosis time by 15%
- Improve technician productivity by up to 20%



Maximo Anywhere Strategic Direction

- Simplification
- Preserve Customer Investment
- Currency
- Growth

Anywhere is a Critical component of the Maximo portfolio and strategic direction

Address key areas

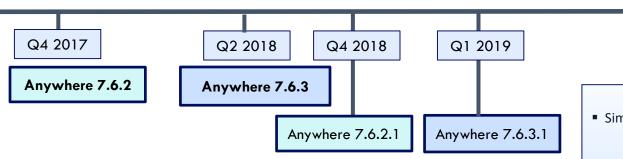
- Continued updates to Anywhere applications and platform
- Deliver new capabilities and application functionality
- Improve the end user experience

Evolving mobile technology and platform

- Simplifying the deployment and reducing infrastructure requirements
- Single shell application distribution
- Foundation for off-line work centers
- Expansion to Windows Store

Plans for initial release of additive capabilities and technology in 2020+

Maximo Anywhere Product Roadmap - continuous feature enhancements



Delivered Customer driven Improvements:

- Work Execution Map Enhancements
- Advanced Map Capabilities
- Mobile OS Support
- Connectivity Improvements
- Serviceability Updates
- Save log from device

- Modernized User interface
- Serviceability features
- Performance feature focus
- SAML based Sign On Support
- Installation process updates
- Ease of build and deployment

Non-Release deliverables

- Step-by-step Installation Videos
- Improved Developer documentation
- Detailed System Requirements doc.

Path forward

Q1 2020

- Simplified architecture (removal of MF)
 - Ease of Install
 - Ease of build
 - Ease of deployment
- Ease of use
 - Single Administrative application
 - Single shell distribution
 - Removal of license restrictions
 - Reduced hardware: Removal of Mac machine
 - requirement for IOs builds
- Improved visibility
 - Direct access to device thru Cordova versus MF
- Currency
 - WebSphere 9 support
 - Windows Universal
 - Maximo platform consistency
- Miscellaneous
 - Reduced middleware
 - Single support team
 - Seamless upgrade
- Foundation for off-line work centers

What's Next....

Maximo Work Centers

- Configuration
- Personalization
- Offline Capabilities

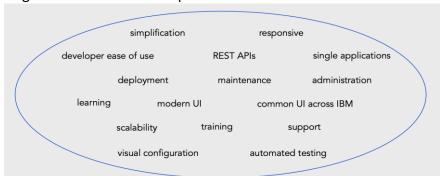
On-going Improvements Modernizing Maximo

Continued focus areas

- Improving the end user experience
- Delivering new capabilities and application functionality
- Workflow enablement

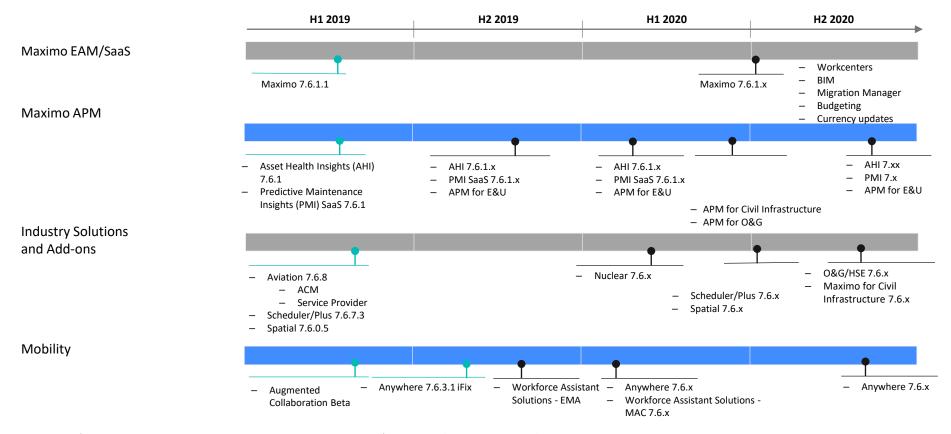
Technical progression

- Ability to configure work centers with a visual configuration tool
- End-user personalization areas built into the work center
- Convergence with Anywhere for offline capabilities
- Fully upgradeable
- Alignment with other IBM products



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Maximo Roadmap



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3 Take Away's...

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



