

IBM Update - Maximo Application Suite



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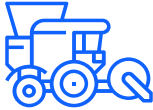
Maintenance strategies differ by asset class

Asset Management Strategy and Maturity Model: Asset utilization and availability

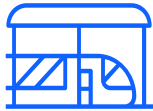
The asset strategy and maturity changes depending on factors including asset/replacement cost, criticality of asset, usage patterns and impact of failure on safety, environment, operations, financial and public image.



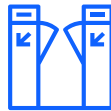
Reactive



Run-to-failure



Calendar based



Usage based



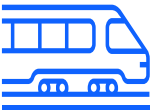
Condition based



Risk-base maintenance



Predictive

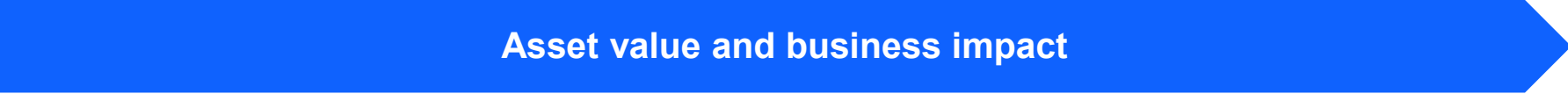


Financially optimized

Risk Mitigation

Financial Optimization

Sustainability



Maintenance is an expense

Maintenance is an investment

Data driven decisions (analytics)

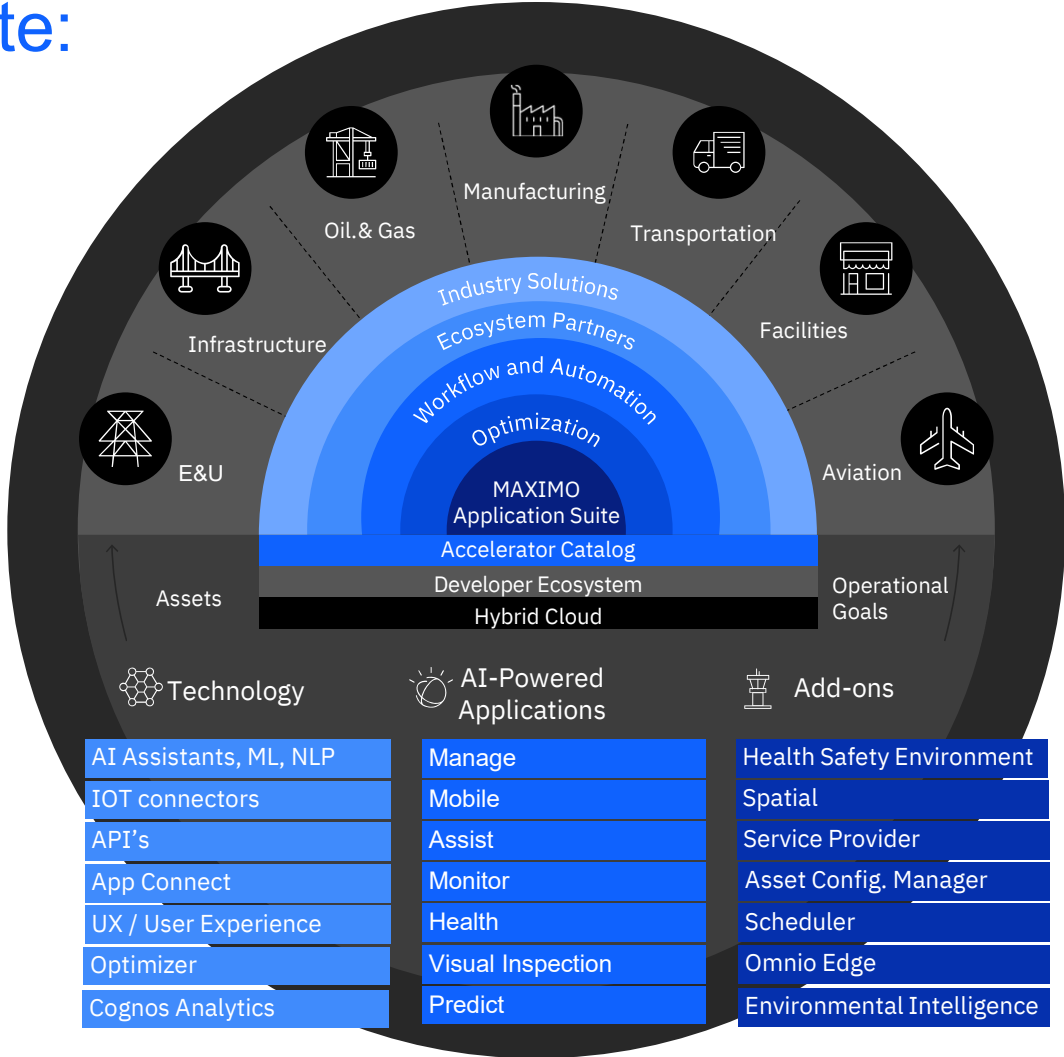
MAXIMO APPLICATION Suite: Operations Optimization platform

Powered by AI-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



Solution

Maximo Application Suite

 Manage Intelligent Asset Management	 Schedule Schedule Work and Resources	 Mobile Technician Work Execution
 Assist Prescriptive Assistance	 Industry Solutions Accelerate Time to Value	 Health 360 View of Assets
 Visual Inspection AI-Powered Insights	 Monitor Monitor and Detect Anomalies	 Predict Predictive Failures

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



Infrastructure Independent
Common Operating Environment



Intelligent Enterprise Asset Management solution to help organizations:

- 1 Manage assets, infrastructure, and resources
- 2 Monitor and measure operations
- 3 Improve product and service quality

Personas

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

Maximo Application Suite - Catalog

MAS Applications

Manage	Monitor	Health	Predict	Visual Inspection	Assist
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MAS Industry Solutions

Manage Transportation	Manage Nuclear	Manage Utilities	Manage Oil & Gas	Manage Aviation	Manage Civil Infrastructure
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MAS Add-on Solutions

Manage Asset Configuration Manager	Manage Health, Safety & Environment	Manage Service Provider	Manage Maximo Mobile	Manage Spatial	Manage ERP Connector for SAP	Manage ERP Connector for Oracle
Manage WorkDay Connector	Manage TRIRIGA and Envizi Connectors	Maximo Optimizer	Maximo IT			

New in 8.11...

New in 8.11

Accelerator Catalog

MAS Deployment Options

Deployment	Procure	Provision & Operate	Client Benefits
On Premise Customer Managed	Client purchases MAS from IBM Client provides infrastructure	Client provisions, manages, and operates full stack	<ul style="list-style-type: none"> • Maximum operational flexibility
Hyperscalers Customer Managed	BYOL Client purchases software from IBM and infrastructure from Hyperscalers	Client runs IBM-provided automation scripts to deploy MAS on Hyperscalers' cloud	<ul style="list-style-type: none"> • Simplifies procurement and deployment • Allows client to select their Hyperscalers • Flexibility for clients to manage and operate their environment
	Paid (Marketplace listing) Client purchases software and infrastructure from Hyperscalers	Client manages and operates both software and infrastructure	
SaaS IBM Managed	Client purchase single part (includes software, infrastructure, and operations) from <u>either</u> IBM or AWS Marketplace (Subscription only License)	IBM provisions, manages, and operates Client's MAS environment on AWS Cloud using IBM's AWS cloud account	<ul style="list-style-type: none"> • Reduced time-to-value • Reduced operational costs • Allows clients to focus on business priorities
	Essentials <ul style="list-style-type: none"> • Maintenance or Inspection package • Starting at less than \$40K per year • Fixed configurations at a fixed price • Minimum operational flexibility • Suitable for small on-premises EAM clients 	Standard <ul style="list-style-type: none"> • Starting at less than \$75K per year • Select additional purchase options available • Limited operational flexibility • Best option for most SaaS Flex clients 	Premium <ul style="list-style-type: none"> • Starting at less than \$150K per year¹ • Wide selection of advanced purchase options • Broad operational flexibility options • Tailored configurations for complex deployments

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

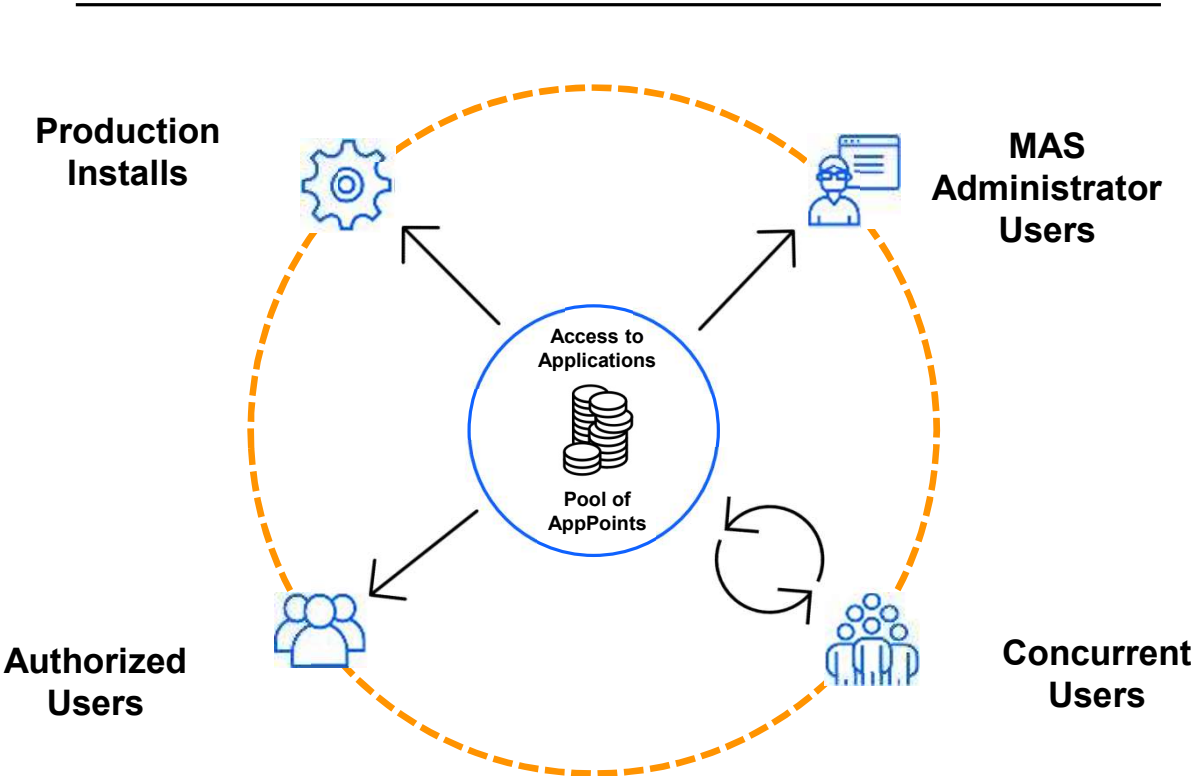
One entitlement to entire Suite

2. Flexible consumption

Sharing of license through concurrent users

3. Simplified usage

Access applications without additional provisioning



MAS AppPoint License Model

	Self Service User	Limited User	Base User	Premium User
Administration Users Authorized	N/A	N/A	10 AppPoints	15 AppPoints
Application Users Concurrent	0 AppPoints	5 AppPoints	10 AppPoints	15 AppPoints
Application Users Authorized	0 AppPoints	2 AppPoints	3 AppPoints	5 AppPoints
Applications	Self Service Applications <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Manage (Linear/Calibration/Spatial) • Manage Industry Solutions • Manage Add-ons • Maximo Mobile • 3rd Party Mobile Monitor Assist (requires install)	Manage Includes: <ul style="list-style-type: none"> • Linear • Calibration • Spatial (requires install) Scheduler Health	Manage Industry Solutions <ul style="list-style-type: none"> • Oil & Gas, Aviation, Transportation, Utilities, Nuclear, Civil Infrastructure Add-ons <ul style="list-style-type: none"> • Asset Configuration Manager, Service Provider, Health Safety & Environment Manager Predict Visual Inspection (requires install)
Install AppPoints	SAP/Oracle/Workday Connector (80)	Civil Infrastructure (50)	Visual Inspection (45) Edge (1)	Spatial (20) Assist (150) Optimizer Limited (60) Optimizer (220)

What we are investing in: Integrate and Expand MAS

Notable callout

Unify MAS through utilization of the right function at the right time via cross-product user experiences

Inspections Reduce the cost of your inspections up to 75%, while increasing frequency by 50%	Maintenance Achieve first-time fix rates >90%, improve productivity 44%* and reduce truck rolls 25%	Reliability Extend asset life 20%+, reduce downtime up to 43%*, and reduce cost 20%
<p>Improve scalability and stability of MVI while easing the training of base models.</p> <p>Support deployments through introduction of MVI In A Box packaged hardware and software solution</p> <p>Improve stability of Maximo Mobile Inspections and address customer Ideas</p>	<p>Maximo EAM → Maximo Manage</p> <p>Improve stability and provide Maximo Mobile support for remaining Inventory and Calibration capabilities.</p> <p>Extend MAS Dashboards through usage of asset health and risk, investment scenarios, schedule awareness, operational data flow.</p> <p>Extend field service management through a modernized and optimization driven dispatching solution.</p> <p>Expand usage of location data for work planning and execution.</p> <p>Leverage AI to support decision making</p>	<p>Single focused Maximo Health product.</p> <p>Extend utilization of operational conditions to Operations Managers and Asset Managers via refactoring and modularizing the Operator user experience.</p> <p>Expand reliability engineer effectiveness through introduction of Mean Time Between Failure (MTBF) modeling, and comparison of active and future asset investment trends</p> <p>Increase the operational data available to reliability engineers via Omnio connectors</p>
<p>Accelerators and Integrations: 20% increase in customer lifetime value by meeting a diverse set of customer needs through ecosystem offerings</p> <p>Bring an Accelerator Catalog as a marketplace for offerings and content that accelerates TTV for MAS, Seed catalog Accelerator content from IBM within the catalog: Extend Maximo Civil Infrastructure, Introduce Maximo IT within MAS</p>		
<p>Delivery, Install, Upgrade, Manage: Provide MAS via the environment of choice and optimize the migration plus management for that environment.</p> <p>Improved development and delivery of MAS through integrated CI/CD pipeline for continuous build, test, integration and deployment, Improve product upgrades in support of continuous delivery to our customers, Improve install and management via Operator and SRE Maturity, Federal Readiness.</p>		

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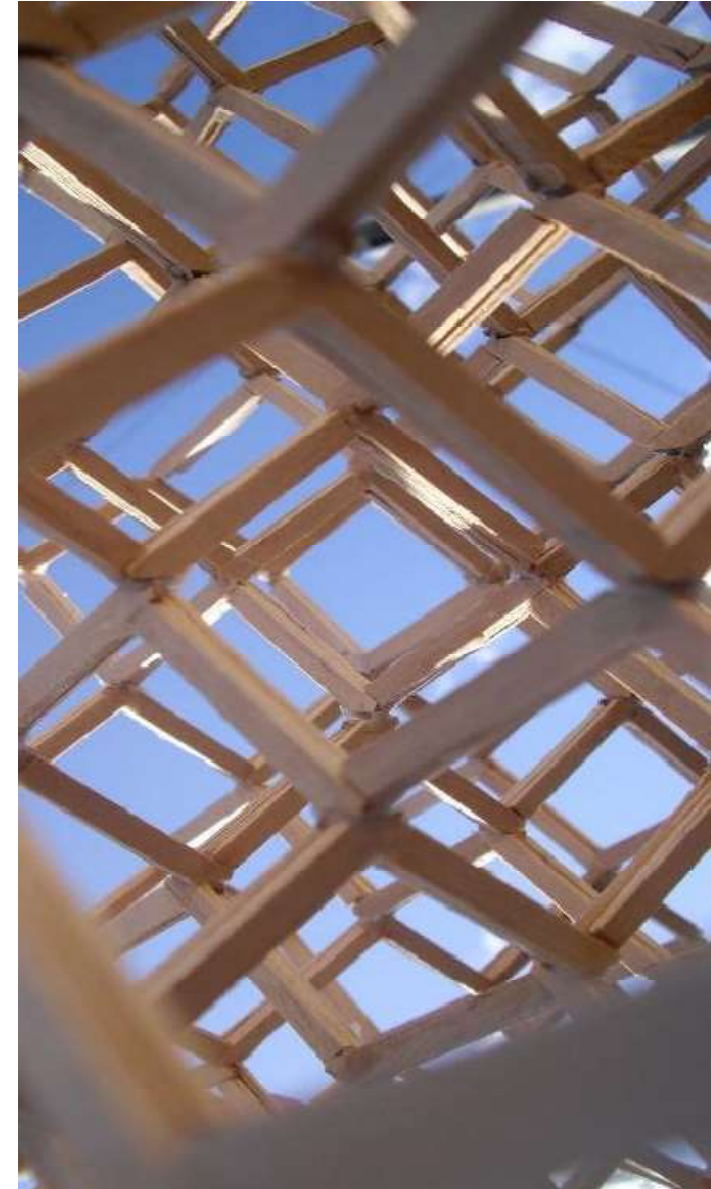
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Modernized Experiences to support the new workforce

Maximo Application Framework

- ✓ 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 configure an App to run on mobile and desktop, can use xml presentations
- ✓ Same development environment to create/build Apps for mobile and desktop



MAS Dashboard

Operational dashboard Last updated on 2/1/2022 at 3:30 PM

Refresh KPIs manually or schedule refreshes in KPI Manager.

Overdue emergency work

Over target by 3

4 work orders

▲ 3% from last refresh

PM work orders overdue

On target

6 work orders

▲ 7% from last refresh

PM performance

On target

95 %

▲ 7% from last refresh

Work orders waiting approval

Under target by 12

25 work orders

▲ 20% from last refresh

PCT of corrective or emergency WOs by department

Last run: 1/26/23 9:40 AM

KPIs: On target (Green), Caution (Yellow), Alert (Red)

Safety critical backlog

Last updated on 01/12/2023 at 2:00 PM

Legend: Unplanned (Green), Planned (Blue), Overdue (Purple), Other (Red)

Favorites

- Work Orders
- Workflow Assignments

Quick actions

Create work order

Work Orders

Workflow assignments due soon

Last updated 3 hours ago

[Operational Dashboard Overview](#)

IBM Maximo Application Suite

Work orders Emergency work for Bedford and Chesham

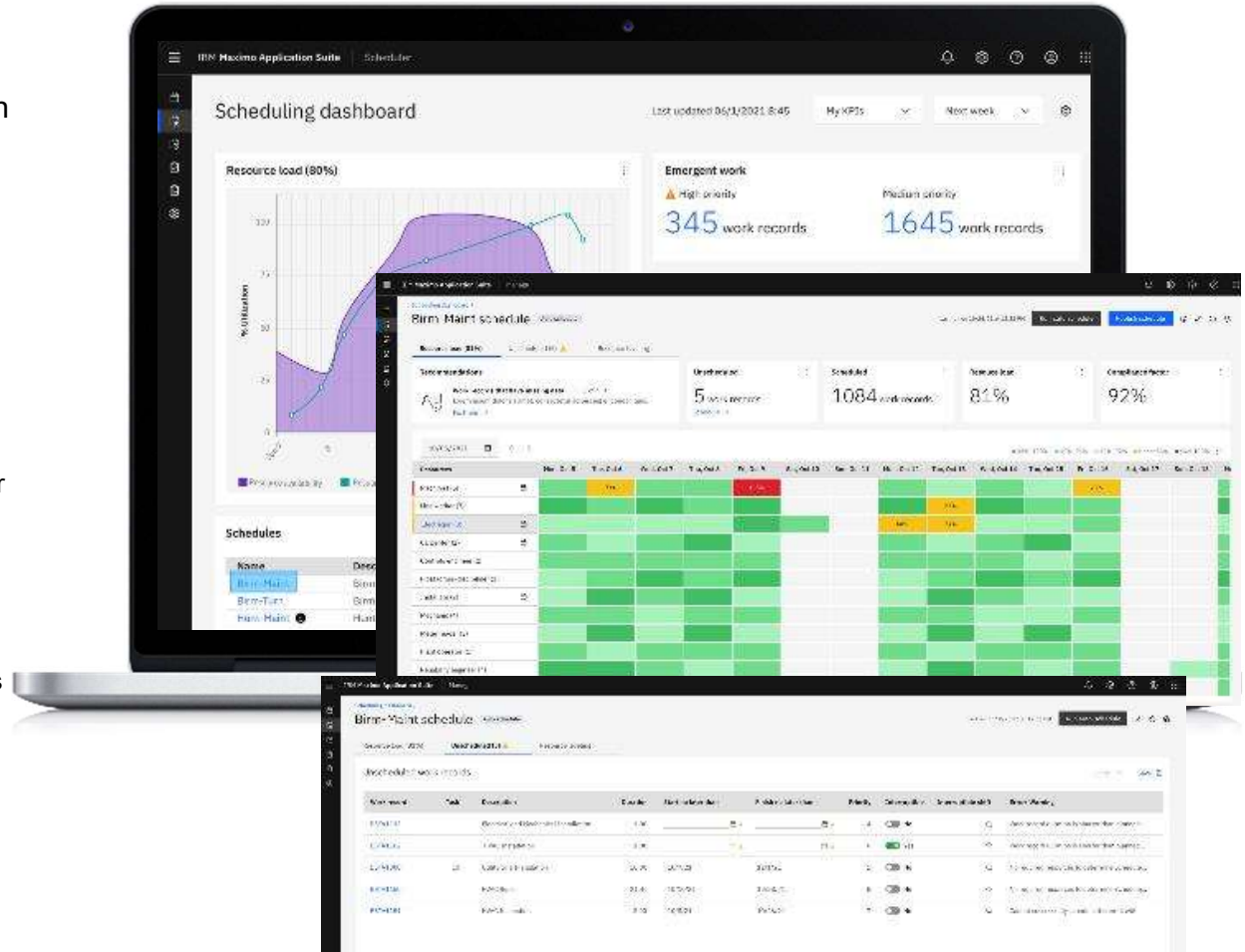
Work order	Description	Location	Asset	Status	Target start	Priority
WO 1020	Beltsafe Guard Rail Around	Location 1	11170	Approved	2021-09-08 14:00	P1
WO 1001	Pump replacement	Location 1		Waiting on approval	2021-09-08 14:00	P1
WO 1022	12 Month service on Slipping Dept #1	Location 2	21248	Waiting on approval	2021-09-08 14:00	P2
WO 1003	Robotic Feedwater Pump	Location 1	11327	Approved	2021-09-08 14:00	P1
WO 1004	Check for Plumbing Problems	Location 7	2020	Approved	2021-09-08 14:00	P1
WO 1005	Governor Overhaul	Location 1	01987	Waiting on approval	2021-09-08 14:00	P1
WO 1200	Excess Gas fans up	Location 1		Approved	2021-09-08 14:00	P1
WO 1007	Feedwater Pump Services	Location 1		Approved	2021-09-08 14:00	P2
WO 1008	Packaging Wash Electrical & Driveline	Location 1		Approved	2021-09-08 14:00	P1
WO 1009	Repair Damaged Conduit Feedings	Location 1		Waiting on approval	2021-09-08 14:00	P1

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

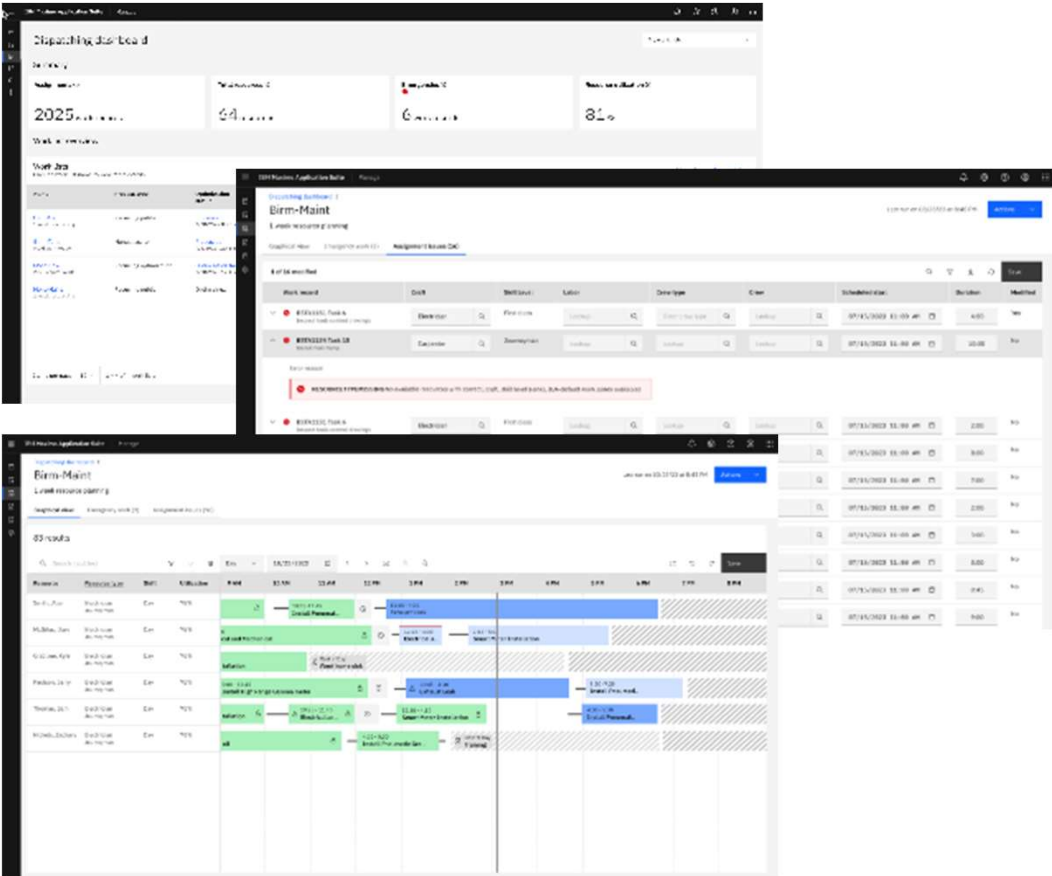


Modernized Experience: Dispatching Dashboard

Available in
MAS 8.11

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.



Prototype of Dispatching Dashboard

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



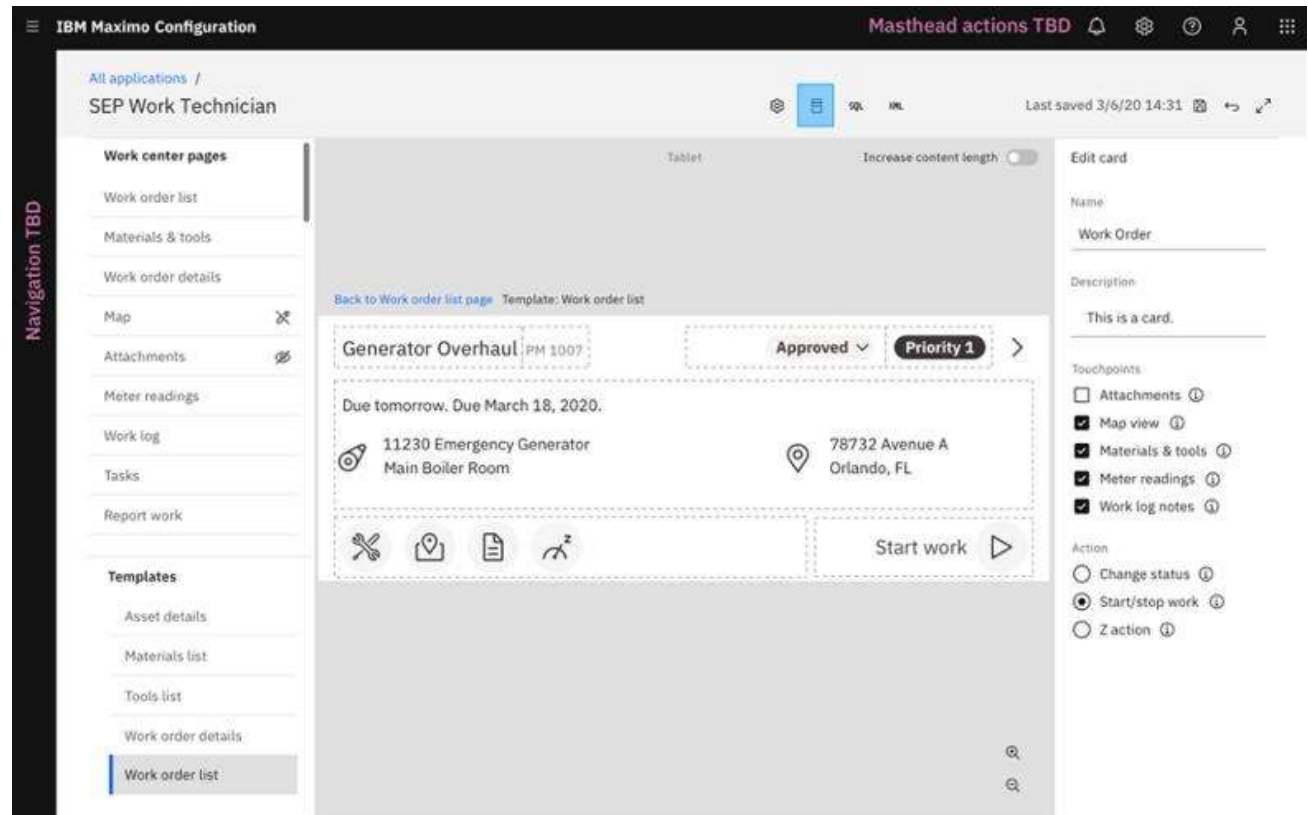
Accelerate adoption



Protect your investment



Quicker time to value



Maximo Mobile

Optimized User Experience



1 application,
1 role-based interface



Connected
and disconnected



Intelligent workflows =
blue button



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

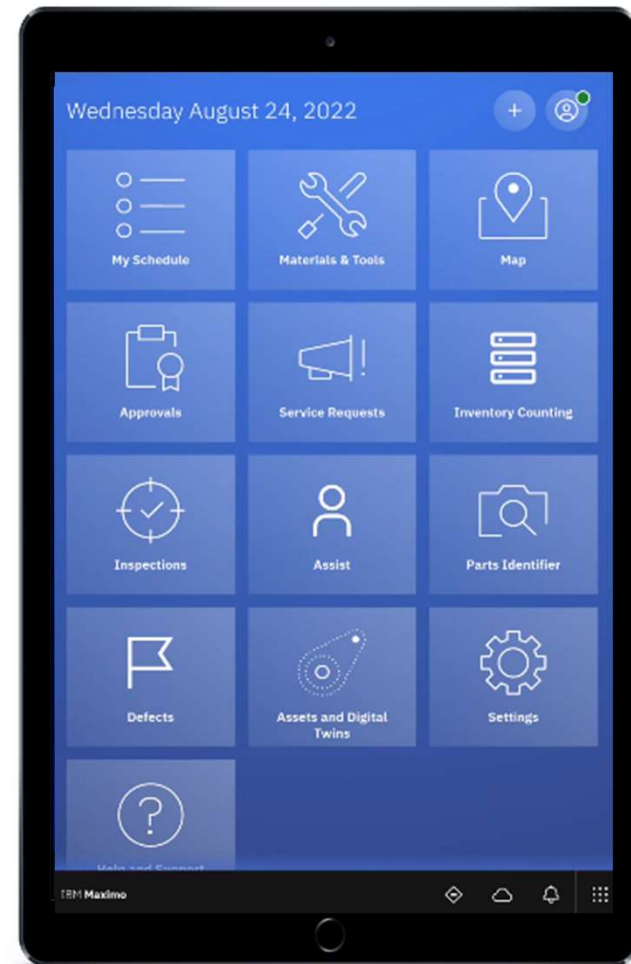


Intelligent forms =
configurability



iOS, Android, Windows

- Mobile users are fundamental to asset and performance management
- Critical applications are available
- Easy to consume – Just another user on the system
- Configurable and carry forward through upgrades
- Continued investment in stability and capability
- Established with initial waves of customers



Providing Mobile Applications across roles and functions



Maintenance

Technician



Inspections



Service Request

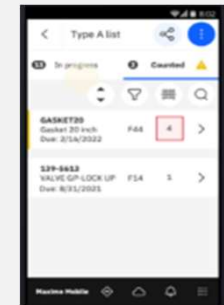


Inventory

Receiving



Countbooks



Approvals



Asset Audit



Issues



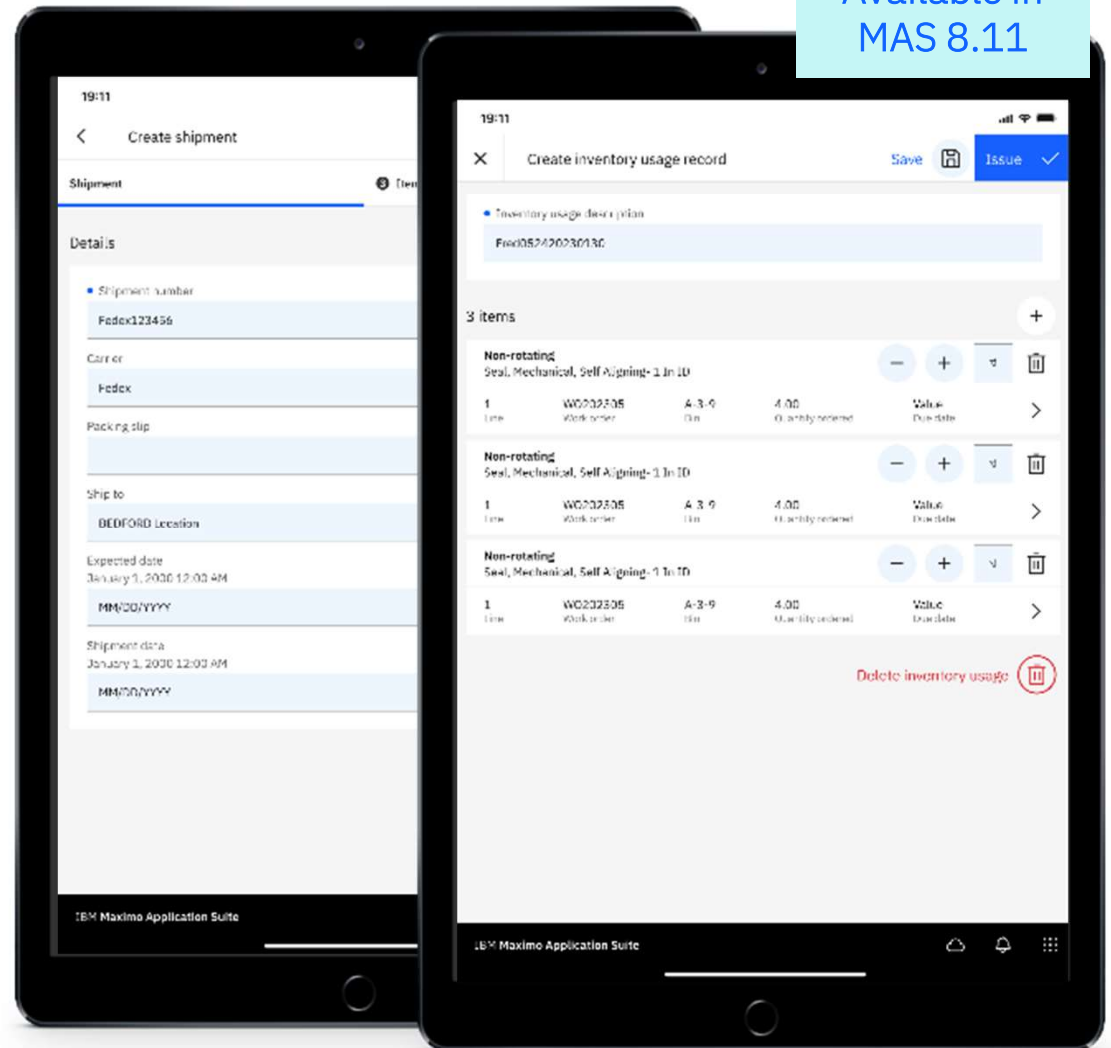
Available in
MAS 8.11

MAXIMO MOBILE

Issues Mobile Application

- Issue Reserved Items (Work Orders, Material Requisitions) to be released in 8.11
- Inventory Usage Records (Create, Save, Open, Issue) to be released in 8.11
- Issue additional items, Transfers (Internal Purchase Orders, Shipments) planned for 9.0
- Staging, Returns planned for 9.0

Available in
MAS 8.11



Issue Reserved Items

Available in
MAS 8.11

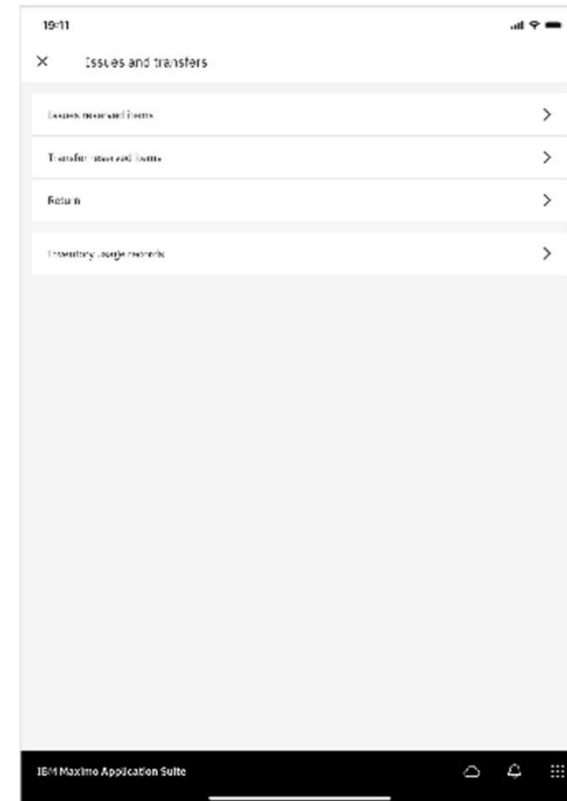
Issue Reserved items using Inventory Usage Records

Reservations / Inventory Usages are automatically generated

- For Material Plans of Work Orders
- Material Requisitions

The App allows the storeroom clerk to:

- Select multiple Reserved Items
- Create new Inventory Usage Records
- Save his work without Issuing
- Open / resume saved or generated Records
- Add or remove Usage Lines
- Issue or delete Inventory Usage Records



Issue Reserved Items

Available in
MAS 8.11

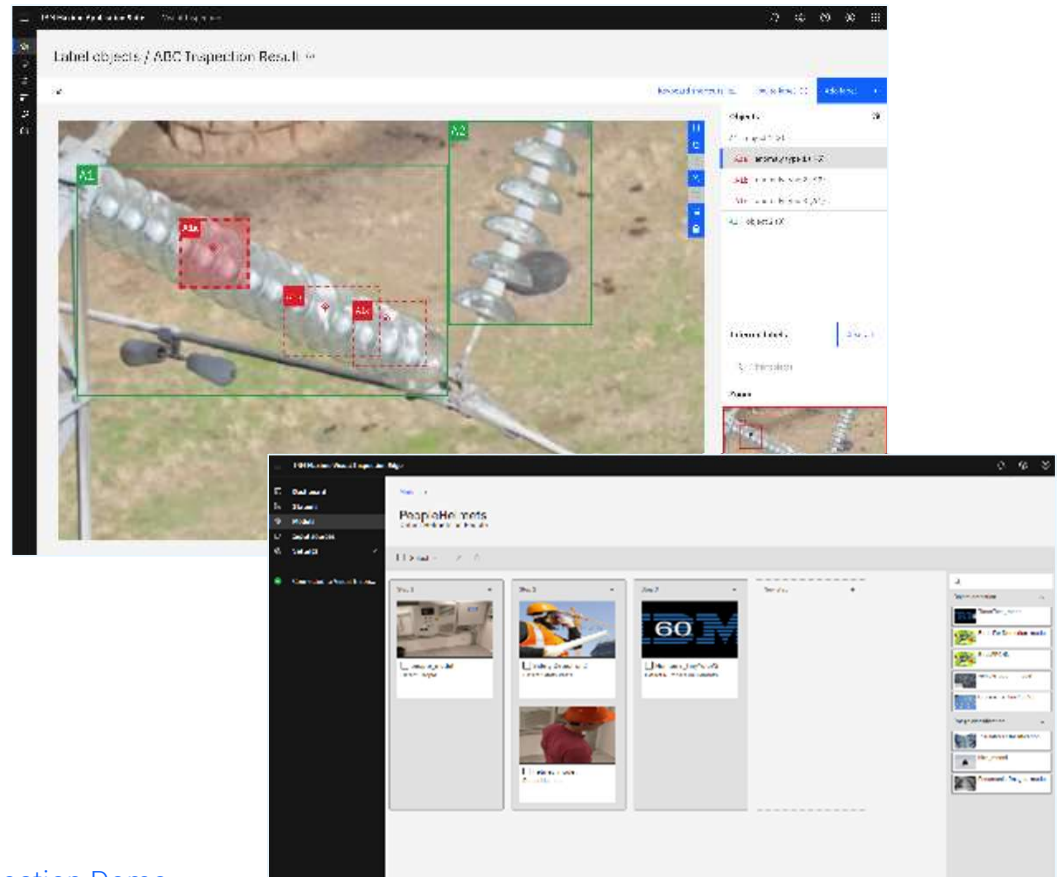
The screenshot displays the 'Inventory Usage' interface in Maximo Mobile. At the top, the title bar shows 'Inventory Usage' and the user 'MAXADMIN'. Below the title bar is a 'Find Usage' search bar with various navigation icons. The main content area is divided into several sections: 'Usage:' with '1008' and 'Created for WO - 1023.'; 'Usage Type:' with 'ISSUE'; 'From Storeroom:' with 'MAINSTORE' and 'Main Storeroom'; 'Site:' with 'IBMDUB'; and 'Status:' with 'ENTERED'. There is also an 'Attachments' link. Below these fields is an 'Inventory Owner:' field with a search icon and a 'Pick List?' checkbox. A table titled 'Usage Lines' shows one entry: Line 1, Item 148-7509, Description SENSOR GP - ENGINE, Work Order 1023, Usage Type ISSUE, and Quantity 5.00. At the bottom, there are buttons for 'Select Items', 'Select Items for Return', 'Select Reserved Items', 'Select Asset Spare Parts', and 'New Row'.

Line	Item	Description	Work Order	From Lot	Bin	Usage Type	Quantity	Split?
1	148-7509	SENSOR GP - ENGINE	1023			ISSUE	5.00	

Issue with Inventory Usage

MVI: Use visual inspection to identify anomalies

- **Automatically detect anomalies**
 - Create an anomaly model using only normal images of the object for inspection
 - Automatically identify when unusual or unidentified elements appear on an object in an image
- **Run models at the edge**
 - Configure rules to automate actions and run anomaly models on MVI Edge
 - Composite models and pipeline workflows at the Edge
- Purpose-built models



[Visual Inspection Demo](#)

Embedding GenAI into Maximo processes

Failure Mode Context Understanding



- Understanding how assets fail is crucial for preventative maintenance. But data needed for prediction is not available for many assets
- We are training a gen AI model to understand failure points. This model can then be applied to other assets

Work Order Intelligence



- Understanding why a work order was created is key to optimizing operations. But this info is typically manual and error prone process.
- We are training a generative and non-generative LLM to classify and recommend work order failure codes, which will enable auto-approval of work orders

MAS Onboarding Assistant



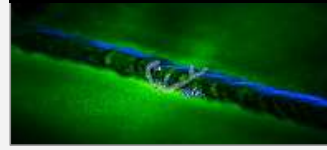
- Maximo Application Suite is a complex product that needs integration with other client systems
- We are training an LLM model to help answer questions that arise in its implementation that can guide clients and answer questions about costs, effort and risks.

MVI Anomaly Detection



- 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

MVI Prompt Tuning



- 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 prompt-tuning to dramatically reduce the effort required to effectively train the model

Assist: Technician Assistant



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

Health: Time series prediction & anomaly



- 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 from a single foundation model trained on a small sample of sensor data. This allows us to capture the complexity with much less effort.

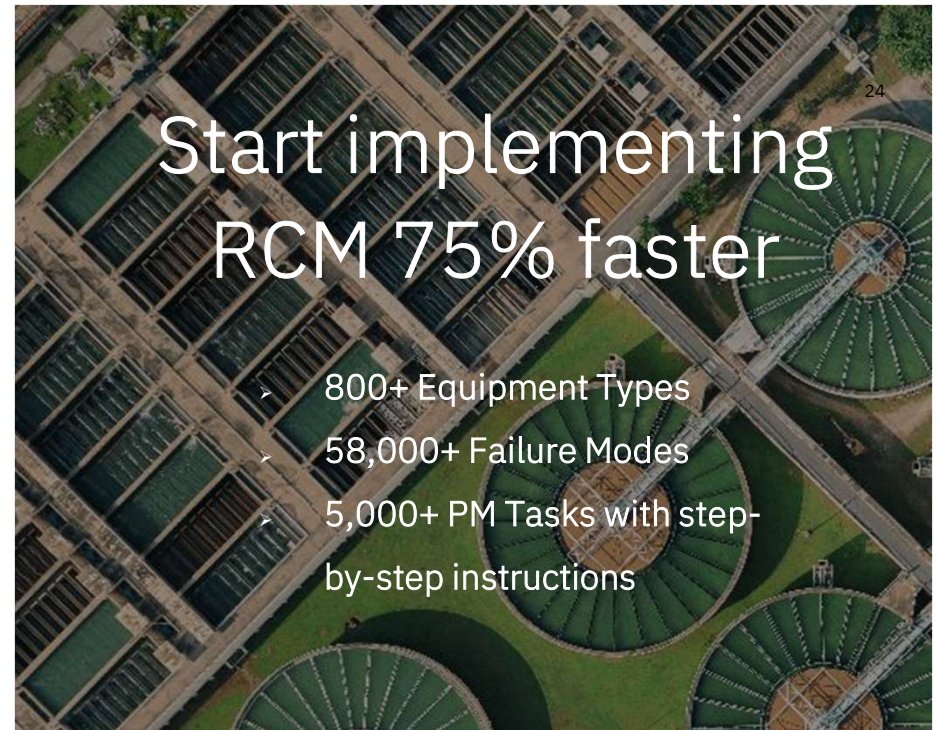
Reliability Strategies *help accelerate achieving RCM goals*

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

Reliability Strategies **App**
Manage add-on*



Reliability Strategy
Library* (Accelerator)



Start implementing
RCM 75% faster

800+ Equipment Types

58,000+ Failure Modes

5,000+ PM Tasks with step-by-step instructions

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

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

RCM Process Example - Pump

Question	Defines:	Example	FMEA	RCM
1. What is the item supposed to do and what are its associated performance standards?	Functions	<i>To provide cooling water to process line electric drive motor bearings at not less than 800 gallons per minute and 30 psi</i>		
2. In what ways can it fail to provide the required functions?	Function: simply what the	<i>Fails To provide 800 gallons per minute of cooling water at 30 psi</i>		
3. What are the event cause each failure?	Functional Failure: A state in which a physical asset or system is unable to perform a specific function to a desired level of performance.	<i>Impeller worn due to cavitation</i>		
4. What happens when failure occurs?		<i>Process line slows to prevent bearing heating</i>		
5. In what way does it matter?		<i>Costs \$10,000/hr for every 10% of lost production</i>		
6. What task(s) can be performed, or technology applied to prevent or the consequences of the failure?	HOW: CAVITATION	<ol style="list-style-type: none"> <i>Inspection</i> <i>Pump Performance Test</i> 		
7. What must be done if a suitable preventive task cannot be found?	Default Actions	<ol style="list-style-type: none"> <i>Replace Impeller</i> <i>Redesign pump</i> <i>Modify operating procedures</i> 		

*more detailed definitions in the appendix

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2. In what ways can it fail to provide the required functions?	Functional Failures	<i>Fails To provide 800 gallons per minute of cooling water at 30 psi</i>
3. What are the events that cause each failure?	Failure Modes	<i>Impeller worn due to cavitation</i>
4. What happens when each failure occurs?	Failure Effects	<i>Production line slows to prevent bearing overheating</i>
5. In what way does each failure matter?	Failure Consequence	<i>Loss of \$10,000/hr for every 10% of lost production</i>
6. What task(s) can be performed, or technology applied to prevent or the consequences of the failure?	Reliability Strategies	<ol style="list-style-type: none"> 1. <i>Inspection</i> 2. <i>Pump Performance Test</i>
7. What must be done if a suitable preventive task cannot be found?	Default Actions	<ol style="list-style-type: none"> 1. <i>Replace Impeller</i> 2. <i>Redesign pump</i> 3. <i>Modify operating procedures</i>

FMEA
RCM

*more detailed definitions in the appendix

An Application Purpose-Built for RCM

With rapid time to value, the solution makes it fast and easy to create and optimize reliability strategies

FMEA Viewer With 8.11

For reviewing equipment failure mechanisms in the Reliability Strategy Library

Reliability Strategy Composer With 8.11

Rapidly builds Reliability Strategies with corresponding PMs and Job Plan tasks using the Reliability Strategy Library

Reliability Strategy Builder Upcoming release

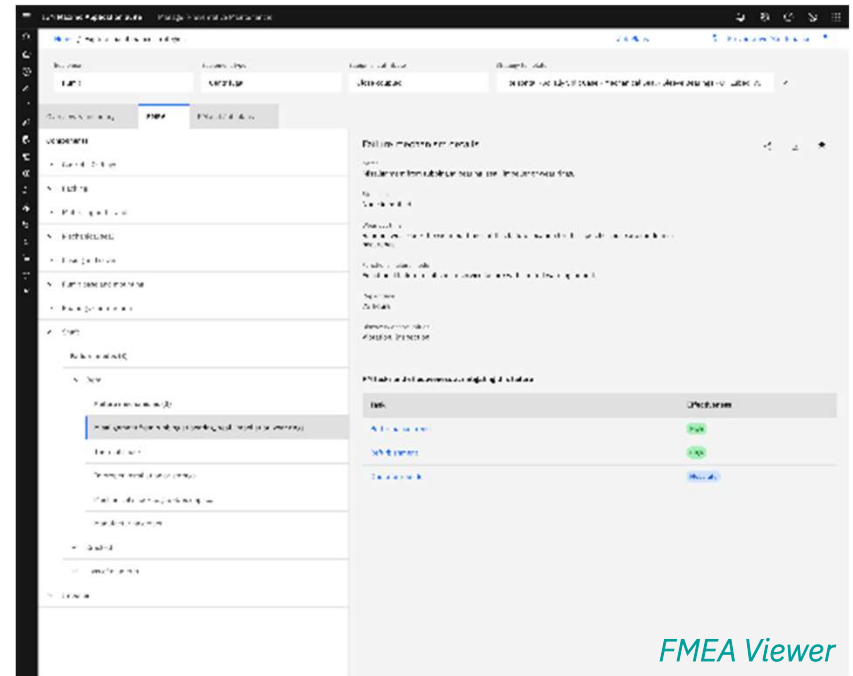
Edit or add to the Reliability Strategy Library

Reliability Strategy Optimizer Upcoming release

For optimizing PM's for both reliability and cost

Conditioned Based Maintenance with Advanced Analytics Upcoming release

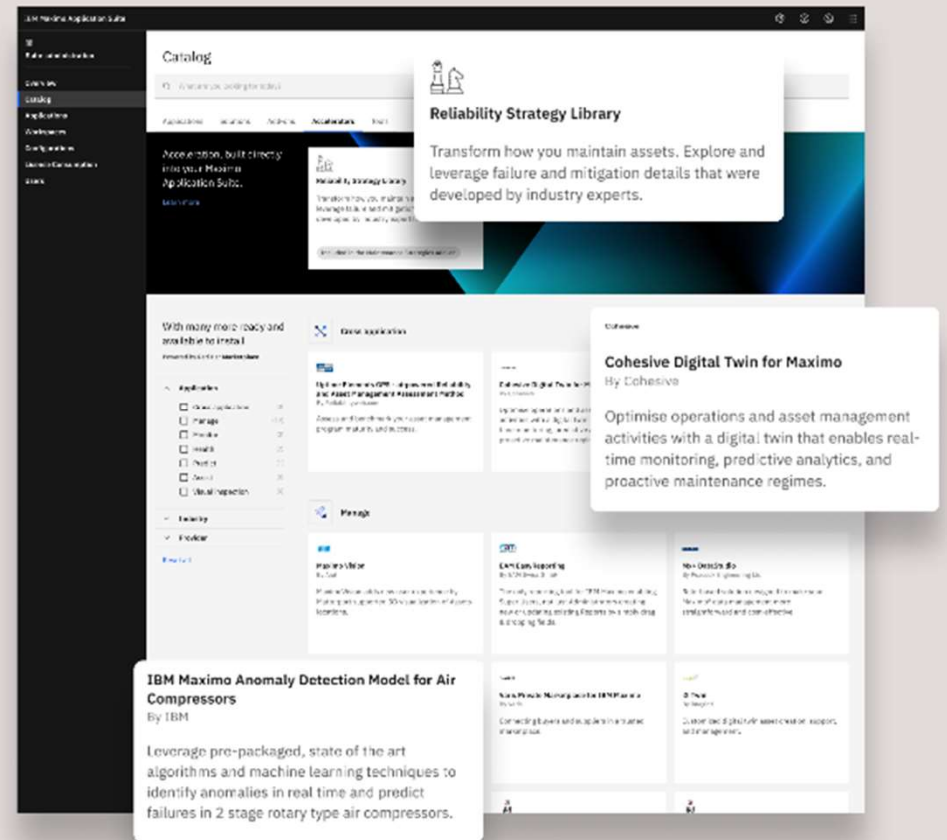
Drive condition-based maintenance further into the asset base with failure mode/parameter coupled machine learning libraries



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....



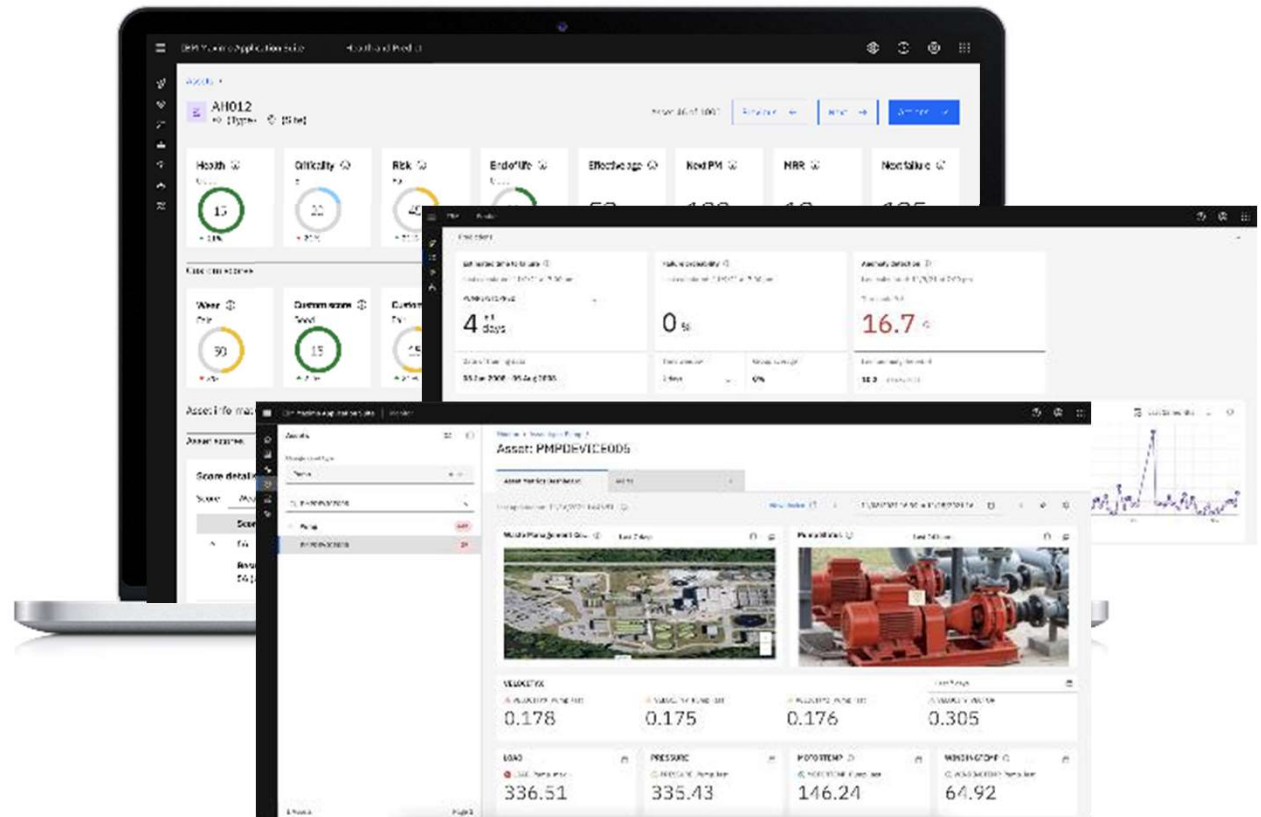
Monitor: Ingest data from multiple sources for analysis

- Ingest data directly into Maximo Monitor from multiple sources like OSI PI
- Represent a business as a hierarchy of assets, roll up metrics at different levels, and create summary dashboards to monitor performance at scale and see meaningful alerts generated by AI-based anomaly detection
- Ingest 1 million tags per minute from distributed systems across several customer sites and analyze the data using the streaming analytics pipeline



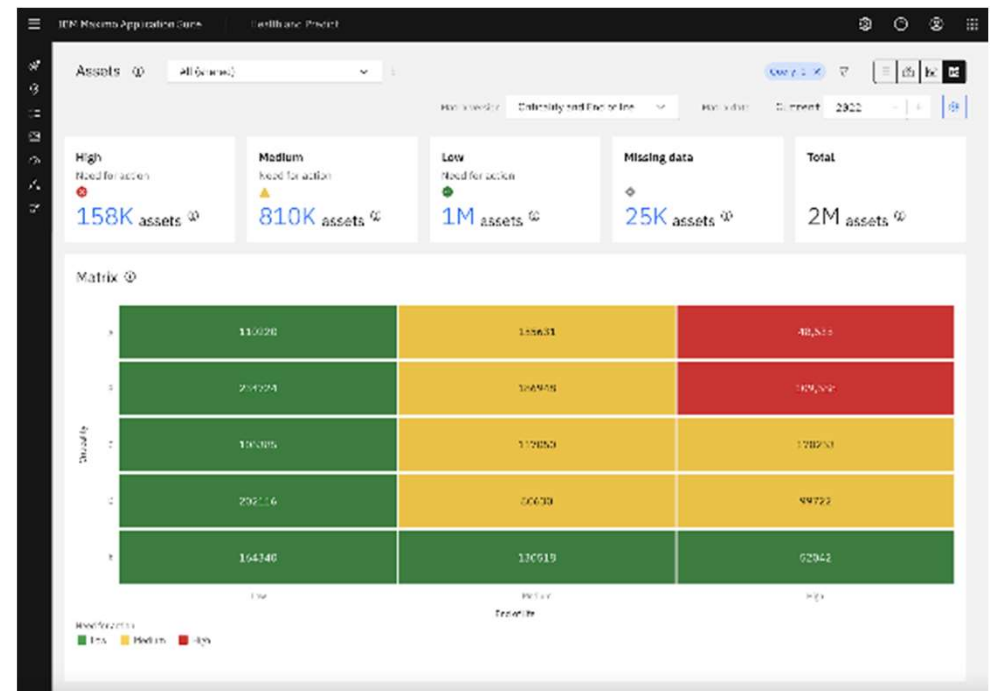
Asset Health: Investigate assets at risk from a single page

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



Asset Health: View assets in a matrix for more refined identification

- View assets on color-coded matrices 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 custom matrix configurations with custom scores, like wear, efficiency and total cost
- Apply future forecasting of an asset matrix to determine what action to take today



Asset Health: Build an investment project to reduce risk or 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 templates built for common asset types OR from individual asset replacement plans
- Compare current plans and optimized strategy
- Submit plans for approval or for additional finance analysis in a full AIP solution

The screenshot displays the IBM Plantwise Health and Predict software interface. The top window shows 'Investment strategies' for '64 assets at Bedford'. It lists several 'Maintenance risk' scenarios with their last update dates and constraints. The bottom window, titled 'Compare investment strategies', provides a detailed comparison of three scenarios: 'Baseline', 'Maintenance', and 'Stay within budget'. The table below summarizes the key metrics for each scenario.

Goal	Maintenance	Baseline	Stay in budget			
Objective	5 years	5 years	5 years			
Target start year / end year	10/2021 / 10/2025	10/2021 / 10/2025	10/2021 / 10/2025			
Total cost (US\$)	50,000,000	40,000,000	40,000,000			
CAPEX	40,000,000	30,000,000	30,000,000			
OP&M	10,000,000	10,000,000	10,000,000			
Average yearly total cost (US\$)	10,000,000	8,000,000	8,000,000			
2021 total	20,000,000	15,000,000	15,000,000			
2022 total	18,000,000	13,000,000	13,000,000			
2023 total	16,000,000	11,000,000	11,000,000			
2024 total	14,000,000	9,000,000	9,000,000			
2025 total	12,000,000	7,000,000	7,000,000			
Average risk score for risk data	5.1	4.2	4.4			
Highest risk scores for risk data	Risk score	Total Investment	Risk score	Total Investment	Risk score	Total Investment
Structural steelwork	11.0 (2022)	+ 1.5	10.0 (2022)	+ 1.5	11.0 (2022)	+ 1.5
Thermal power transformer	6.0 (2023)	+ 0.1	6.0 (2023)	+ 0.1	6.0 (2023)	+ 0.1
Overhead cable	7.1 (2023)	+ 0.1	7.0 (2023)	+ 0.1	7.0 (2023)	+ 0.1
Towers	6.1 (2023)	- No change	6.0 (2023)	+ 0.1	6.0 (2023)	+ 0.1
Transmission cable	6.1 (2024)	- No change	6.0 (2024)	- No change	6.0 (2024)	- No change
Total replacements	220		220		220	

Adding Cognos to the Maximo Application Suite



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



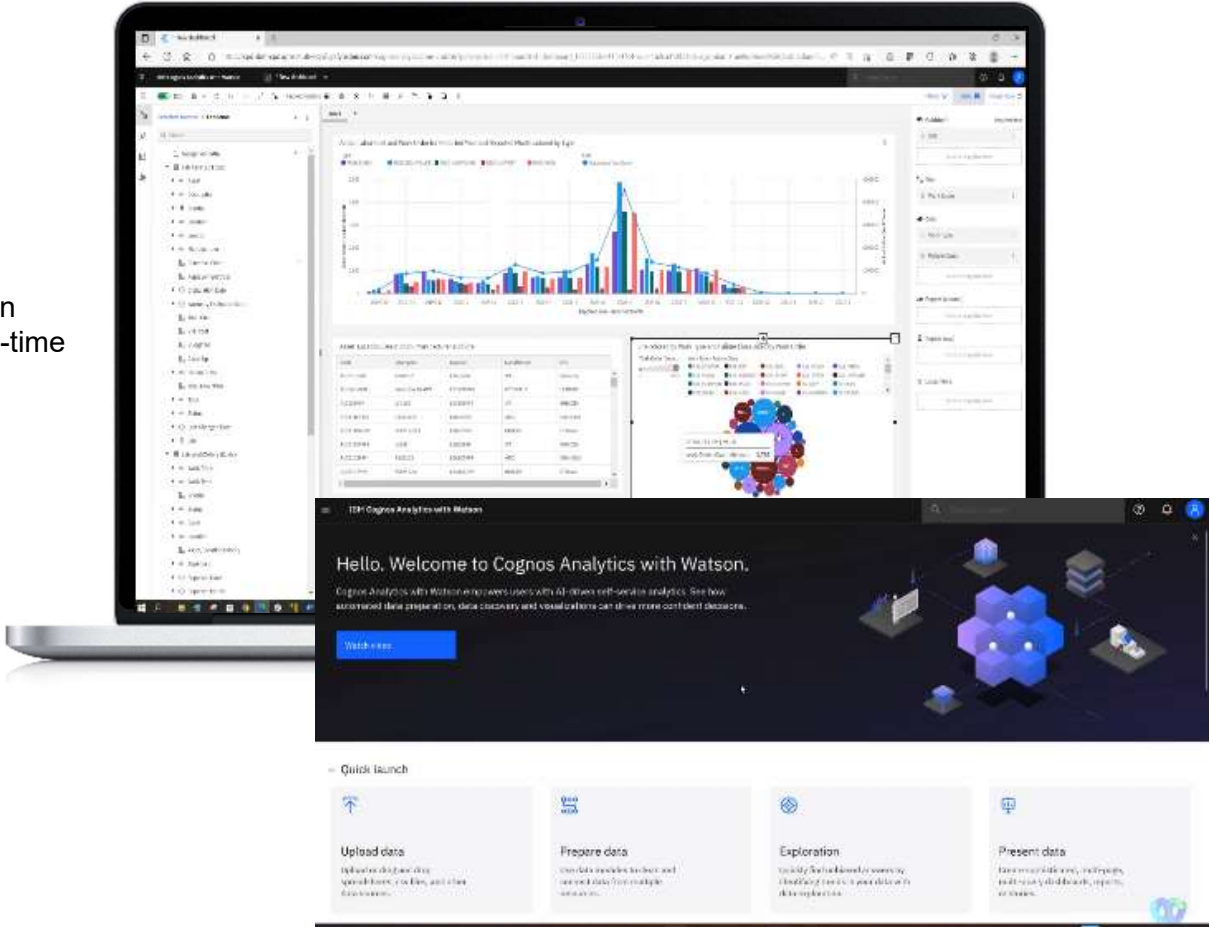
Display information quickly and in real-time



Deliver critical metric to drill down into actionable items



Make content customizable



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

Available

- 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

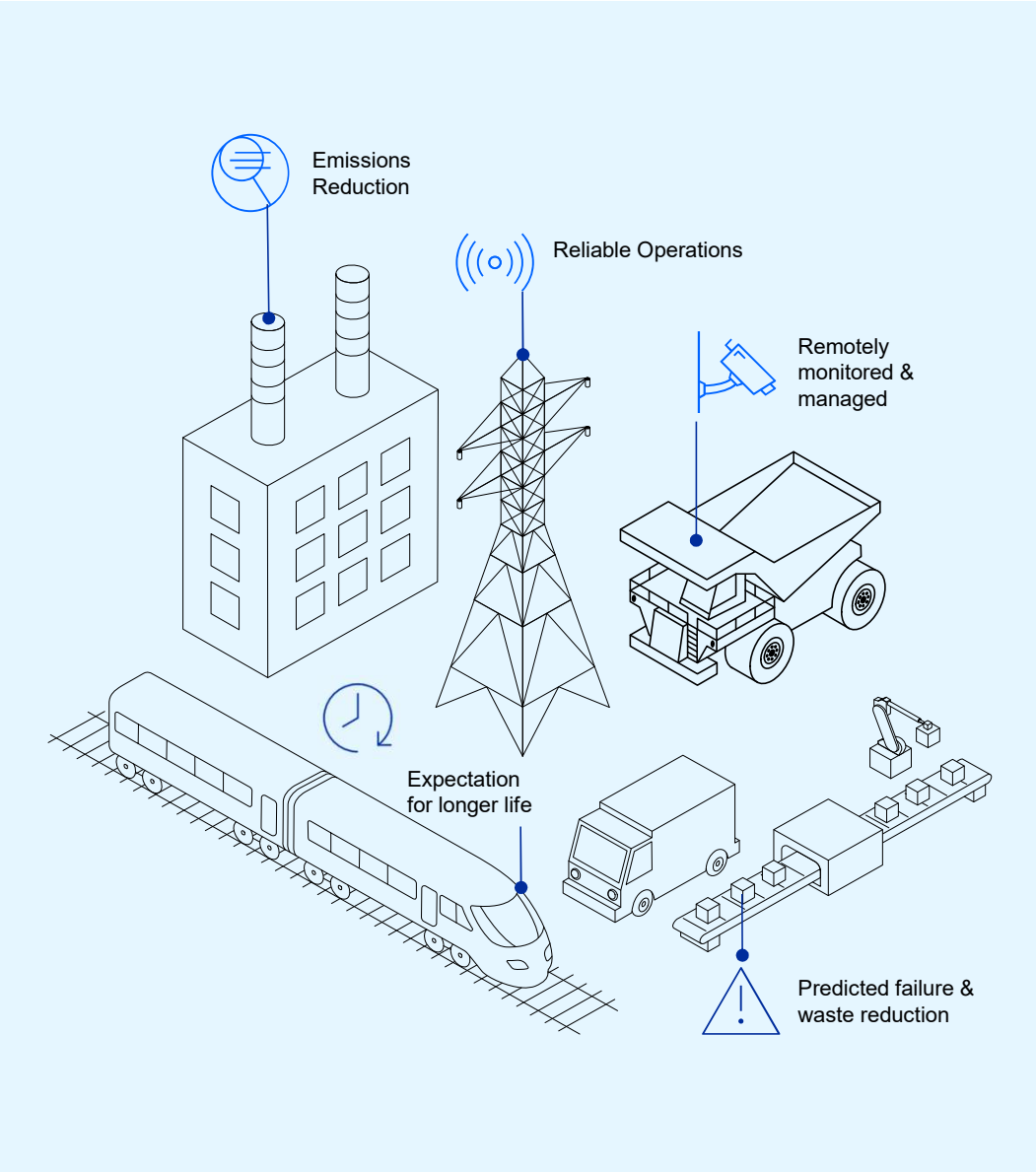
Extending asset life decreases waste & embodied carbon, and improves energy efficiency

Asset Monitoring and Fault Detection

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

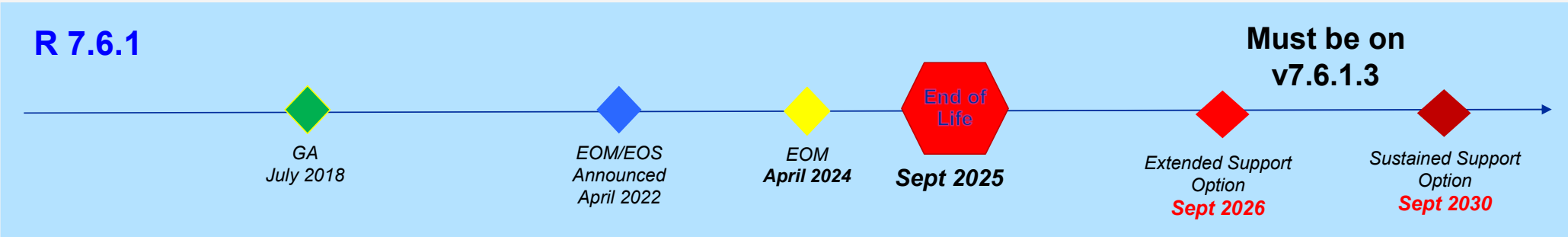
Maximo + Envizi

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



Maximo EAM Lifecycle Updates

	DESCRIPTION	DATE
Announce End of Market (EOM & EOS)	Announcement Letter published IBM Announcement Letter #922-024	April 12, 2022
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



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.

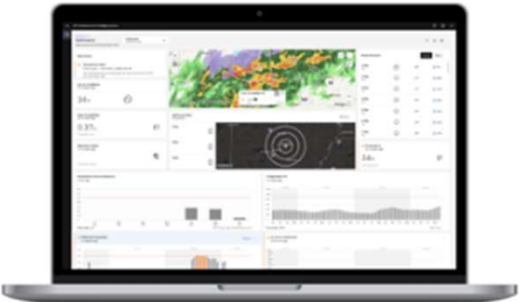
Resources

Sustainability Software Digital Trials

Maximo Application Suite
(MAS SaaS with Health & Manage capability only)

Environmental Intelligence Suite (EIS)

Envizi ESG Suite



Customer/Partner/Prospect signup links

Prospects will find our new trials on the main product pages for each of the products. You can also share these links that take them directly to the sign-up page. Please direct all customers, partners and prospects to sign up for the trials using the links below in order to properly track their participation.

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.

Maximo Settings

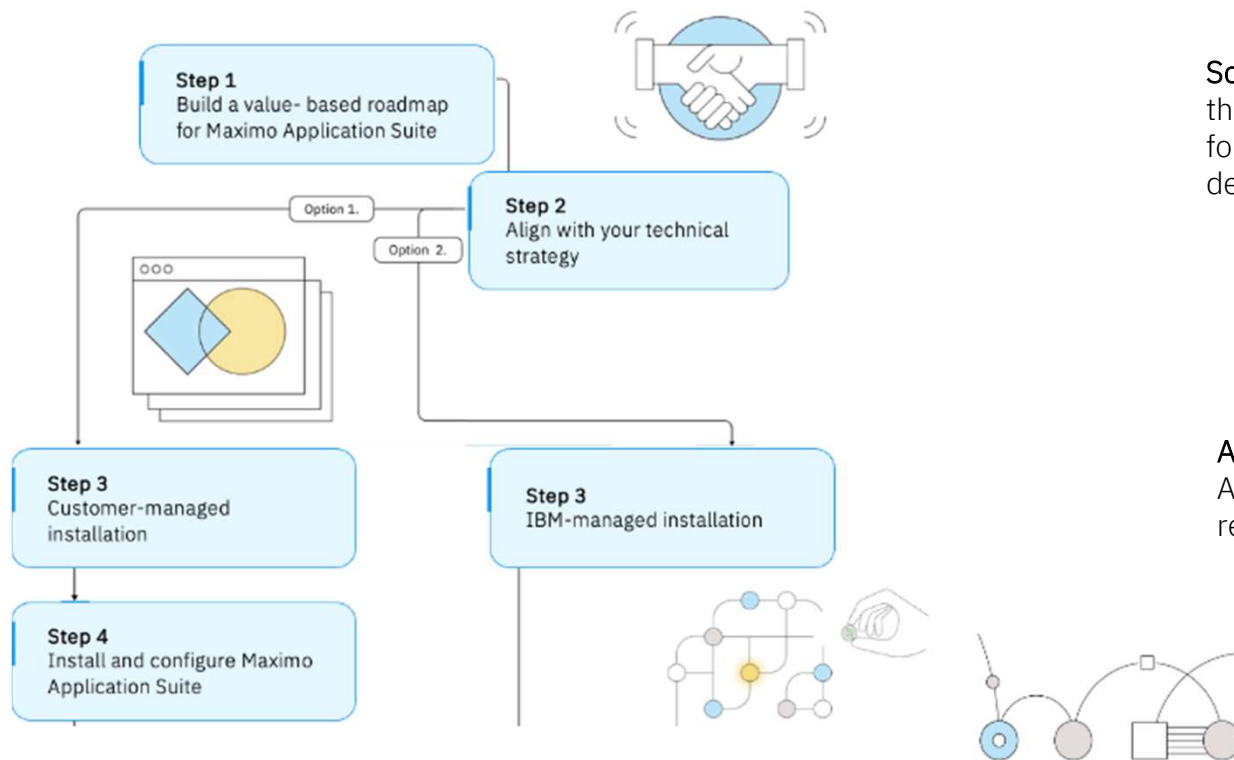
[Group Home](#) [Discussion 5K](#) [Library 220](#) [Blogs 189](#) [Events 2](#) [Members 8.4K](#)

Join and participate in the Maximo Community [HERE](#)

A screenshot of a web application navigation menu. The menu is titled 'Main (141)' and contains several expandable categories. A red rectangular box highlights the 'Maximo Upgrade Resources (0)' category, which is further expanded to show three sub-items: 'Upgrading to MAS (5)', 'Learn more about MAS (4)', and 'Post Attachments (15)'. Other categories visible in the menu include 'Maximo Academy IoT Exchange 2020', 'Maximo Academy (7)', 'Maximo (8)', 'Maximo Application Suite (3)', 'Maximo Scheduler (0)', 'Maximo Integration and Scripting', 'Maximo EAM (0)', 'Maximo Anywhere (0)', 'Maximo Spatial (0)', and 'Maximo AVP (0)'.

Supporting your Move to MAS

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



Scan
the QR Code
for more
details



Access
Additional
resources



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

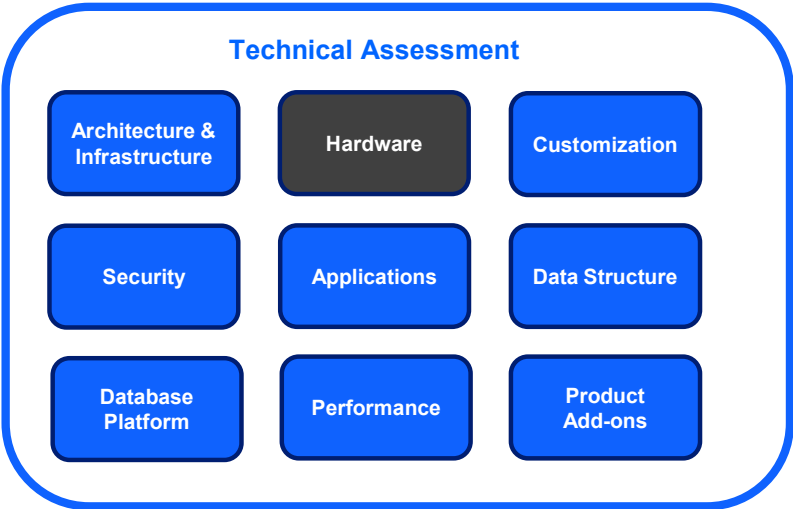
Expected Outcome:

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

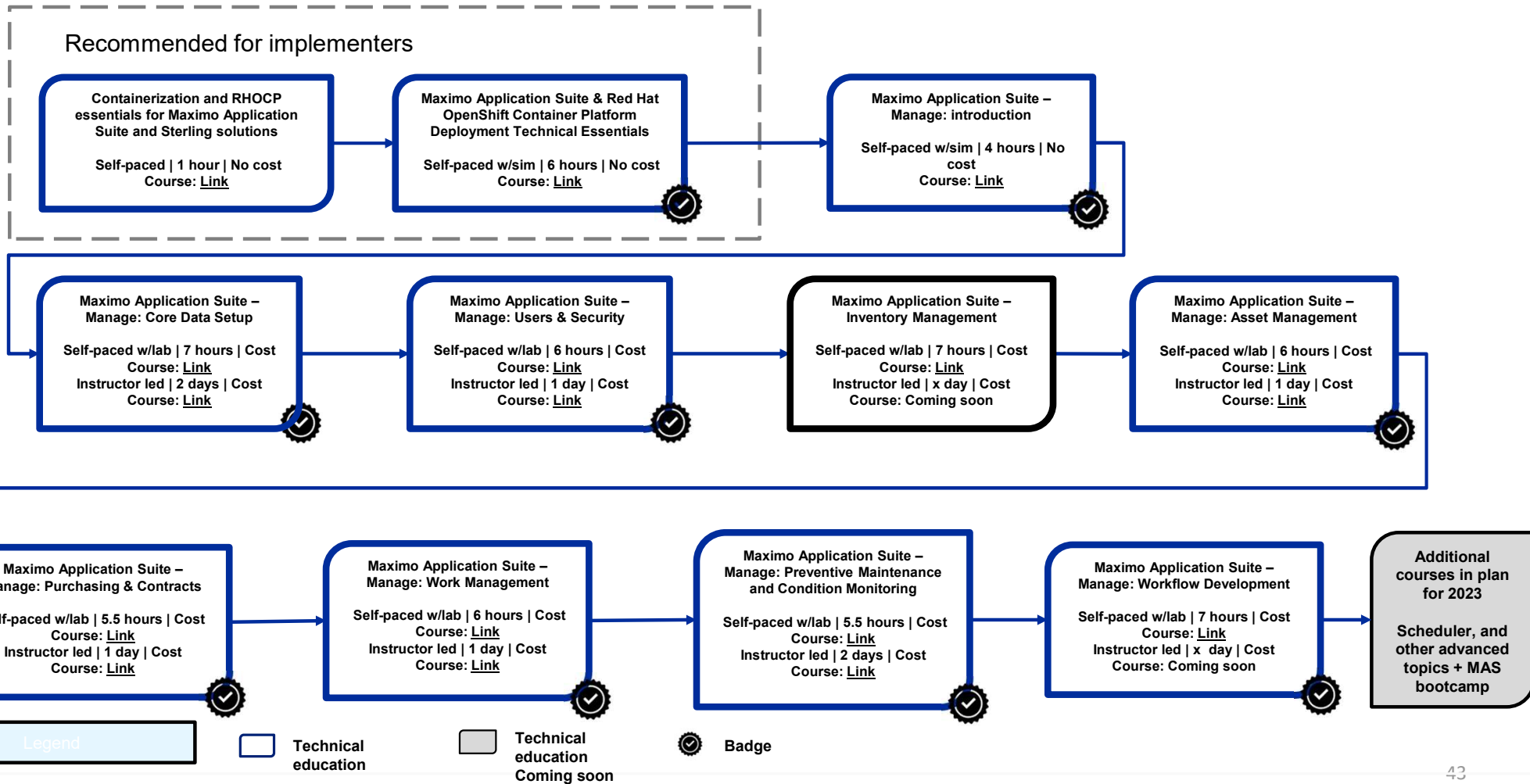
Duration:

- 5-7 weeks

Maximo Assessment Components



Maximo Application Suite: Manage v8.x Technical Education Roadmap



IBM Maximo Application Suite

Technical education brief

Maximo Application Suite (MAS)				
System Users / Administrators / Consultants				
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	Yes
Getting started with IBM Maximo Asset Performance Management v2 (MAX4311G)	5 hours	Self-paced	Cost	Yes
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

Request for Enhancement migration to AHA



AI 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?

IBM

Critical Features

Notable callout

Unify MAS through utilization of the right function at the right time via cross-product user experiences

Inspections

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

Address scale and efficiency of MVI deployments through introduction of MVI In A Box packaged hardware and software solution

Expand the **integration with Envizi** beyond tracking and into the execution of campaigns to improve sustainability

Bring **visual inspections to the asset**, which will significantly expand the number of asset types that require models

Introduce an **Incidents mobile application** to capture health and safety incidents that require remediation and compliance reporting

Burgundy = 8.11 target
Black = 9.x target

Maintenance

Achieve first-time fix rates >90%, improve productivity 44%* and reduce truck rolls 25%

Address **technician mobile application needs** through completion of Inventory and Calibration capabilities. Increase usage of location via strategic partnership.

Extend **Maintenance Manager** through usage of asset risk, investment scenarios, and schedule awareness

Extend field service management through a **modernized and optimization driven dispatching** solution

Bring **Business Intelligence and improved reporting to the Suite** via introduction of COGNOS to managers and engineers

Introduce **Asset Manager** dashboard utilizing asset history, asset risk, and current operational state

Refine and bring to market a **process mining** solution to help identify inefficiency and recommend improvements.

Reliability

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

Single focused **Maximo Health** product.

Extend **utilization of operational conditions** to Operations Managers and Asset Managers via refactoring and modularizing the Operator user experience.

Expand reliability engineer effectiveness through introduction of Mean Time Between Failure (**MTBF**) modeling, and comparison of **active and future asset investment trends**. Analyze **previously ingested operational data** streams for predictive analytics..

Address engineer needs for **anomaly conditions and failure predictions** on a more than daily basis

Increase the operational data available to reliability engineers via **Omnio connectors**

Improve the consistency and effectiveness of **model lifecycle management** to ensure usage of continually improving models for condition and predictive maintenance.

Accelerators, CD, Install/Upgrade/Manage

Accelerators, Integrations, Industry

20% increase in customer lifetime value by meeting a diverse set of customer needs through ecosystem offerings

Bring an **Accelerator Catalog** as a marketplace for offerings and content that accelerates TTV for MAS. Pipeline of ~50 partners to deliver offerings.

Seed catalog **Accelerator** content from IBM within the catalog: HPU, Expert Labs, SAGA, and IBM Research

Extend **Maximo Civil Infrastructure**

Introduce **Maximo IT within MAS**

Develop mobile **calibration** application for regulated industries

Connectors

Burgundy = 8.11 target
Black = 9.x target

Continuous Deployment

Improved development and delivery of MAS through **integrated CI/CD pipeline** for continuous build, test, integration and deployment.

Improve product upgrades in support of continuous delivery to our customer.

Progress our **MAS Operator Maturity** to bring the following to our products:

- Provides non-disruptive infrastructure and dependent service through common service forward compatibility
- Support application viable upgrade path through n-1 backward compatibility for application dependency
- Seamless operator upgrade

Improve the ability to manage MAS via consistent improvement of **SRE maturity**:

- Monitoring and alerting
- Effective customer communication
- Process automation

Install, Upgrade, Manage

Process and certification work to **address FISMA and FEDRAMP** needs for Federal and regulated industry customers

Expand **Single Node Openshift** patterns to include options for MAS products beyond Manage

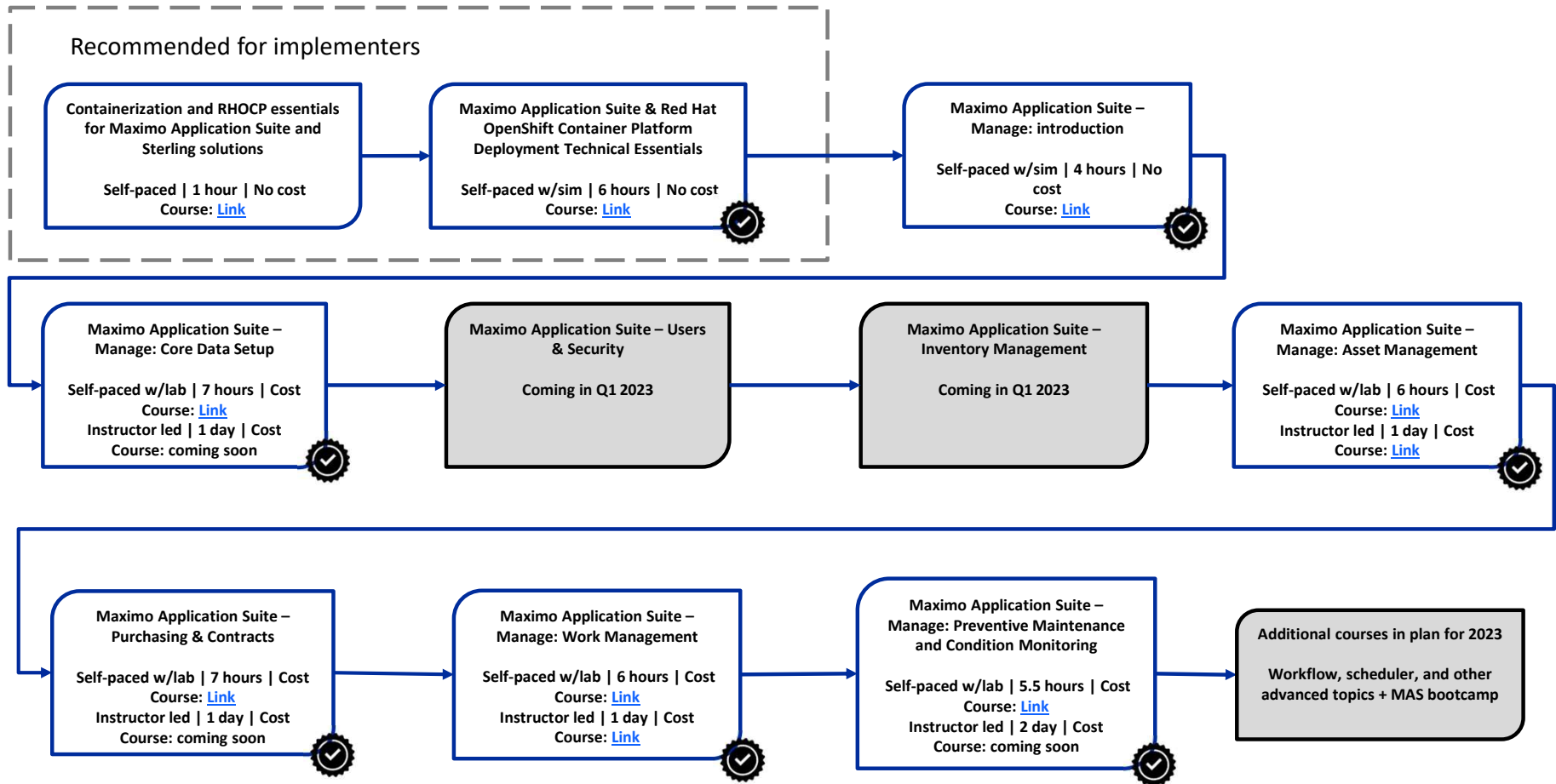
Extend hyperscaler support through introduction of **MAS (BYOL) on GCP**

Roadmaps & learning

Technical education & certification

IBM Maximo Application Suite – Manage 8.x

Technical education recommended roadmap



Legend

- Technical education
- Technical education Coming soon
- Badge

IBM Maximo Application Suite

Technical education brief

Maximo Application Suite (MAS) Manage				
System Users / Administrators / Consultants				
Course Title	Duration	*Format	Cost	Badge
Maximo Application Suite Manage introduction (DL25606G)	4 hours	Self-paced	No cost	Yes
Maximo Application Suite – Manage: Work Management (MAX4315G)	6 hours	Self-paced with lab	Cost	Yes
Maximo Application Suite- Manage: Asset Management (MAX4316G)	6 hours	Self-paced with lab	Cost	Yes
Maximo Application Suite – Manage: Preventive Maintenance and Condition Monitoring (MAX4317G)	5.5 hours	Self-paced with lab	Cost	Yes
Investment Optimization for Maximo Application Suite – Manage (DL25609G)	.5 hours	Self-paced	No cost	No
Maximo Application Suite – Manage: Work Management (MAX4318G)	1 day	Instructor led	Cost	Yes
Maximo Application Suite – Manage: Asset Management (MAX4319G)	1 day	Instructor led	Cost	Yes

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](#)

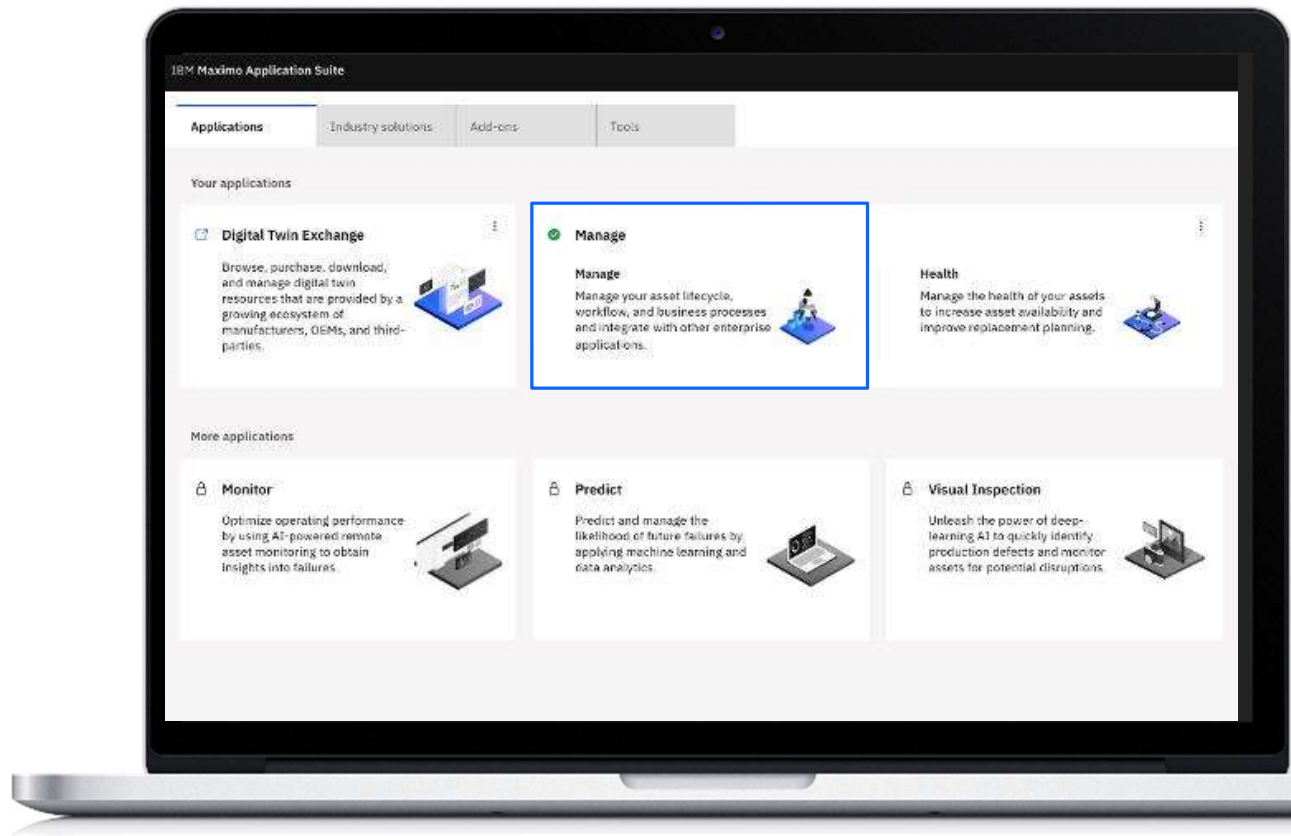
The image shows two side-by-side boxes representing different subscription types. The left box is titled 'Individual subscription' and lists three bullet points: 'Individual student access to digital learning course material for 12 months for one fixed price.', 'Student can take up to 9 digital courses from the Maximo DLS catalog.', and 'List price \$2400 USD'. The right box is titled 'Enterprise subscription' and lists three bullet points: '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.', and 'List price \$12,504 USD'.

Subscription Type	Key Features and Pricing
Individual subscription	<ul style="list-style-type: none">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	<ul style="list-style-type: none">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>

Upgrade - *What to expect from MANAGE in the Suite*

OVERALL CHANGE TO EAM

DATA – No database changes & no data model changes

APPLICATIONS – Changes to authentication & user repository

INFRASTRUCTURE – Red Hat OpenShift Deployment

TECHNOLOGY MIGRATIONS

OPENSIFT OPERATORS – Install, deploy, config environment,
customize deployment, upgrade

SECURITY & USER MGMT – Migrate to MAS Authentication

APP SERVER – WAS Liberty

INTEGRATION – Rest API replaces Remote Method Invocation

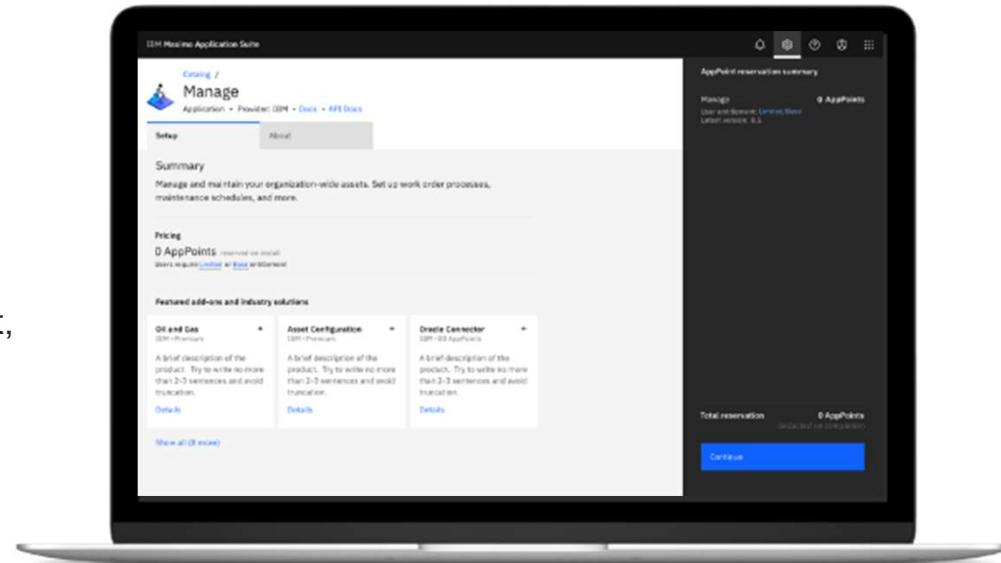
MESSAGE QUEUE – Kafka; JMS (MQ)

NEW OPTIONS AVAILABLE TO CLIENTS

MODERNIZED USER EXPERIENCE – Skin & Navigation

MOBILE – new Mobile experience

SERVICEABILITY – Improved logging options (Fluentd & Kibana) & monitoring options (Prometheus & Grafana)



Design is not final

TOP DEVELOPMENT CHANGES

OPERATOR CREATION – Rewriting Install & Configuration

USER MGMT – Moving users & LDAP control to MAS

CONFIGURATION – Rebuilding delivery & deploy for MAS

MAS/Manage Summary Above and Beyond EAM

Mobile

- Technician
- Inspections
- Service Requests
- Approvals
- Asset Manager

- Inventory Count Books & New Count Books application

- Indoor Mapping

- Configuration Tooling

Role Based Applications

- Scheduling Dashboard
- Maintenance Manager
- Operations Manager

Licensing

Available as part of Base User

- Scheduling
- Linear
- Spatial
- Calibration

- Flexibility allows access to
 - Transportation
 - Oil and Gas
 - Utilities
 - Civil Infrastructure
 - Nuclear
 - Health Safety Environment Manager
 - Service Provider
 - Health
 - Monitor
 - Predict
 - Visual Inspections

- No User Synch for Service Provider
- No Non-Production License required for Installs

Modern Technology

Mobile

- Assist
- Parts Identifier
- Hands Free Inspections

Scheduling

- Optimization Models

Health

- Investment Planning

AppConnect

- Workday
- TRIRIGA
- Envizi

Currencies

- Dojo 1.16
- Update iText 3rd party plug-in 2.17

Serviceability

- Grafana Dashboard
- Log output to S3 Cloud Object Storage
- Ability to stream WebSphere Application Server Liberty logs
- Metrics are added to the monitoring dashboard

Technical Foundation

- Bulk export feature is added to the integration framework
- Integration framework support for OR and AND operators in the same OSLC WHERE clause
- Ability to scale Java Message Service (JMS)