IBM Update - Maximo Application Suite



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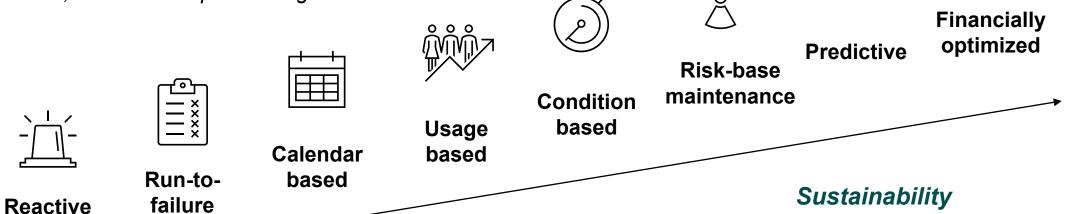
Financial

Optimization

Aligning Maintenance Strategies to optimize ALM

Asset Management Strategy and Maturity Model: Asset utilization and availability

The asset strategy and maturity changes depending on factors including asset/replacement cost, criticality of asset, usage patterns and impact of failure on safety, environment, operations, financial and public image.



Asset value and business impact

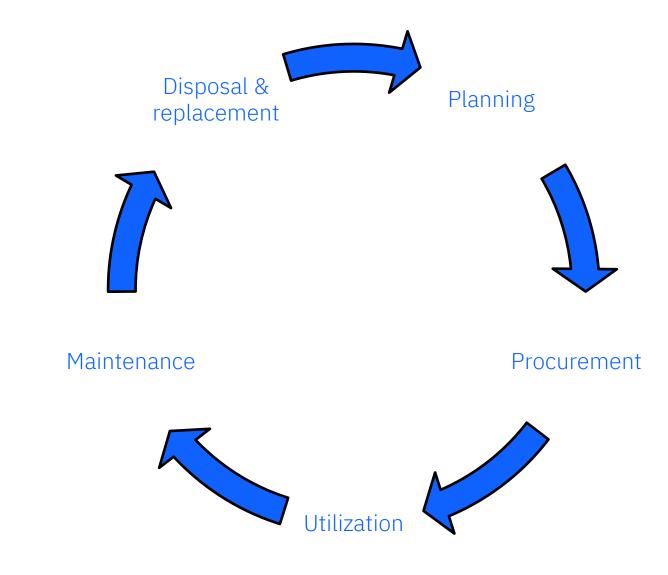
Risk

Mitigation

What is asset lifecycle management?

Asset lifecycle management (ALM) combines a range of strategies designed to extend the lifespan of an asset and increase its efficiency.

- Assess projected value to the organization
- Identify how the new asset will fare within the overall ecosystem
- Maximize the performance
- Value vs costs



IBM Sustainability Software / © 2024 IBM Corporation

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Daily challenges IBM hears from clients

We want to decrease downtime / improve maintenance

\$21K / Minute

Cost of unplanned downtime in large-scale auto production

False Positives

Up to 30% in excess maintenance costs

70%

Hours lost with reactive versus preventive maintenance

We need to derive new value from data...

82%

of asset failures appear randomly

99%

of data collected from sensorenabled assets goes unused We are losing the most experienced technicians...

30%

of the total workforce is retiring

32%

average turnover in the field workforce

\$170B

cost of safety incidents in US industries in 2019

We want to decrease rework and warranty cost...

1.2%

of annual revenue is rework and material waste costs

2.0%

of annual revenue is warranty work costs

What is operational excellence?



Operational excellence is a way for organizations to create a roadmap toward continuous improvement in a complex business environment.

Operational goals: how the company operates, including efficiency and safety.

Example: an organization might seek to minimize functional failures or to improve inventory management.



Financial goals: metrics related to sales and losses.

Example: a company could investigate if an asset is performing at sub-optimal level which leads to hemorrhaging energy and money.



Culture/workforce goals: investing in worker retention and knowledge transfer.

Example: with the aging workforce phenomenon, an enterprise could streamline trainings and processes to secure it'll always have the right skilled people.

How can you achieve operational excellence through ALM with Maximo?

Applying the business management approach of operational excellence to ALM means consistently searching to improve across all aspects of the business, within all business processes and across all lifecycle stages.



Accurate tracking

of assets, resources and expenses

Having the current state of your assets, resources deployment and tracked expenses in one platform will allow you to continuously learn from historical practices to adapt future practices and to achieve a more sustainable business status.



Effective reliability

strategy ease of implementation

From Reliability Strategy Library, you can copy PM and job plan details into Manage for more than 800 asset types, allowing you to accelerate your RCM journey and to unlock resources to conduct your own complementing RCM analysis if needed.



Real-time monitoring and AI anomaly detection

Monitor performance at scale and get meaningful alerts generated by AI-based anomaly detection to help your teams prioritize critical work, better managing your resources while preventing downtime with the help of this data-driven approach.



Assign the best expert with the right skills

Knowing real-time where your technicians are and the current asset health status, you can optimize your team's schedule to assign your best expert with the right skills for the task at hand.



Mitigate functional

failures faster, easier

Operating at 90% of capacity per hour can mean a loss of thousands of dollars. Browsing equipment failure mechanisms in the Reliability Strategy Library can help you deploy the appropriate mitigating activities to prevent functional failures.



Predict failures

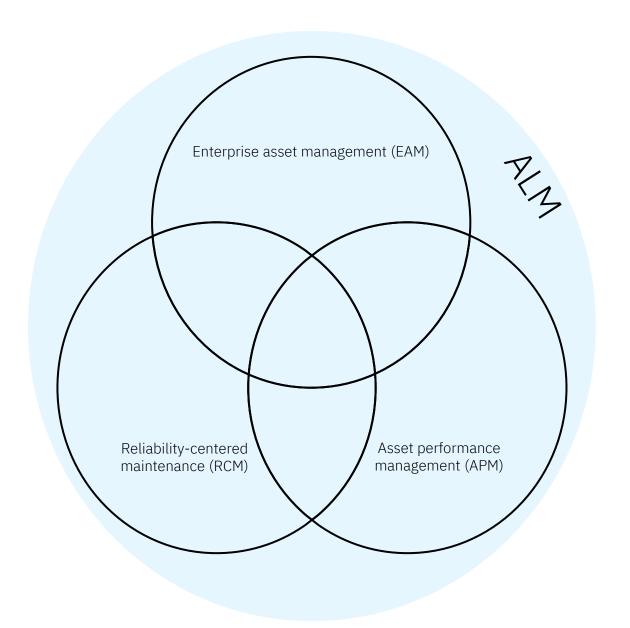
before they happen

Increase data utilization to increase accuracy on predicting a failure. This way, you'll be able to schedule a timely preventative maintenance activity to avoid a breakdown.

What is IBM Maximo Application Suite?

IBM Maximo Application Suite is a modular and scalable enterprise asset management (EAM), asset performance management (APM) and reliability-centered maintenance (RCM) platform.

It's applying AI, IoT, analytics and automation capabilities to best-practice industry solutions to manage assets, infrastructure and resources, monitor operations and improve product and service quality. All while reducing energy consumption and waste.



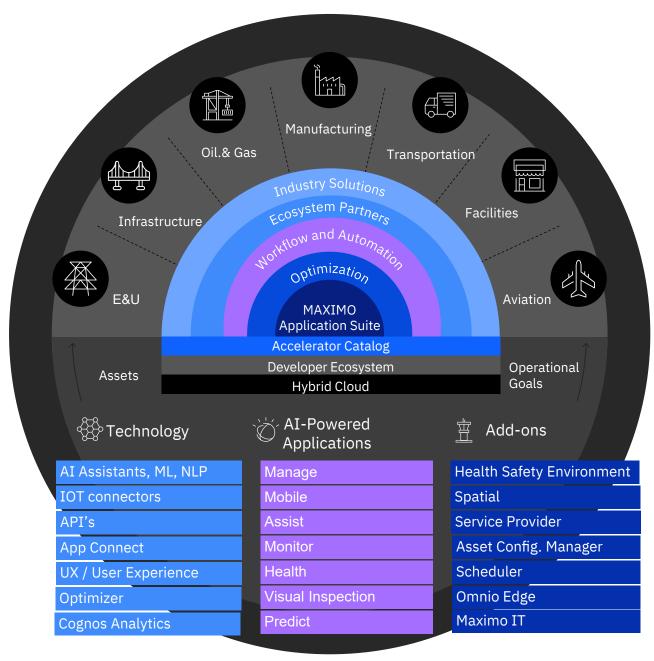
MAXIMO APPLICATION Suite

Powered by Al-based Automation

The next generation of Operational Technology (OT) solutions requires bringing new intelligence that did not previously exist.

Enhancing physical assets operations with rich digital insights helps companies transform their businesses.

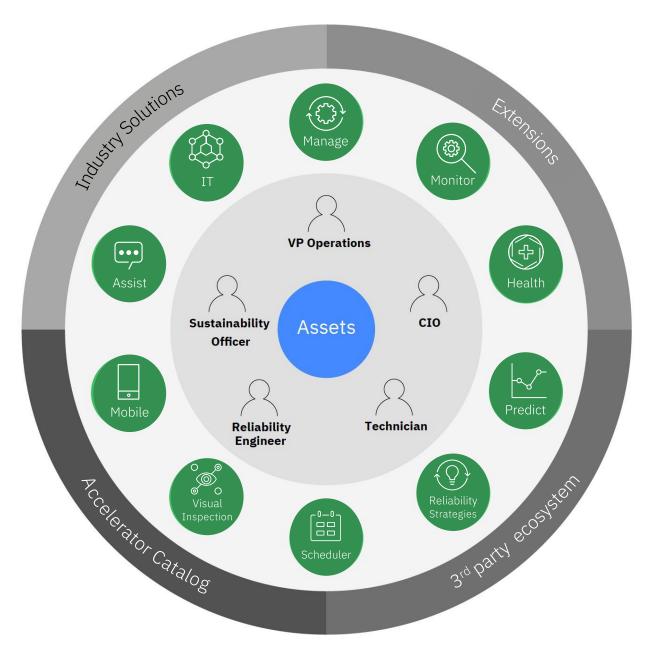
Lastly, the solution must be plug and play able to quickly integrate to existing solutions



IBM Maximo Application Suite

Remote asset monitoring, maintenance, and reliability applications in a single platform

- Integrated solution
- Usage flexibility
- Multi-cloud deployment



Why Maximo?







An innovation leader in Asset Lifecyle Management

Inspections

Reduce the cost of your inspections up to 75%, while increasing frequency by 50%

Maintenance

Achieve first-time fix rates >90%, reduce PMs up to 50%, improve productivity 44% and reduce truck rolls 25%

Reliability

Extend asset life 20%+, reduce downtime up to 43%, and reduce cost 20%

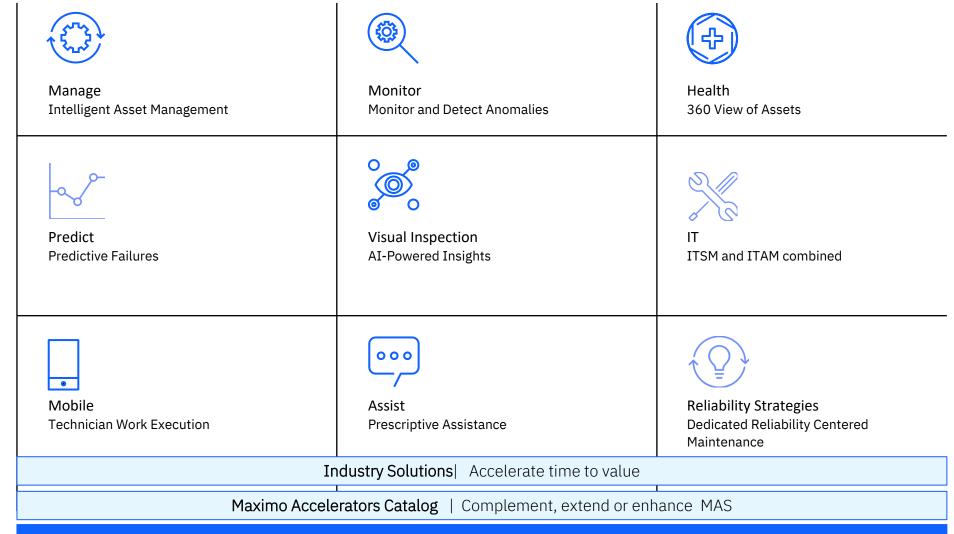
Supports ESG objectives: Advance decarbonization and avoidance

- Improving carbon capture through lifecycle extension
- Reducing asset energy usage20% through optimization
- Reducing chemical and water usage/waste
- Transitioning the next generations of knowledgeable workers

Maximo Application Suite

Best-of-class capabilities to provide complete view of your assets addressing the needs of key personas in your organization.

- Technicians
- Technician Supervisor
- Asset Maintenance Manager
- Plant Manager
- Fleet Manager
- Operations Manager
- Reliability Engineer
- Quality Manager
- Planners / Schedulers
- Dispatchers
- Purchasing Managers



IBM Cloud Pak for Data | Watson Studio | Watson ML | Watson Discovery | Watson Assistant | App Connect | Cognos Analytics



MAS Deployment Options

Deployment	Availability	Procure	Provision & Operate	Client Benefits	
On Premise Customer Managed	Now	Client purchases MAS from IBM Client provides infrastructure	Client provisions, manages, and operates full stack	Maximum operational flexibility	
Hyperscalers Customer Managed	Now AWS Azure Now AWS Azure	BYOL Client purchases software from IBM and infrastructure from Hyperscalers Paid (Marketplace listing) Client purchases software and infrastructure from Hyperscalers	Client runs IBM-provided automation scripts to deploy MAS on Hyperscalers' cloud Client manages and operates both software and infrastructure	 Simplifies procurement and deployment Allows client to select their Hyperscalers Flexibility for clients to manage and operate their environment 	
SaaS Editions IBM Managed	Now AWS	Client purchase single part (includes software, infrastructure, and operations) from either std IBM sales/channels or AWS Marketplace Essentials Standard	IBM provisions, manages, and operates Client's MAS environment on AWS Cloud using IBM's AWS cloud account Provides a base implementation of Manage or MVI. Limited configuration. Provides full MAS Capability, with limited options and operational options	Reduced time-to-value Reduced operational costs Allows clients to focus on business priorities Entry Level for small implementations. Targeted at most clients requiring MAS and wanting to focus on standard capabilities. For clients wanting more	
		Premium	operational options Full MAS with more flexibility.	· ·	

New MAS SaaS editions Maintenance & Inspection Essentials Advanced options for clients with specific requirements Selection of advanced purchase options Broad operational flexibility options Tailored configurations for complex deployments Communication initiated via tickets; has assigned personnel SaaS alternative to MAS Dedicated Current MAS SaaS offering Mid-priced option suitable for most clients

Select additional purchase options available

Communication exclusively via support tickets & CCC

Traditional SaaS operational policies

Best option for most SaaS Flex clients

Entry level offering for new SaaS clients

ESSENTIALS

- Starting at less than \$40K per year
- Fixed configurations at a fixed price
- Traditional SaaS operational polices
- Communication exclusively via support tickets & CCC
- Best for new entry-level & small on-premises clients

https://www.ibm.com/products/maximo/pricing

¹ Availability of options will vary. Some are not available at initial release.

Simplified Licensing and Usage

MAS AppPoints will be used across suite

Entitlement covers the whole suite. AppPoints are expended based primarily upon different active User types and installs.

1. Single license

One entitlement to entire Suite

2. Flexible consumption

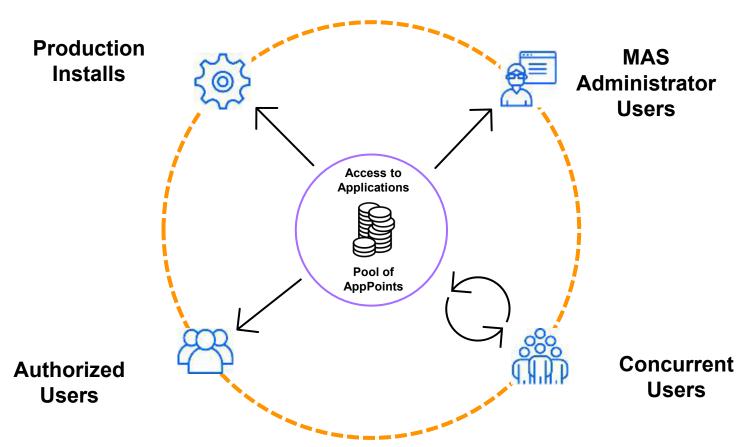
Sharing of license through Concurrent Users

Guaranteed access for Authorized Users

3. Simplified usage

Access applications without additional provisioning

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MAS AppPoint License Model

USER TYPES	Self Service		Limited		Base		Premium	
Administration Users (<i>Authorized</i>)	N/A		N/A		10 AppPoin	ts	15 AppPoints	
Application Users (<i>Concurrent)</i>	0 AppPoints		5 AppPoints		10 AppPoints		15 AppPoints	
Application Users (<i>Authorized</i>)	0 AppPoints		2 AppPoints		3 AppPoint	TS .	5 AppPoints	
Applications	Self Service Applications Service Requests Desktop Requisitions Requests (Oil & Gas) Create/Review Incidents (HSE) Vehicle Requests (Transportation) Graphical Appt Book (Scheduler) Bill review (Service Provider)		 Manage 3 Modules: Manage (Linear/Calibration/Spatial) Manage Industry Solutions Manage Add-ons IT Maximo Mobile 3rd Party Mobile Monitor Assist (requires install)		Manage Includes: • Linear • Calibration • Spatial (requires in • Scheduler • IT Health	nstall) Pr Vi	anage ndustry Solutions Oil & Gas, Aviation, Transportation, Utilities, Nuclear, Civil Infrastructure Add-ons Asset Configuration Manager, Service Provider, Health Safety & Environment Manager redict sual Inspection (requires tall)	
Install AppPoints (Production Only)	SAP/Oracle/Workday Civil Infra Connectors (5			Visual Inspection (45) Edge (1)	Spatial (20)	Assist (150)	Optimizer (60) / (220)	

Introducing MAS 9.0 Targeted GA June 2024



What does it mean?

Traditionally, a change to the version number of software indicates an impactful technical or functional difference from the prior release. For MAS this is <u>not</u> the case.

MAS 9.0 will provide:

- Introduction of a new 3+1+3 Lifecycle Policy
- Standardization of MAS product versioning which simplifies and aligns across the MAS portfolio
 - All MAS products (including Maximo Manage, Monitor, Health and Predict) will utilize the same version number within each release. (e.g., MAS 9.0 will contain Maximo Manage 9.0 and Maximo Health 9.0)

IBM Maximo Application Suite Product roadmap highlights

1H 2024 Planned deliverables (MAS 9.0) Maintenance Inspection Reliability Instrumentation and improved User Management; Federal Readiness; MAS Dashboards (Single Pane of Glass across MAS); Maximo Mobile (scalability, performance, serviceability); Accelerators; PLG (discovery and trials); Improved Migration GenAI assistants for Work Order MVI scalability and Maximo Mobile Expansion of Reliability Strategy Intelligence integration improvements Library & enabling customers to create new strategies Field Service Management: MVI GigE Camera Support, Facial Dispatching, mobile, optimization, Redaction and omni-channel integration **Expansion of Asset Investment** Optimization and Planning Mobility for regulated industries Increase the operational efficiency & (calibration and asset install/remove) agility of Maximo IT clients Improve Health TTV by utilizing existing Manage data. Assist in Vegetation Management solution Improved Accelerator deployment identifying/resolving missing data. leveraging Maximo and EIS experience Optimize asset performance using Emissions Management for critical data from the edge assets MAS SaaS continuous delivery updates

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Continued Investment in Maximo Application Suite – Focus Areas for 1H

2024 (MAS 9.0)

Modernized User Experience

IT/OT Convergence Administration & System Maintenance

Expand and Deliver through ecosystem

RCM Library

Embrace Generative AI to bring value to each critical role in MAS Enable 100% compliance and accurate asset data capture through mobile work and inspections activities for regulated industries Increase the operational efficiency and agility in enterprises by integrating IT and OT systems for real-time data sharing, analysis, and decision making.

IT Administrator can improve system availability and ease of implementation and ongoing maintenance

Rapidly grow ecosystem of accelerators to address critical opportunities and TTV

Clients can implement reliability-centered maintenance 75% faster and reduce their maintenance cost by 20%

- Maintenance managers are 10-20% more productive processing routine work, and increasing the data quality 25-30%
- Deliver a consumable experience that empowers everyday users of MAS to derive greater value from AI insights and automations
- Modernize and Enhance role-based applications (Add Cognos)
- Optimize Scheduling and Dispatching capabilities
- Introduce Calibration, Incident Mobile Applications
- Configuration Tool
- Complete Issues and Transfers
- Include operational, condition and predictive, and additional inspection capabilities into MAS dashboards.
- Introduce MAS dashboards
 for engineers and operators.

- Improve the interoperability of IT and OT processes
- Service view application for service availability and value Data driven decisions
- Enablement of Chatops, Swarm, remote control and video support to Agents
- Simplified Discovery data load APM

APM as an essential component driving improved reliability.

- Improve model lifecycle mgmt
- Expand AIP
- Link MVI outputs to Condition flow for assets
- Operations managers can easily connect, stream and automate actions optimizing performance using edge data

- User management, IDP options, authentication
- Continue development on migration to MAS items.
- Improve Operator Maturity
- Power &/or Z support for MAS Manage
- Continue to deliver on Federal Readiness actions to eliminate barriers for Regulated customers
- Certify on newer BIRT and Cognos versions

- Improve the consumption experience of accelerators
 Introduce certification program to foster trust in

 Improve the consumption import import from lile.
- Introduce Carbon Emissions Module for Manage

offerings

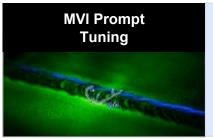
• Introduce Renewables offering

- Improved data import capabilities from library
- Reliability Strategies Composer
- Reliability Strategies Builder
- Reliability Optimizer
- Condition Based maintenance advanced analytics

Embedding AI Intelligence into Maximo processes



- Maximo Visual Inspection is currently based primarily on open-sourced convolutional neural network models. These models can lack accuracy for "Few-Shot" anomaly detection.
- We are building a transformer-based foundation model that will fill these gaps



- Maximo Visual Inspection uses the classic ML pattern of labeling data, training the model and deploying the model to provide capabilities.
- · We are using foundation models and prompttuning to dramatically reduce the effort required to effectively train the model



- Technicians have a difficult task diagnosing and fixing issues across a wide array of equipment.
- IBM is using an AI assistant trained on service manuals and previous work orders to help technicians easily access the latest asset service info and generate repair workflows.



- There is a wide variety of sensors and asset behaviors that must be analyzed to understand an asset's health
- · We are using Gen AI to create sensor-level models, trained on a small sample of sensor data. This greatly speeds time to value for asset health prediction.



- Often the quality of the failure data available for reliability analysis is inadequate. Understanding how assets fail is crucial for effective preventative maintenance.
- Maximo is building a gen AI model to classify asset failure modes derived from work order data.





- Enabling the automatic processing of work order through business flows based on recognizable patterns can save valuable time over manual review.
- Maximo is building both ML and generative foundation models to provide automated recommendations to assist users in managing work order process flow.



- Clustering of tickets and assignment will ensure work is aligned to the right resource, and drive solutions to enable users to solve more of their own issues.
- Maximo IT is building both ML and generative foundation models to deliver ticket deflection through ticket grouping and assignments and pushing effective solutions to end users.



- Maximo Application Suite is a complex product that needs integration with other client systems
- · We are training an LLM model to help answer questions that arise in its implementation that can guide clients and answer questions about costs, effort and risks.

Failure Mode Context Understanding

Identify common failure points and paths to failure for new assets to improve predictive maintenance and reliability programs



Challenges

- Understanding how assets fail is crucial in providing preventative maintenance and reducing asset downtime.
- Failure Mode and Effects Analysis provides key insights into this area
- However, FMEA data is not available for many different kinds of assets and it can take time to acquire



Solution

- Train a generative model of FMEA data to understand failure points and modes on common assets
- Use the generative model to produce data for assets that we have not worked with in the past
- Auto-populate FMEA rules and maintenance strategies in Maximo Manage for new clients
- Identify new tags that can be used for anomaly detection and failure event analysis

Products and Technology:

Maximo Manage, Maximo Health, Maximo Predict, Maximo Monitor and watsonx.ai



Benefits

- Reduced time to value for asset classes where we have less experience
- More accurate failure assessments and preventative maintenance plans
- Automated creation of maintenance strategies for new assets & clients
- Improved Anomaly Detection and Event Prediction capabilities in Maximo Health and Predict



Work Order Intelligence

Automatically identify and correct inaccurate failure codes in Maximo work orders



Challenges

- Understanding why a work order was created is key in finding patterns and in optimizing operations
- The collection of failure mode information in work orders is typically manual and very error prone.
- Clients often do not collect data for all of their asset classes and it can take a significant amount of time to build up an adequate history of failure data



Solution

- Train an LLM to classify and recommend work order failure codes
- Use that model to verify, correct or suggest the proper failure code for a given work order
- Find similar work orders to identify near-duplicate items and understand first time fix efficiency
- Enable automatic approval of work orders based on work order characteristics

Products and Technology:

Maximo Manage, watsonx.ai



Benefits

- Dramatically reduce the effort required to capture and maintain accurate failure code data
- Better understanding of the patterns of failures and potential problem parts
- Automatic approval of typical workorders enabling technicians to focus on solving the problems



MAS Onboarding Assistant

Reduce the risks, costs and effort involved in making the migration to Maximo Application Suite



Challenges

- Maximo Application Suite as an enterprise product generally needs to be tightly integrated with other client systems
- Many implementations are also heavily configured
- MAS is delivered with new Licensing and Technology
- There is a significant amount of information available through various channels on MAS and it's not always easy to find relevant content.
- This is creating barriers with clients in understanding the costs and benefits of migrating and in the process of the migration itself



Solution

- Train an LLM model help answer questions that arise when a client is considering the migration that can guide them through the decisionmaking process and answer questions about costs, effort and risks.
- Provide a second assistant that has been trained on product documentation and support tickets to guide them and answer questions that might come up during the migration/onboarding process

Products and Technology:

Maximo Application Suite, watsonx



Benefits

- Enable clients to understand the benefits and costs of moving to Maximo Application Suite, reducing the uncertainty and risk
- Enable a seamless upgrading and onboarding experience for our clients



IBM Maximo Application Suite Product roadmap highlights

1H 2025 Planned deliverables (MAS 9.1)

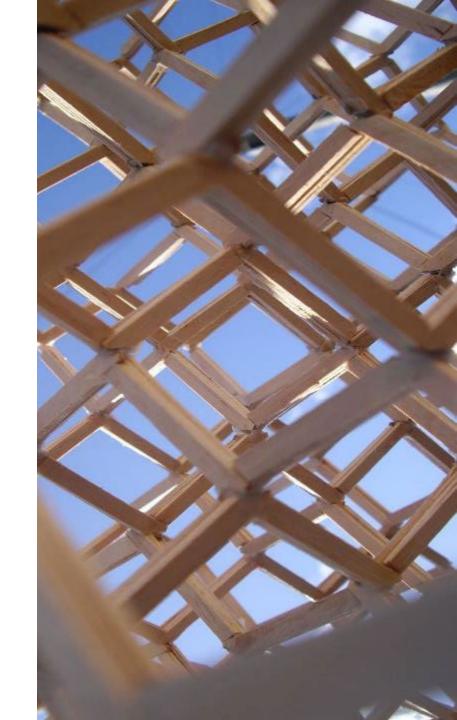
Maintenance Inspection Reliability Improved User Security across MAS, Guest Users Support, Java 17, Support for Power/Z, Data Loader Dashboard MVI Measurements and Model MAS level Dashboards and extended Reliability Strategy Dashboard & Lifecycle capabilities (Work progress bar direct link from Manage Assets to configuration) Library MVI scalability and Maximo Mobile integration improvements MAS level Mobile Scheduling Monitor for Real Estate/Facilities Mobility - Work Additional Scheduling Constraint assignment/reassignment Types Introduce additional Health scoring methodologies, work queues and Civil Infrastructure - Defect Maximo IT - ITIL v4 certification actions Dashboard GenAI assistants for Tickets & MVI Improved Accelerator deployment experience

MAS SaaS continuous delivery updates

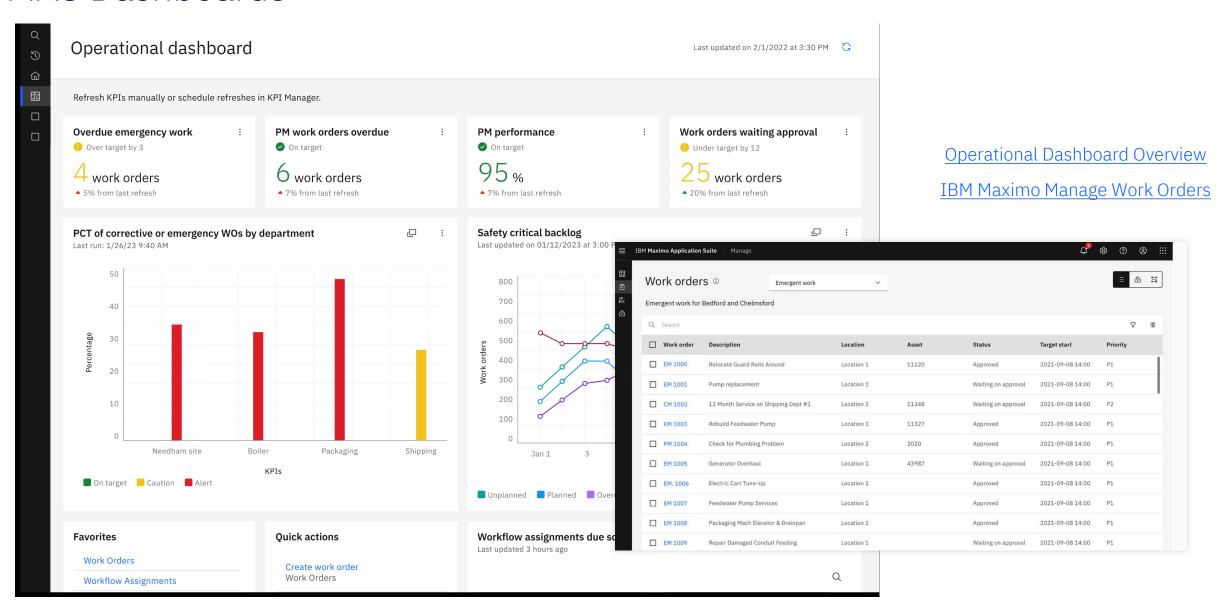
Modernized Experiences to support the new workforce

Maximo Application Framework (MAF)

- ✓ Uses REST APIs to ensure business rules with direct connectivity to the enterprise system
- ✓ Applications run in a browser or on a mobile device
- ✓ Same tool to <u>configure</u> an App to run on mobile and desktop, can use xml presentations
- ✓ Same development environment to <u>create/build Apps</u> for mobile and desktop

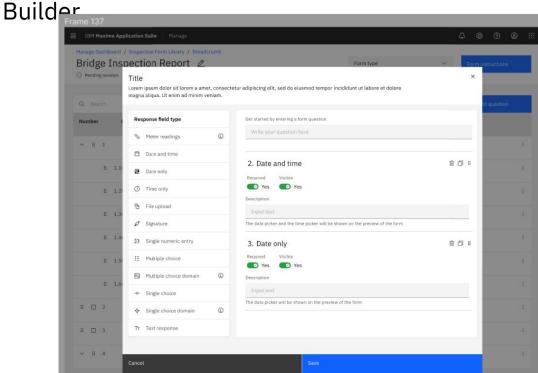


MAS Dashboards



MAS Modernized Dashboards and Applications 2024 and Beyond

Inspection Form



Maximo Management Interface (MMI)

• Administrative Dashboard to provide insights into Maximo application health and performance.

Data Loader

 Provide tools to manage data sets while ensuring business rules are enforced.

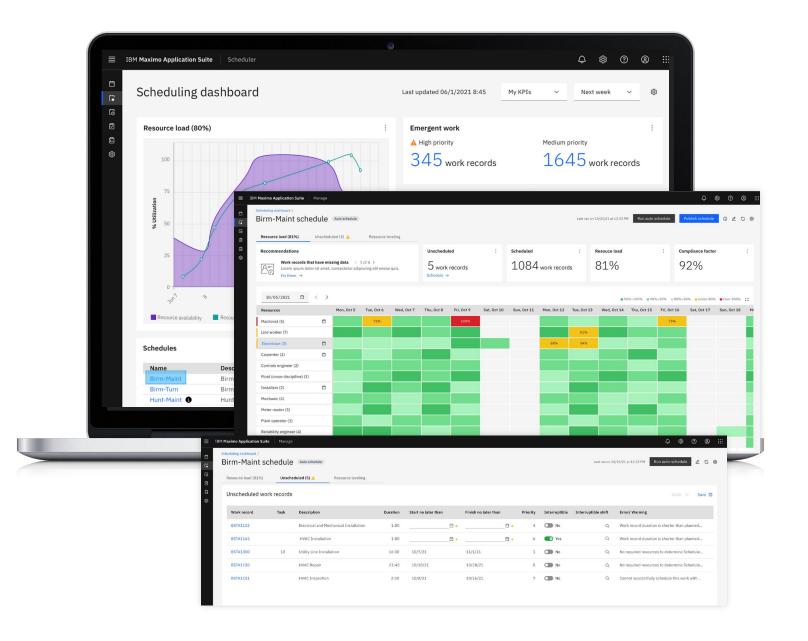
Scheduling – Planner Dashboard

Support longer term planning horizon scenarios.

Scheduling Dashboard Role Based Application

The dashboard is a holistic view of schedules, indicating areas requiring scheduler's attention with navigation to detailed schedule.

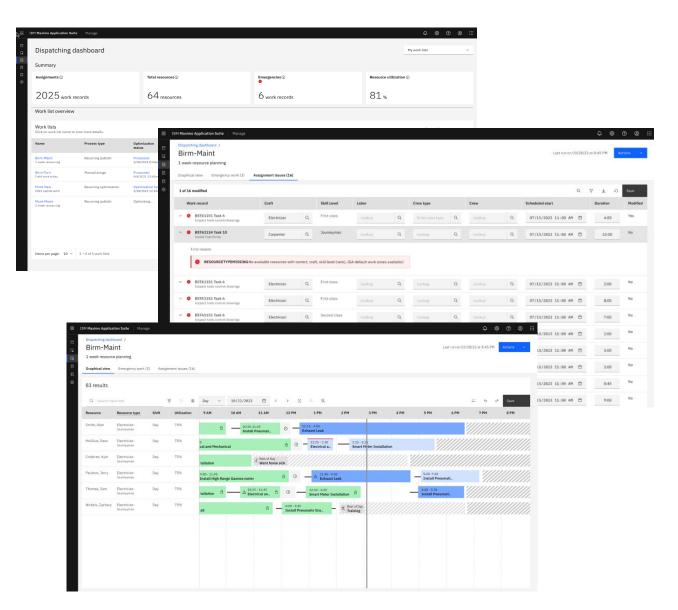
- Optimization initiated by the scheduler or at specific times using configurable parameters. The results of the optimized schedules are shown by resource load and resource levelling.
- Resource load and availability is presented as a heat map, clearly indicating areas of concern
- Resource levelling provides the user with an interactive graphical view
- Unscheduled work records are listed with the errors or warnings in a table that allows the user to fix inline
- Ability to bring work into the schedule from a backlog
- Compliance reporting with configurable metrics
- Leverages existing objects and methods of core applications. Ability to navigate to classic applications for details and additional modifications when necessary



Modernized Experience: Dispatching Dashboard

The dashboard is a holistic view of schedules, based on Optimization KPI's, indicating areas requiring dispatcher's attention with direct navigation to exception workflows.

- Rule based optimization can be initiated by the user or scheduled as specific times using configurable parameters. The results of the optimized assignments are presented as KPIs in graphical timeline or map
- Timeline interactive view allows the dispatcher to monitor work status as the day progresses and indicates areas requiring attention
- Assignment issues list work records with errors or warnings in a table view that allows the user to directly fix inline and then re-run optimization and check new results.



Maximo Mobile

Optimized User Experience



1 application,1 role-based interface



Connected and disconnected



Trustworthiness: data quality is higher, and real-time updates



Intelligent forms = configurability



iOS, Android, Windows



Included as part of MAS base license





Adaptive UI and Configuration of the Maximo Application Framework

Applications that use the new Maximo
Application Framework can be configured
to add new fields, update labels, or even
duplicate an application to make it your own.

Drive Efficiency at Scale



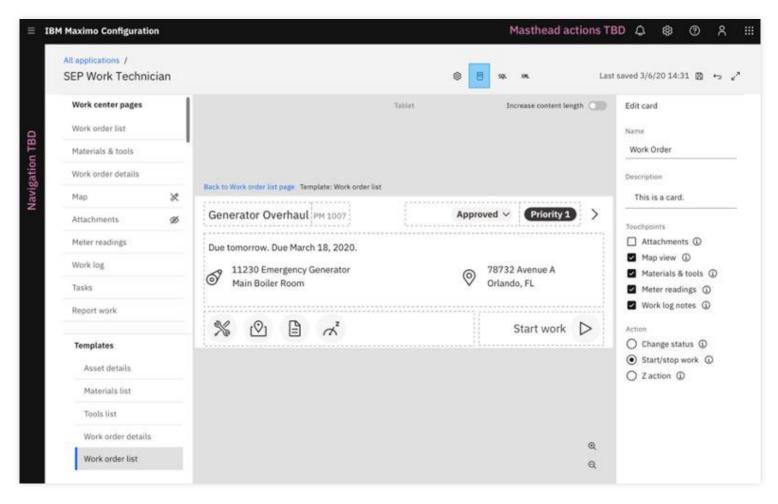
Accelerate adoption



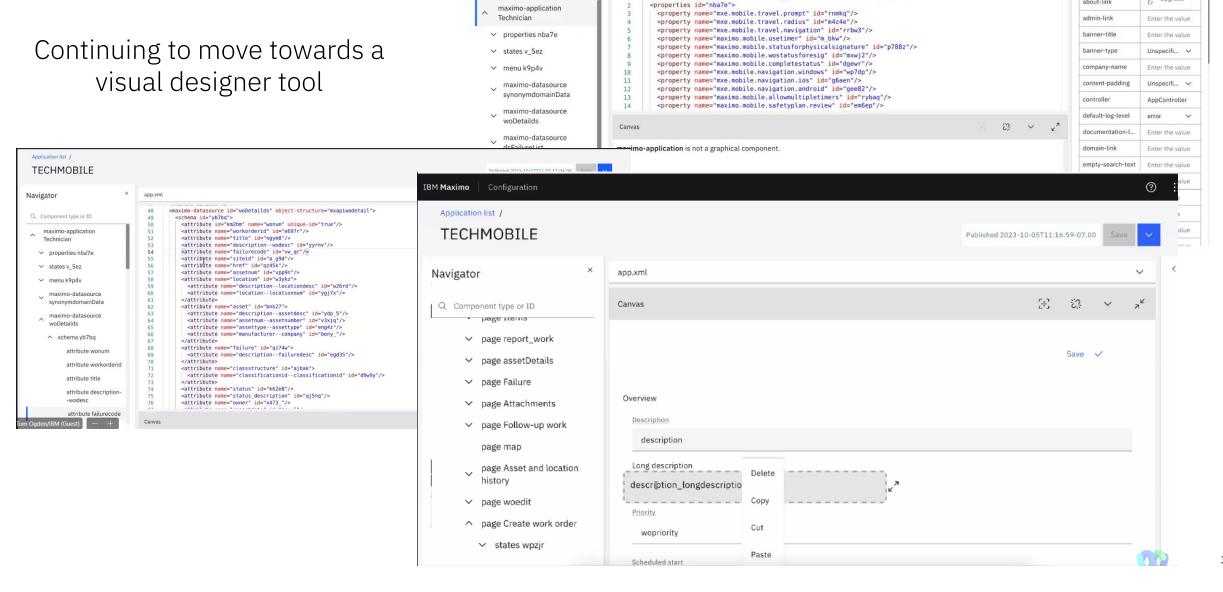
Protect your investment



Quicker time to value



Application Designer



app.xml

<maximo-application navigator-tile-order="100" controller="AppController" theme="touch" product-name="Maximo"</pre> product-name-adaptive="Maximo" title="Technician" id="techmobile" version="8.11.0.0" default-log-level="error"

user-menu-enabled="true" nav-initial-open-state="false" mas-enabled="false">

Application list / TECHMOBILE

Q Component type or ID

Navigator

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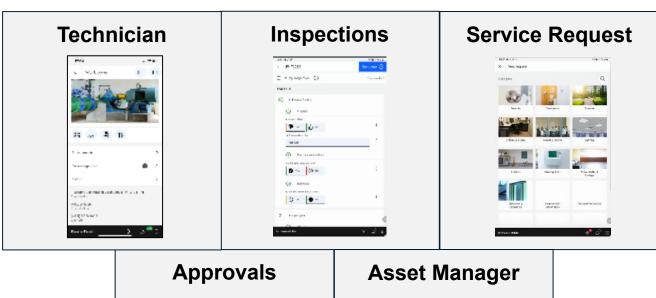
about-link

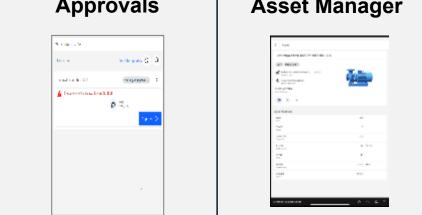
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Er Upgrade

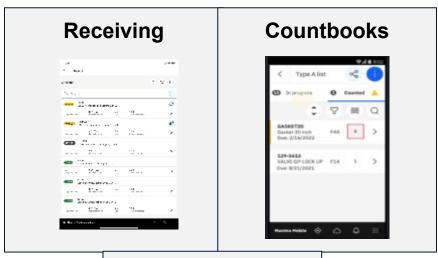
Providing mobile applications across roles and functions

Maintenance





Inventory

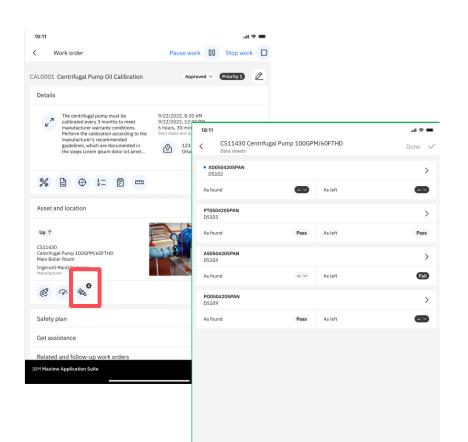




Targeted for MAS 9.0

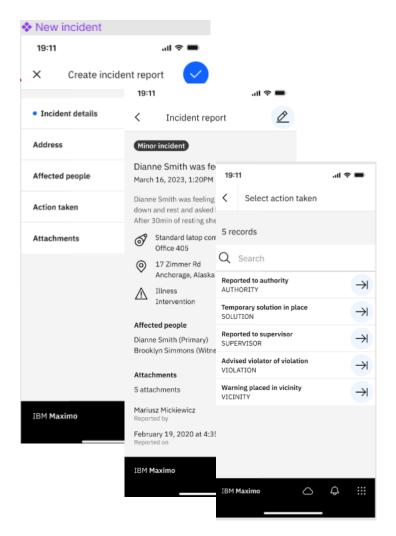
Roadmap to extend Mobile Applications - 2024

Calibration

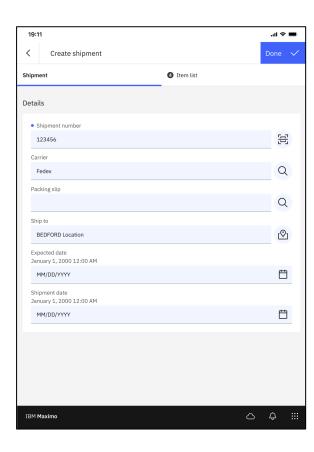


IRM Maximo Application Suite

Incident Reporting



Inventory -**Transfers & Staging** & returns



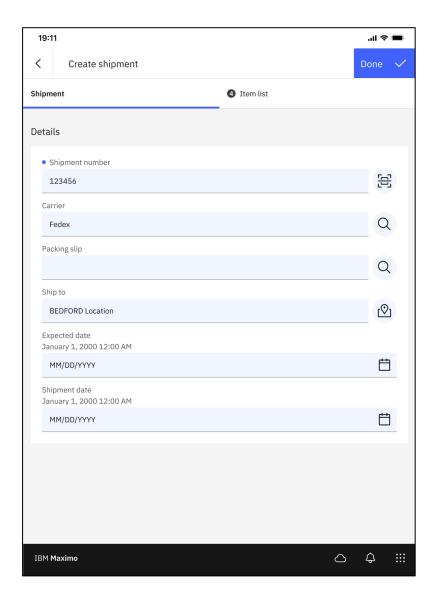
Transfers, Creating Shipments in Maximo Mobile

Transfer Inventory items using Inventory Usage Records

- Create Inventory Usages with TRANSFER type
- Add Items from Inventory to Transfer between
 Storerooms within user's Site in the Mobile App
- Open existing Inventory Usage Records created in MAS Manage to Transfer items Site-to-Site
- Save at any point after providing required fields
- Initiate Transfer from Mobile both on or offline

Create Shipments on Mobile

- Enforce rules set for the Organization on Transfers that require Shipments
- Create Shipments on Mobile with Auto-numbered Shipment Records



Staging

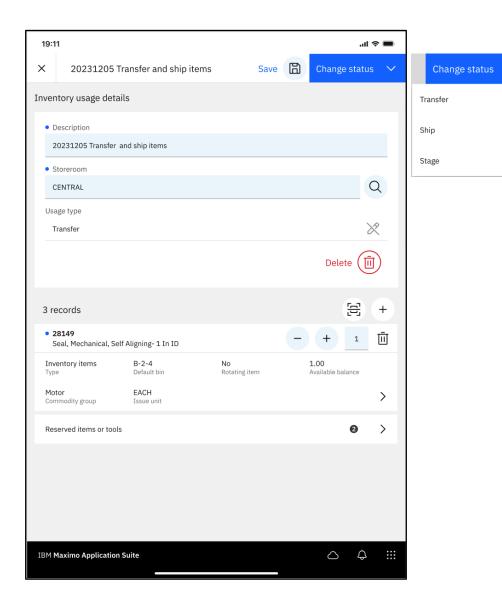
Stage Inventory Usage Records

- Create Inventory Usages of Transfer or Issue type or Open Inventory Usage Records of Entered status
- Add Items from Inventory and Reservations
- Set Inventory Usage to Staged on Mobile both on or offline, define Staging Bin

Transfer, Issue or Ship Staged Inventory Usages

- Open Inventory Usage Records of Staged Status
- Change Status on Mobile both on or offline

Targeted for MAS 9.0



Maximo Assist

Empower technicians to work autonomously by enabling them to obtain Al guidance whenever they need it



Engineering process: Root Cause Failure Analysis (RFFA) Failure Modes Effects Analysis (FMEA)



Historical work orders (EAM data)



Manufacturer and owner manuals, engineering manuals



Custom training repository



Journals, magazines

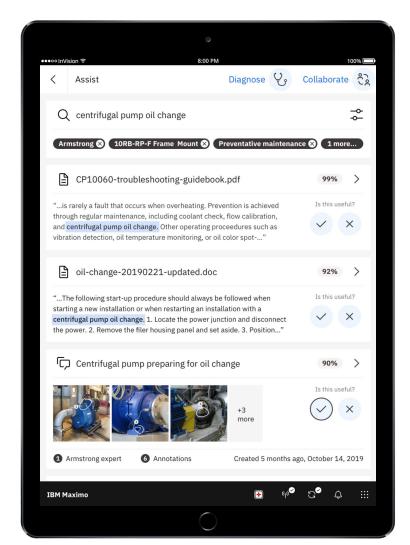


Customer service/helpdesk data



Ask expert technician

Benefits: Reduce mean time to repair, boost first time fix rates, improve technician productivity





Maps



Esri ArcGIS

- -ArcGIS Online and Enterprise
- -Improvements for large map datasets



Online and Offline maps



Outdoor and Indoor maps.

-Indoor Positioning System



Download and Sync capabilities for Map data (OTA)



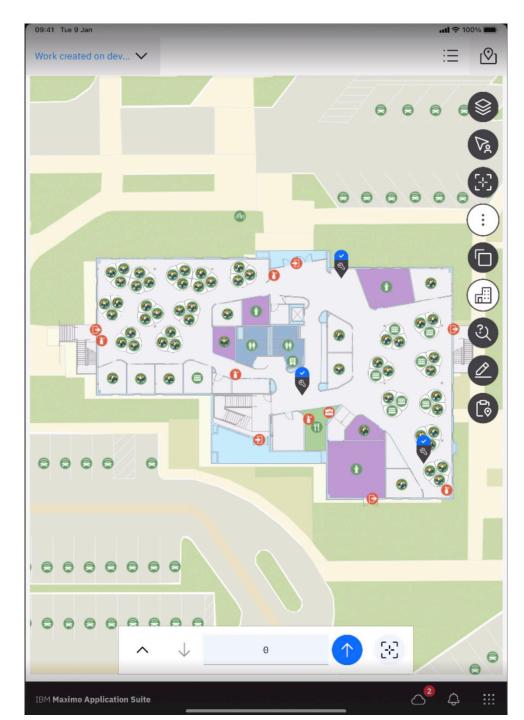
Navigation











Assist Remote Guidance

for additional assistance, whenever you need it, wherever you need it



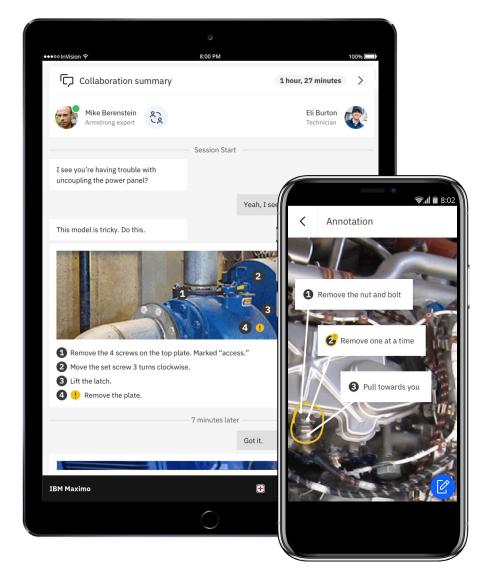
Remote Guidance session history attached to the Maximo work order for future reference and added to Al knowledge base



Capture your expert knowledge and make it searchable next time a similar incident occurs



Enhance experience for new technicians and help every technician perform like your best technician



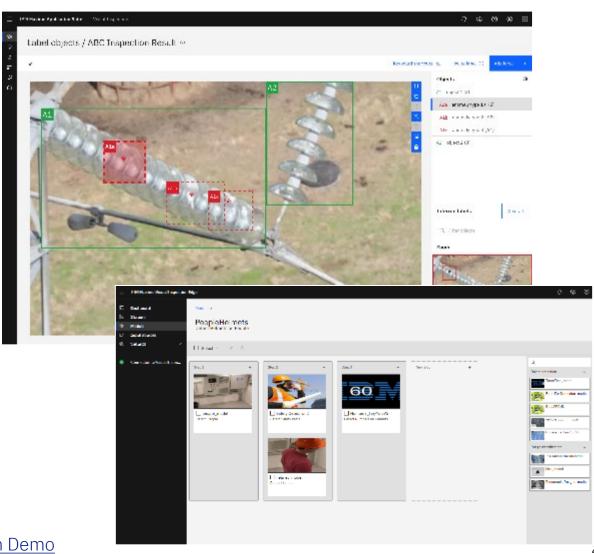
MVI: Use visual inspection to identify anomalies

Automatically <u>detect anomalies</u>

- Create an anomaly model using only normal images of the object for inspection
- Automatically identify when <u>unusual or</u> <u>unidentified elements</u> appear on an object in an image

Run models at the <u>edge</u>

- Configure rules to <u>automate actions</u> and run anomaly models on MVI Edge
- <u>Composite models and pipeline workflows</u> at the Edge
- <u>Purpose-built</u> models



MVI: Use visual inspection to identify anomalies – 2024 investments

Support GigE Vision

High Bandwidth: offers highspeed data transfer for MVI Edge.

Power Over Ethernet (PoE): simplifying installation and reducing wiring complexity.

Plug-and-Play: easy setup

Scalability: compatibility and expandability.

Facial Redaction

Image blurring technology for MVI Edge outside the detection boxes.

Risk Mitigation: reduces the risk of unauthorized access, identity theft, or misuse of personal information.

Legal Compliance: Helps organizations comply with data protection laws and regulations.

DLM

Data Lifecycle Management New Policy Manager

Automate removing historical images and videos.

Provides flexibility to enable policies based on metadata and attributes (i.e. location, inference results, etc.).

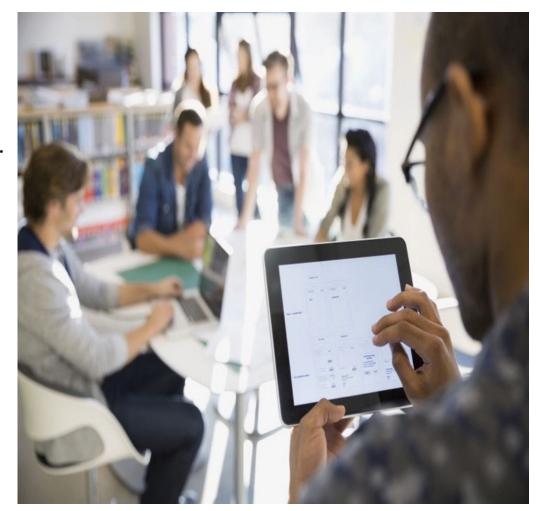






What it can do for your business

- Maximo IT provides the IT service management (ITSM) and Asset
 Management needed to simplify support of users and infrastructures.
- Adds capabilities to support IT/OT convergence
- Helps to reduce costs and increase satisfaction through self-service, automated service management and integrated, best practice-based service desk capabilities and IT Asset Management processes.
- Leverage your investment and knowledge of Maximo/MAS Manage

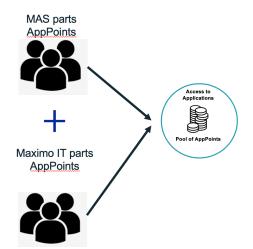


Maximo IT

New Add-on to MAS Manage

Maximo IT

- Complete functionality of IBM Control Desk 7.6.1.5 (ITSM, ITAM)
- Modernized Graphite Self Service, replaces Service Portal
- Integration Foundation
 - Slack Chatops, Swarm
 - Jira Devops
 - ManageIQ Cloud

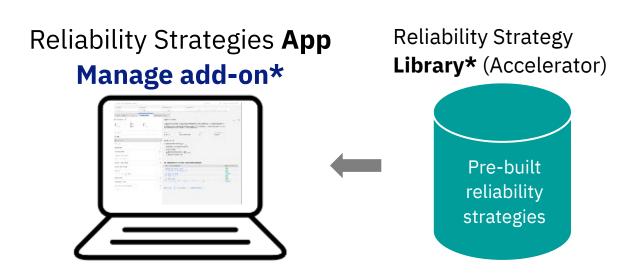


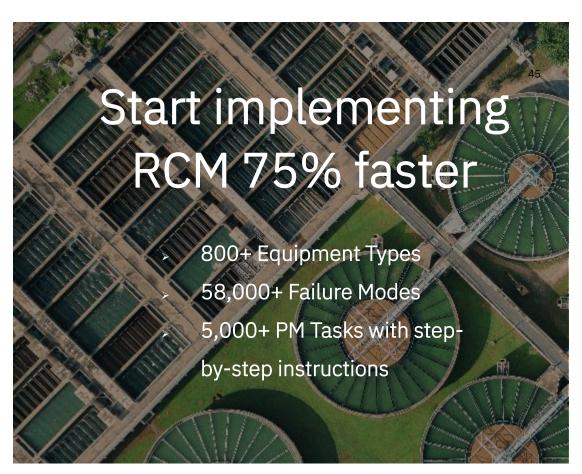
How Entitled

- "Purchased" add-on to MAS
 - MAS is pre-req for Maximo IT
- New Parts for Maximo IT = AppPoints
 - Align with MAS parts (Perpetual, STL, Monthly), S&S
 - Must be purchased to have access and use
 - Trade up/Upgrade parts available for Existing ICD customers
- Users align to MAS types
 - IT users can be flagged using the Manage User Type field and Application Security
- Deployed as add-on to Manage
- Retain Value of the Suite
 - Flexibility to use expanded MAS functionality (Monitor, Health, etc)

Reliability Strategies help accelerate achieving RCM goals

A dedicated RCM/FMEA app with included content library. Together, it's a game-changer.





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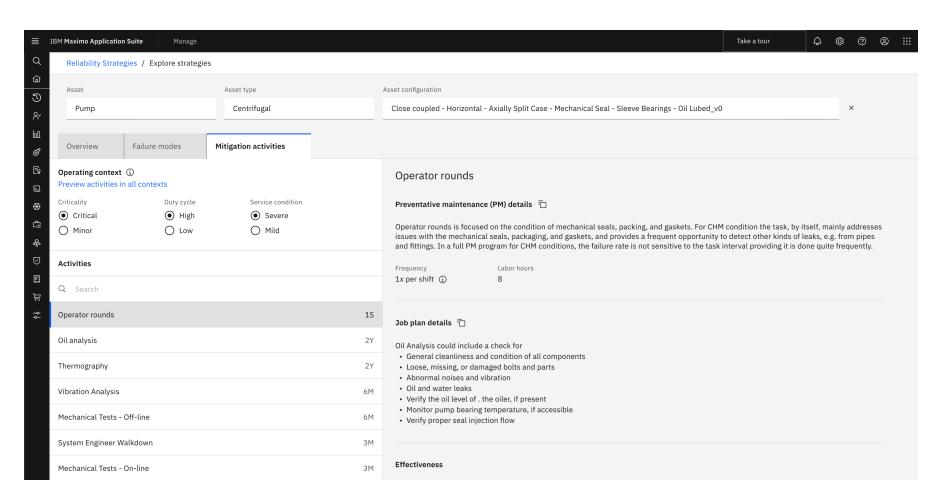
^{*}Reliability Strategies can be deployed for existing Manage users without any additional AppPoints.

*The Reliability Strategy Library does not require any additional AppPoints.

Maximo RCM key capabilities

Reliability Strategies: a dedicated RCM/FMEA app with included content library.

- FMEA Viewer: understand the ways your equipment degrades and deploy the appropriate mitigating activities to prevent functional failures by browsing equipment failure mechanisms in the Reliability Strategy Library
- Reliability Strategy Composer:
 create an effective overall
 reliability strategy by browsing
 recommended activities, intervals
 and details from the Reliability
 Strategy Library



Maximo RCM key capabilities





Reliability Strategies, pre-built strategies based on 25 years of large-scale RCM studies 800+ equipment types58,000+ failure modes5,000+ PM tasks with step-by-step instructions

Features for each asset include:

- Time scales of degradation
- Explicit identification of wear-out & random processes
- Stressor influence on degradation time scales
- PM tasks one to one mapping with failure modes
- PM effectiveness at detecting specific degradation

Examples of device categories:

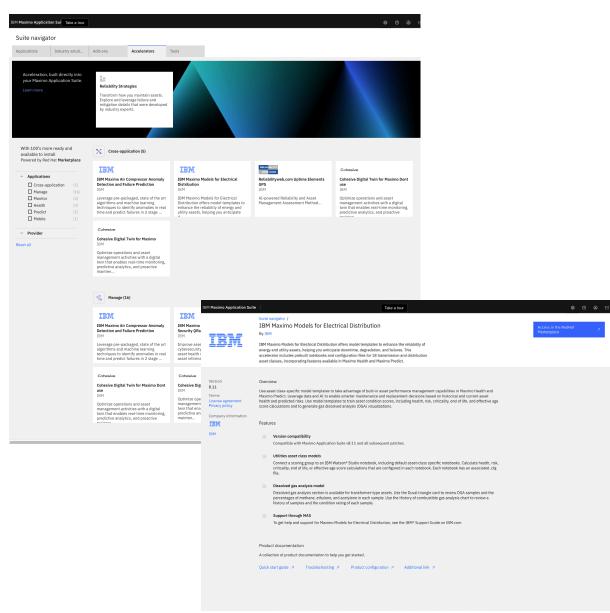
- Conveyors
- Compressors
- Filters
- HVACS
- Pumps
- Generators
- Cooling
- Towers
- Valves
- Heat Exchangers
- CNC Machines
- Motors
- Relays
- Actuators
- Breakers
- Switchgear

Accelerator Catalog

Provides customers access to a range of accelerators offered by both IBM and the Maximo Ecosystem

- Content, configurations, dashboards, attachments, model templates
- Scripts and code patterns
- New applications built on and for the Maximo Application Suite
- Integrations
- And much more....

Explore the Maximo Marketplace



Accelerators Marketplace



Workflow Delegate

Select a single person to receive all records that are sent to you via workflow in Maximo.



Easy Reporting

With EAM EasyReporting, reports for IBM Maximo can be designed in Word or Excel and run directly out of IBM Maximo.



EAM FlexCalendar

Integrated, easy to deploy Add-On and a revolutionary new way of visualizing data in Maximo. The Add-On also allows you to create calendar links which users can subscribe to in their standard Mailing tools like Microsoft Outlook.



iX Twin

Customized digital twin asset creation, support, and management



Uptime Elements GPS

Ai-powered Reliability and Asset Management Assessment Service Delivery based on Reliability Web's **Uptime Elements**



Varis

Marketplace that integrates with Maximo Application Suite



IBM Maximo Detection and Prediction for Air Compressors



IBM Environmental Intelligence Suite integration for Maximo **Spatial Assets**



IBM Maximo Models for **Electric Distribution**

Model templates to enhance the reliability of energy and utility assets. With predictive capabilities, it enables you to anticipate downtime, degradation, and failures, ensuring the delivery of safe...



With more partner and IBM solutions coming soon

IBM Research









IBM Security



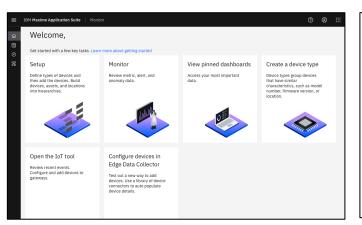


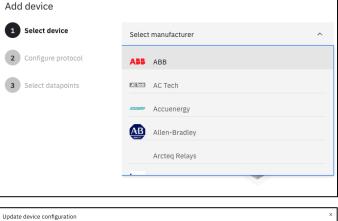
APM - Maximo Monitor

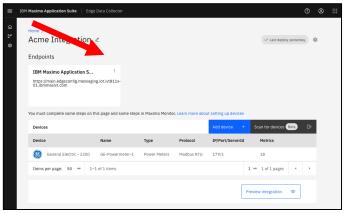
Integrating Omnio Software

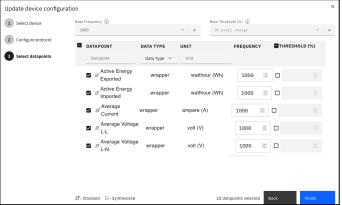
MVP (Phase 1) integration of the capabilities provided by the acquisition of the Omnio software.

- Users can quickly select and configure integrations with a wide range of industrial data sources, including OT devices, Programmable Logic Controllers (PLCs) and Open Platform Communications (OPC) servers.
- Provides a comprehensive UI to configure integrations launched from within Monitor.
- Connector pre-configurations are searchable by manufacturer, product type, and product name.
- Device datapoints are configurable by the user, which automatically transforms the device data into a standardized data model, providing an efficient method to unify data in MAS.
- Integration is facilitated via Docker using the "Edge Data Collector" software deployed to a IoT Gateway and updated remotely using terminal commands provided in the UI.











































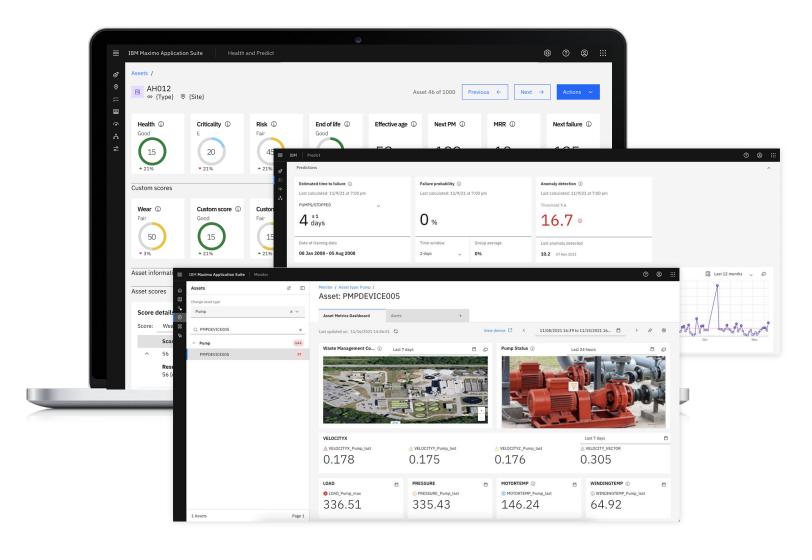






Health - Investigate assets at risk from a single page

- See <u>KPIs</u> and other important asset information in one place
- Review health, criticality, risk, end of life, effective age and <u>custom scores</u>
- See <u>dissolved gas analysis</u> for transformers
- Visualize <u>predictive model</u> scores built from OOTB templates
- Review <u>trends</u> to determine what to do, and when to act
- Investigate top contributor factors and their <u>importance scores</u> for anomaly detection

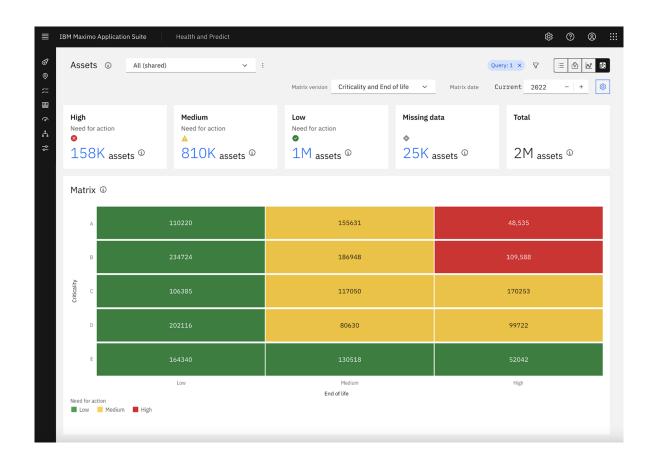


Health - View assets in a matrix for more refined identification

 View assets on <u>color-coded matrices</u> to easily identify and drill down into assets that are at risk based on multiple variables

OOTB matrices

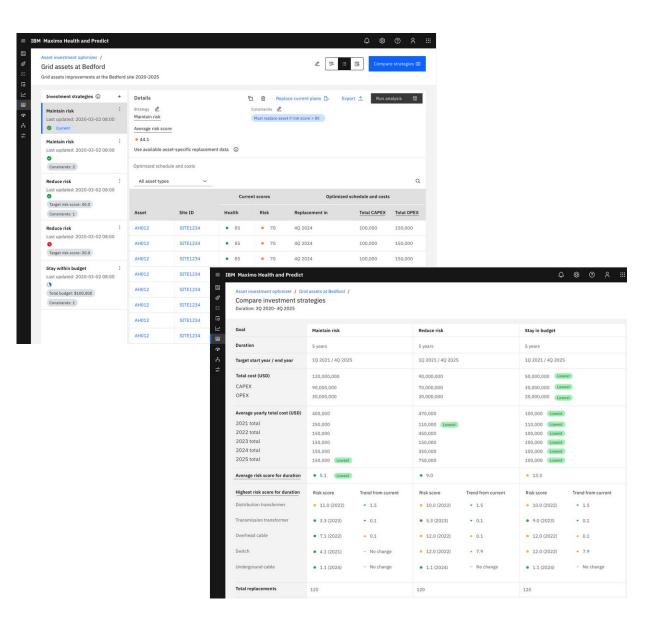
- Criticality and risk
- Criticality and health
- · Criticality and end of life
- Create <u>custom matrix</u> configurations with custom scores, like wear, efficiency and total cost
- Apply <u>future forecasting</u> of an asset matrix to determine what action to take today



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Health - Build an investment project to reduce risk & stay in budget

- Build projects, add assets to those projects, and run replacement scenarios to determine which assets should be replaced and when
- Use replacement information from <u>templates</u> built for common asset types OR from individual asset replacement plans
- Compare current plans and optimized strategy
- <u>Submit plans for approval or for additional finance analysis in a full AIP solution</u>



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Adding Cognos to the Maximo Application Suite



Provide analytic information to meet strategic and operational needs of our customers



Deliver critical metric to drill down into actionable items

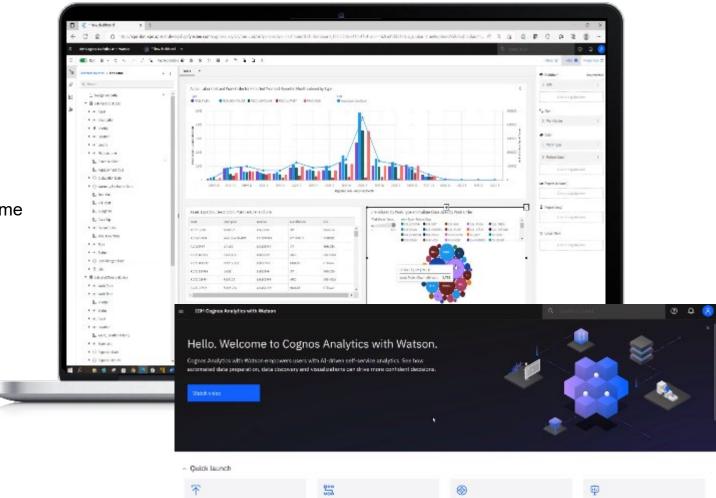


Display information quickly and in real-time





Make content customizable



Prepare data

tree data morales tricleon and

consect data from multiple.

Exploration

data embration

quickly forbubblesed ar seers by

cleanifying torrity in your data with

Upload data

Ophwheedrag acciden

special bees, ow lies, and other

MAS 8.11 Supports Cognos 11.2.4 & BIRT 4.8

Present data

Decrees a sisting of the page,

neith-growy disbloards, reports,

Reporting Future Plans

BIRT

Support for BIRT 4.14

COGNOS

- Support for Cognos 12
- Embed Cognos content in MAS Operational Dashboard
- User Synchronization automation from MAS to Cognos
- Improve Install and Deployment process
- BYOL support
 - Remove dependency on CP4D
 - Remove dependency on OCP

IBM Sustainability Software / © 2024 IBM Corporation

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Accelerating deployment through automated testing

IBM Maximo Test Automation Framework for Maximo Manage

- Assist customers to adopt a risk-based assurance approach to testing Maximo software releases.
- This documentation is required for our regulatory customers to document what IBM tested for ootb functionality.
- The Test Automation scripts consists of a collection of Manage base test scripts that run on Selenium for testing Manage.
 - Maximo Mobile scripts will be pdfs at this time
- Will be updated for every Long-term Supported solutions
 - Delivered on the Early Programs site.
 - Offering is not supported
 - Documentation provided on set up and use of the test scripts
- If customers configure Maximo, added workflows or escalations they will extend the Automation Test Scripts to include these changes to assure that the environment meets their business requirements.



AppConnect supporting integration scenarios

Transformation - Flows capture business logic **Mapping** - Map resource data from a source to a target (inbound and outbound)

Triggered via schedule or Web invoked API

Enables data interchange use case(s) between MAS and other solutions

- MAS to TRIRIGA
- TRIRIGA to Envizi
- MAS to Envizi

Between IBM Solutions

MAS to Workday

Between IBM and 3rd Party Solutions



Sustainable Asset Management, Maintenance and Reliability Optimization

Enable creation of resilient and sustainable infrastructure and operations to extend the life of equipment, buildings, bridges, fleets, water lines and more to reach sustainability targets.

Asset Management & Maintenance

Optimize maintenance scheduling, logistics and fleet operations to achieve efficient, safe and sustainable work practices

Asset Reliability and Optimization

Extending asset life decreases waste & embodied carbon, and improves energy efficiency

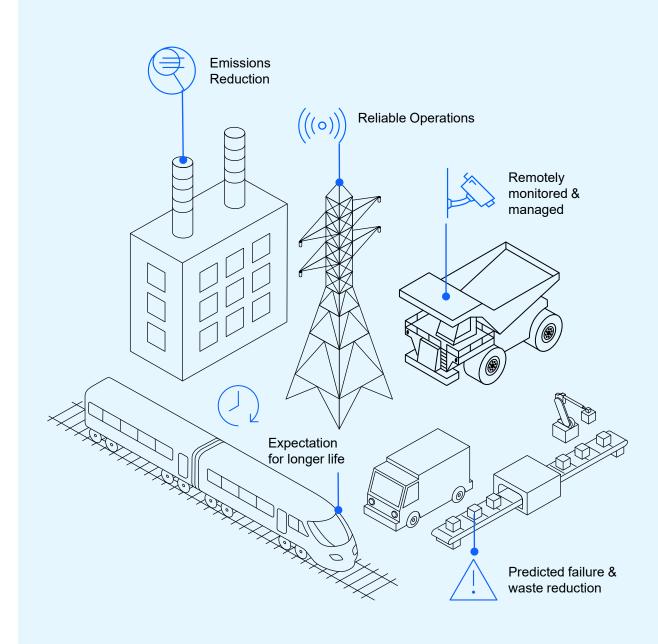
Asset Monitoring and Fault Detection

Increased energy efficiency, reduced fugitive emissions, and optimized equipment performance and reliability



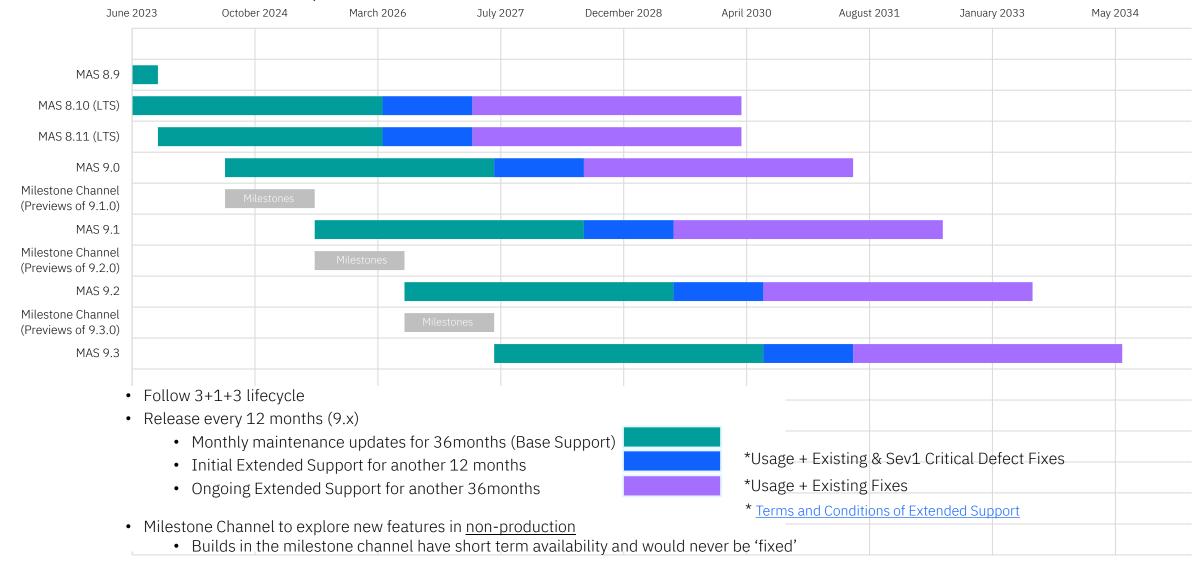
Maximo + Envizi

Monitor, measure & reduce the environmental impact of your asset operations to reduce waste, energy, and emissions, while optimizing uptime.



New lifecycle for MAS: 3+1+3 with 12-month release cadence

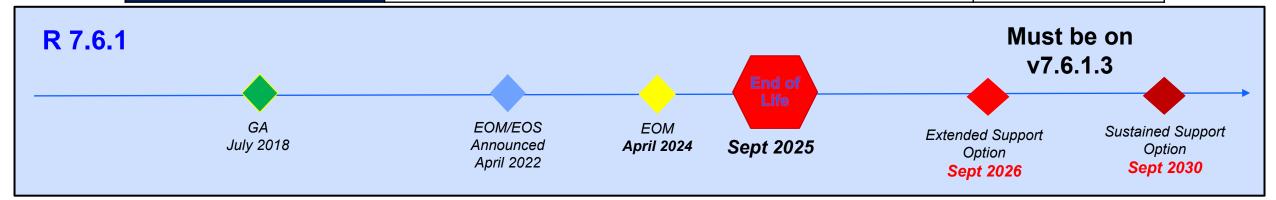
**Please review MAS SaaS policies for their release cadence



Maximo EAM Lifecycle Updates

	DESCRIPTION	DAIL
Announce End of Market	Announcement Letter published	April 12, 2022
(EOM & EOS)	IBM Announcement Letter #922-024	
End of Marketing (EOM)	Parts are no longer available for purchase	April 19, 2024
End of Support (EOS)	Update Support Plans and Lifecycle page	Sept 30, 2025

DESCRIPTION



IBM Extended Support: Enables clients continued access to IBM Support for "how to" questions, usage issues, known defects published in IBM Fix Central, and new critical sev1 defects (no security fixes) after IBM standard support ends for 7.6.1.x.

IBM Sustained Support: Enables clients to continue to get support for "how to" questions, usage issues, and known defects published in IBM Fix Central after IBM standard/extended support ends for 7.6.1.x.

IBM Sustained Support does not include support for new defects or new security fixes.

Effective 30 April 2027, dual support under the MAS license for EAM will no longer be available.

DATE

Resources

Sustainability Software Digital Trials

Maximo Application Suite

(MAS SaaS with Health & Manage capability only)

Environmental Intelligence Suite (EIS)

Envizi ESG Suite

Maximo: https://www.ibm.com/account/reg/us-en/signup?formid=urx-51868

EIS: https://www.ibm.com/account/reg/us-en/signup?formid=urx-51911

Envizi: https://www.ibm.com/account/reg/us-en/signup?formid=urx-51857







IBM TechXchange Community

Connect via forums, blogs, files and face-to-face networking.

IBM Sustainability →

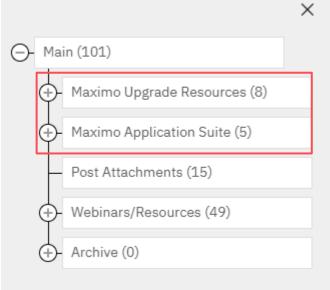
IBM Asset & Facilities Management

Your destination for peer and expert insights to help unlock the power of data with AI and Asset & Facilities Management to advance your digital reinvention.

Group Home Discussion 7.8K Library 688 Blogs 252 Events 4 Members 8.7K

Join and participate in the Maximo Community HERE

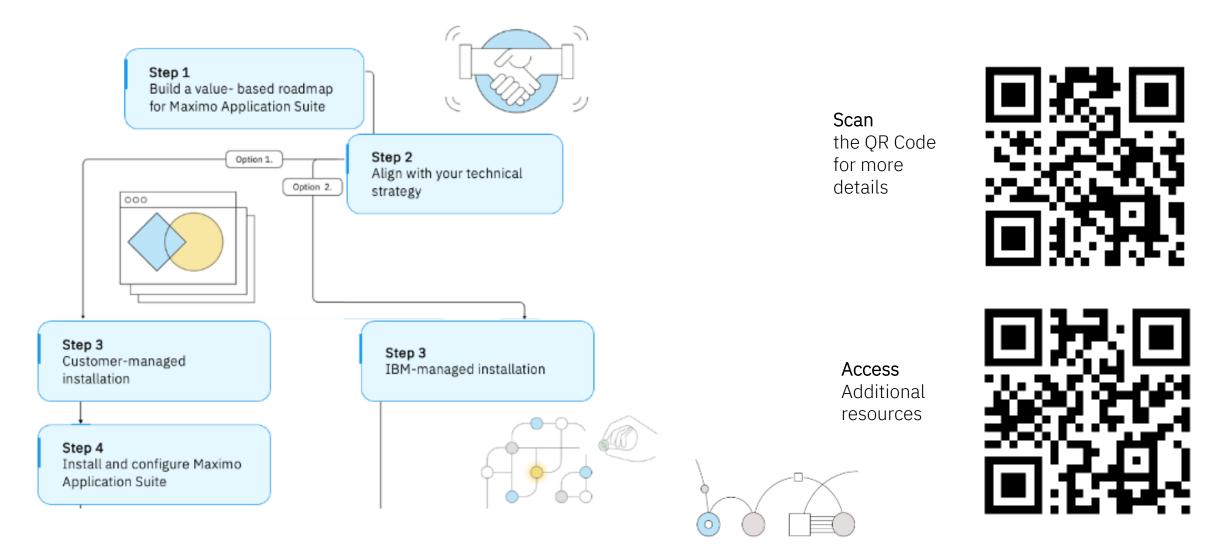




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Supporting your Move to MAS

Embark on your journey to IBM Maximo Application Suite with clear steps and expert guidance.



EAM Technical Assessment: Overview IBM Expert Labs

Technical Assessment for MAXIMO /SaaS Flex upgrade and migration to MAS Managed Services

Key Activities:

- Focus on application layout and technical configurations using the IBM Maximo Sizing questionnaire as a starting point
- Identify areas of impact for upgrade and migration to MAS Managed Services
- Assess data structure
- Identify customizations and assess the gap from leveraging the out of the box adapters

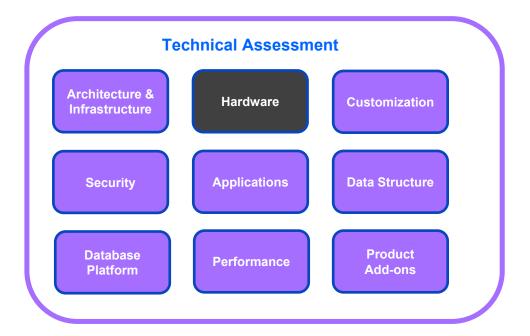
Expected Outcome:

 Maximo Technical Upgrade Assessment document containing tailored recommendations and a journey map for the upgrade

Duration:

■ 5-7 weeks

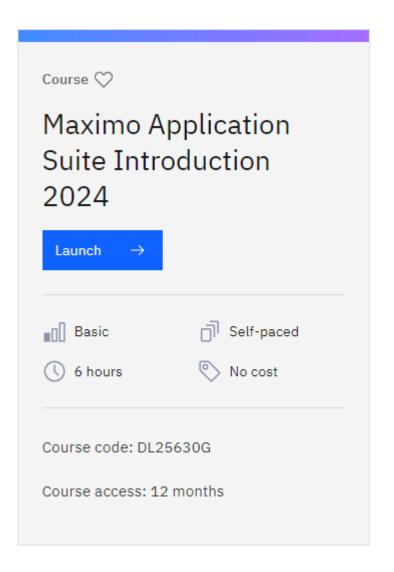
Maximo Assessment Components



Free Maximo Application Suite Introduction 2024 Course

Check out the updated free Maximo Application Suite Introduction 2024 course now available on ibm.com/training with lots of new content including Reliability Strategies, Operational Dashboards and Scheduling.

https://www.ibm.com/training/course/maximo-application-suite-introduction-2024-DL25630G



IBM Maximo Application Suite

Technical education brief

Maximo Application Suite (MAS)				
System Users / Administrators / Consultants				nsultants
Course Title	Duration	*Format	Cost	Badge
Introduction to Maximo Application Suite (DL43003G)	3 hours	Self-paced	No cost	Yes
Containerization and RHOCP essentials for Maximo Application Suite and Sterling solutions (DL25607G)	1 hour	Self-paced	No cost	Yes (for series)
Maximo Application Suite & Red Hat OpenShift Container Platform Deployment Technical Essentials (DL25608G)	6 hours	Self-paced	No cost	Yes (for series)
IBM Maximo Visual Inspection Overview (DL43001G)	.5 hours	Self-paced	No cost	No
Getting started with IBM Maximo Visual Inspection v2 (MAX4313G)	2 hours	Self-paced	Cost	<u>Yes</u>
Getting started with IBM Maximo Asset Performance Management v2 (MAX4311G)	5 hours	Self-paced	Cost	<u>Yes</u>
IBM Maximo Monitor solution overview (DL43005G)	.5 hours	Self-paced	No cost	No
IBM Maximo Health and Predict solutions overview (DL43006G)	1.5 hours	Self-paced	No cost	No
IBM Maximo Mobile solution overview (DL43008G)	.5 hours	Self-paced	No cost	No
Getting started with Maximo Mobile v2 (MAX4312G)	4 hours	Self-paced	Cost	No

https://www.ibm.com/training/maximo

Submit Your Product Ideas

Aha!

Al Applications - Ideas Portal

Welcome to the idea portal for IBM AI Applications Customers

IBM Employees:

The correct URL for entering your ideas is: https://ibm-ai-apps-internal.ideas.aha.io/

Clients:

Shape the future of IBM!

We invite you to shape the future of IBM, including product roadmaps, by submitting ideas that matter to you the most. Here's how it works:

Post your ideas

Start by posting ideas and requests to enhance a product or service. Take a look at ideas others have posted and upvote them if they matter to you,

- 1. Post an idea
- 2. Upvote ideas that matter most to you
- 3. Get feedback from the IBM team to refine your idea

Help IBM prioritize your ideas and requests

The IBM team may need your help to refine the ideas so they may ask for more information or feedback. The offering manager team will then decide if they can begin working on your idea. If they can start during the next development cycle, they will put the idea on the priority list. Each team at IBM works on a different schedule, where some ideas can be implemented right away, others may be placed on a different schedule.

Receive notification on the decision

Some ideas can be implemented at IBM, while others may not fit within the development plans for the product. In either case, the team will let you know as soon as possible. In some cases, we may be able to find alternatives for ideas which cannot be implemented in a reasonable time.

https://ibm-ai-apps.ideas.ibm.com/

Questions?



Contacts

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lss@ca.ibm.com

Dave Gasdia drgasdia@us.ibm.com

Kim Woodbury kwoodbur@us.ibm.com

Digital learning subscriptions

Maximo Digital Learning Subscription

Whether you are an enterprise seeking to get your team up-to-speed or a single individual seeking to build skills for your career, a 12-month subscription to the Maximo Digital Learning catalog of courses can save you time and money.

- Maximize your investment: Maximize your investment in IBM Maximo solutions. Bring your newly-acquired solutions to life. Pay one price for a 12-month learning subscription. Realize built-in savings compared to individual course purchases.
- Build expertise, stay current: Develop skills through flexible learning plans based on your goals, schedule, and budget. Get easy, on demand access to eLearning with hands-on labs included for 12 months. Close the skills gap. Meet your talent and skills transformation goals.
- **Personalize the learning experience**: Prepare for major IT initiatives or learn when needed during a project deployment. Choose courses that map to your learning journey and desired role. Prepare to be a certified professional.
- Adopt a flexible and modern approach: Move at your pace. Choose self-paced courses with hands-on labs and web-based courses during your subscription. Choose learning when you are available. A modern approach to learning with IBM.
- Cost savings: Pay one price for 12-month subscription. Save up to 45% over purchasing the courses individually.

To learn more about the IBM learning subscriptions and how to purchase, please visit the Maximo subscription pages on IBM.com:

IBM Maximo Individual Learning Subscription IBM Maximo Enterprise Learning Subscription

Individual subscription

- Individual student access to digital learning course material for 12 months for one fixed price.
- Student can take up to 9 digital courses from the Maximo DLS catalog.
- List price \$2400 USD

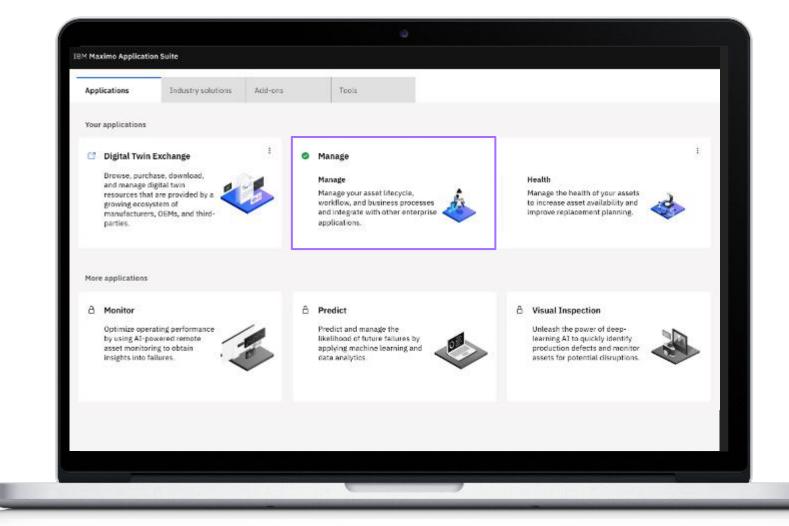
Enterprise subscription

- 30 digital enrollments for up to 30 individual students for 12 months for one fixed price.
- Company Administrator can assign and track up to 30 courses to enterprise employees.
- List price \$12,504 USD

Upgrade to Manage in the Suite

Manage in the Suite

- New installation process at the MAS level
- Deployed on Red Hat OpenShift Container Platform (OCP)
- Authentication and User Management moved to the MAS level
- Modernized user experience to align with rest of the Suite
- Improved serviceability for monitor and logging options



Documentation for Maximo EAM Upgrade to Maximo Application Suite:

https://www.ibm.com/docs/en/maximo-manage/continuous-delivery?topic=upgrading-from-maximo-enterprise-asset-management-maximo-manage

MAS SaaS Service Comparison^{1,2}

Included ■

Additional Purchase

Future Included ►

Future Add'l Purchase ▷

Not Available –

Feature	Essentials	Standard	Premium	
Purchasing				
Software	■3	•	•	
Infrastructure	•	•	•	
Non-production Environments	\Box^4			
Provisioning				
Cloud Provider	AWS	AWS	AWS	
Choice of Data Center	-	From Preferred List ■	From Preferred List ■ / ▷ ⁵	
Choice of Database	_	_	⊳	
Production Database Access	-	□6	□6	
Non-production Database Access	■ 7	■ 7	■ 7	
Add-ons & Industry Solutions	Limited	■/□	■/□	
VPN Connectivity to Client	•	•	•	
Network Connection Options (Allow Listing)	_	⊳	>	
Multiple VPNs	_	_	•	
Direct Connect	_	-	⊳	
Bare Metal Servers	_	-	⊳	
Capabilities				
Schedule Optimizer	_		•	
Cognos SaaS	-	-	Þ	
Multiple Workspaces	_	_	⊳	

¹ Subject to change

 $^{^{2}\,\}mbox{Availability}$ of features will vary. Not all will be available at initial release.

³ One application only

⁴ Maximum of one

⁵ Data center must support services required by MAS SaaS

⁶ Read-only via replica

⁷ Read/Write

MAS SaaS Service Comparison^{1,2}

Included ■

Future Included ►

Future Add'l Purchase D

Not Available –

Feature	Essentials	Standard	Premium
Integration			
SAP & Oracle Adaptors	_	•	•
AppConnect SaaS	_	▷	▶8
Integration via MIF	•	•	•
Automation Scripting via MaxAdmin user	•	•	•
Certified Third-party Java / Python code	_	-	D
Security Integrations (SIEM Support)	-	-	D
Operations			
Self-Service Portal		•	
ISO 27001 & SOC2 Compliance	ISO 27001 ■ / SOC2 ►	ISO 27001 ■ / SOC2 ►	ISO 27001 ■ / SOC 2 ►
Update & Upgrade Scheduling	Fixed	Standard ⁹	Flexibile ¹⁰ ■ / Extended ¹¹ □
SLA	High Availability	High Availability	High Availability
Disaster Recovery	Standard	Standard	Reduced RPO & RTO ▷
Multi-Site Support	_	_	\triangleright
Multi-Zone Support	_	_	D
Point-in-time Application Recovery	_	_	\triangleright
Extended Data Retention	_	_	D
Assigned Personnel	-	-	_
Regional Support Exclusions	-	-	D
Customized terms (SOW)	-	-	-

¹Subject to change

² Availability of features will vary. Not all will be available at initial release.

⁸ Deployed for no additional AppPoints only for clients who require it.

⁹ Non-prod first, followed 30 days later by Production

¹⁰ Up to 6 months, excluding updates & security items

 $^{^{\}rm 11}{\rm Greater}$ than 6 months & LTS available, excluding updates & security items