A comprehensive buyer's guide

IBM Maximo Application Suite

IBM

Contents

Introduction

The document is intended to help decision-makers and users understand how to use the IBM® Maximo® Application Suite to solve or alleviate operational problems.

Whether you're in charge of maintenance, an inspection technician or seeking asset reliability, you'll find everything necessary to overcome the most pressing issues.

With the IBM Maximo Application Suite, you can monitor, manage and improve asset operations in a single platform.

It's a powerful combination of [computerized maintenance management system](#) (CMMS), [enterprise asset management](#) (EAM) and asset performance management (APM).

You and your team will obtain operational visibility of assets through their lifecycle, creating optimized maintenance plans, preventing a failure before it happens, and increasing productivity and operational uptime while paying only for what you use.

01

The challenges of operations

With the evolution of the technological landscape, many organizations have modernized their operations. Business models have been rapidly changing with the introduction of AI, IoT and machine learning (ML) techniques, helping organizations develop faster, automated and more reliable operations.

However, many organizations have been struggling to incorporate innovations and new processes into their operations, resulting in delays or functions that don't scale and are costly to maintain. The landscape of human capital continues to be challenging due to changing skills, aging equipment, the expectations of new entrants and the retirement of technicians.

New technicians expect transparency, advanced capabilities and the ability to seamlessly collaborate across the operations value chain.

As companies realize these misalignments, they're beginning to modernize their production capabilities to maintain competitiveness and prepare for the next generation of workers and technology.

Learn more →

Managing industrial data is challenging
Today, industrial operations generate terabytes of information almost daily. However, more than two-third of data goes unused due to the integration complexity and the slow, labor-intensive processes required to make it consumable.[1]

Not having a single source of truth about assets, resources, skills, financials, locations, parts and schedules is the root cause of the inability of many companies to control and optimize operations.

The cost and complexity of managing onsite data are growing quickly. As a result, a high percentage of asset-intensive industries such as travel, transportation, manufacturing, telecommunications, mining, construction, waste and water management, and energy generation and distribution depend on cloud technologies to manage their data.
Cloud has become critical to operations for the following reasons:

– **IoT.** Accessing industrial machine data and operational data

– **Insights.** Executing actionable decisions

– **Value.** Maximizing asset availability, optimizing the cost of operations and productively using time

– **Result.** Enhancing operations of smart industries

– **AI and ML.** Analyzing vast amounts of data.

■

Cloud will continue to march forward despite challenges with holistic integration and skills. Leading ecosystems enable information to flow between innovation partners within different enterprises, enabled by cloud.

IBM Transformation Index:
State of Cloud, 2022

The growing prominence of hybrid cloud
Did you know that combining hybrid cloud with other levers of business transformation can generate up to 13 times greater benefits than cloud alone? It's the conclusion of an IBM Transformation Index: State of Cloud survey, which has shown that 56% of the interviewed companies across 23 industries have now embraced hybrid cloud. The index predicts this trend will continue, as 80% of the interviewed companies are moving workloads from public clouds to some form of private infrastructure. The top reasons are to improve performance, latency, security and compliance.[2]

See other results from the index →
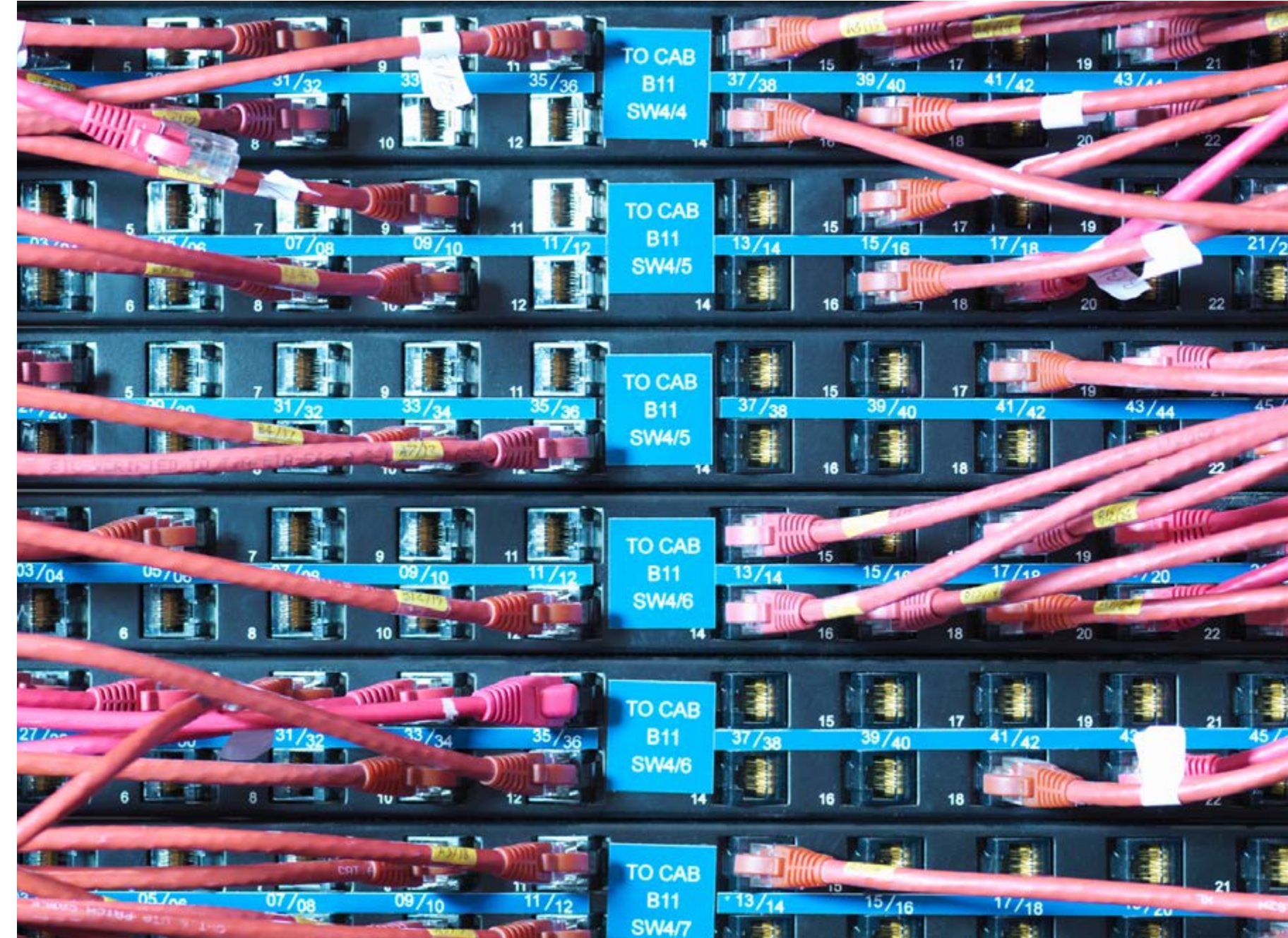
How important is it to you?
There's an ever-growing need for a scalable environment to aggregate, cleanse, integrate and analyze data to drive digital transformation and reinvention. For years now, companies have used cloud migration as an opportunity to optimize workflows, reinvent processes and increase productivity. Especially for mission-critical applications, businesses need a hybrid cloud solution that spans data centers, mainframes, multiple private and public clouds, software-as-a-service (SaaS) applications, and applications and data running at the edge.

Whether your cloud will help in operating assets and optimizing performance depends on how quickly you can put data to work and deliver insights to teams.

IBM Maximo Application Suite is an advanced solution that can help you achieve these essential goals.

02

IBM Maximo Application Suite

Overview and features

IBM Maximo Application Suite is a single, integrated, hybrid cloud platform that uses AI, IoT and analytics to optimize performance, extend the asset lifecycle and reduce operational downtime and costs. You get configurable CMMS, EAM and APM applications, including streamlined installation and administration, and a better user experience (UX) with shared data and integrated workflows.

With the IBM Maximo Application Suite, you can:

- Optimize asset management
- Optimize maintenance strategies
- Enhance remote monitoring
- Enforce predictive maintenance
- Accelerate the adoption of visual inspection capabilities with no-code requirements
- Improve productivity with AI-powered assistance on mobile devices for field technicians

Start free trial →

How does it work?
By having maintenance, inspection and reliability applications in a single platform, you remove data silos and enhance data sharing with an integrated UX and shared administrative controls for enterprise-scale execution.

Benefits
– Access the entire suite with one single entitlement
– Deploy and pay only for what you're using
– Deploy new applications and capabilities as your business grows
– Run on premises or in any cloud using the Red Hat® OpenShift® Platform model

Read the reviews on G2 →

Read the reviews on TrustRadius →

Applications within the suite

Name of the app	Suggested use case	CMMS, EAM or APM	Results
IBM Maximo Manage	Maintenance	CMMS and EAM	Reduce downtime and costs by optimizing asset management and maintenance processes to improve operational performance. Use embedded industry expertise with best-practice data models and workflows to accelerate your industry transformation. Unify asset management processes using role-based workspaces to help teams across your enterprise. Combine asset lifecycle and maintenance management activities, gaining insight into all enterprise assets and work processes for better planning and control.
IBM Maximo Mobile and IBM Maximo Assist	Maintenance and inspection	CMMS and EAM	IBM Maximo Mobile is built on next-generation mobile technology. It helps field technicians find asset history and operational data, even in the most remote locations. Also, IBM Maximo Assist provides real-time collaboration and annotation and puts documentation at technicians' fingertips.

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Name of the app	Suggested use case	CMMS, EAM or APM	Results
IBM Maximo Monitor	Reliability	EAM	Improve asset and operational availability with advanced AI-powered remote asset monitoring at scale. Collect data from your existing operational technology (OT) systems and converge your IT systems and operational systems into a single data lake to detect anomalies.
IBM Maximo Visual Inspection	Inspection	EAM	Perform a visual inspection of the line or asset using commercial, off-the-shelf iOS devices to get immediate, actionable notifications of any emerging issue. Scale easily to view multiple points, including global views of all plants and geographies. Integrate with maintenance and quality workflows for a fast and prescriptive response.
IBM Maximo Health	Maintenance and reliability	EAM and APM	Manage the health of your assets using IoT data from asset sensors, asset records and work history to increase asset availability and improve replacement planning. Get a view of asset health through dashboard displays to provide evidence to base operational decisions.
IBM Maximo Predict	Reliability	APM	Go beyond time-scheduled maintenance to condition-based action to predict the likelihood of future failures. Apply ML and data analytics to reduce cost and asset failures. Use the power of other Maximo capabilities and IBM Watson® Studio to make data-driven decisions and build predictive models.

Apps and functionalities

IBM Maximo Manage
IBM Maximo Manage is a configurable CMMS and EAM platform that delivers the right asset data at the right time to operations and asset management professionals.

Purpose
Understanding and managing maintenance

Outcome
Enhancing asset lifecycle and reducing unexpected issues that impact uptime and team productivity

Benefits
With IBM Maximo Manage, you can:

– Automate all operational aspects of maintenance for reduced risk and improved productivity.
– Optimize scheduled maintenance plans coupled with condition-based maintenance.
– Access centralized data and processes to optimize activities and improve uptime.
– Use a role-based UX and applications to optimize productivity in the factory and the field.
– Support and enhance your enterprise workflow with customizable and extensible features.

Industries
Transportation; utilities, including nuclear; oil and gas; aviation; civil infrastructure; and manufacturing

Popular features
Scheduler, linear and calibration

Available add-ons
— Service provider
— Health, safety and environment
— Asset configuration manager
— IBM Maximo Mobile
— Spatial
— SAP connector
— Oracle connector
— Workday connector

Find out more from
the solution brief →

**IBM Maximo Mobile and
IBM Maximo Assist**
IBM Maximo Mobile is a native mobile application platform that provides a single vendor product for improving productivity in the field.

Utilizing configurable user interfaces, mobile users can quickly view, interact and enter critical asset information, and use IBM Maximo Assist for diagnostics.

Purpose
Inspecting work execution and repair, even in the most remote locations

Outcome
Increasing first-time fix rate with AI and remote human-based assistance

Benefits
With IBM Maximo Mobile and IBM Maximo Assist, you can:

– Navigate easily with a single, intuitive, mobile EAM platform.

– Follow step-by-step repair resources online or offline.

Learn more from the solution brief →

IBM Maximo Monitor

IBM Maximo Monitor is an enterprise, AI-based asset monitoring and anomaly detection platform. Asset maintenance and operational leaders use it to aggregate IT data with operating state data and process parameters across control systems, IoT sensors and other repositories. It helps provide enterprise-wide visibility into performance.

Purpose

Managing and detecting anomalies

Outcome

Reducing downtime, defects and operational costs, and avoiding rework and warranty work

Benefits

With IBM Maximo Monitor, you can:

– Integrate data from multiple sources to gain insights into the operating state.
– Scale and visualize operations across your enterprise through a single dashboard.
– Use advanced analytics and AI capabilities against data from operating history to quickly detect anomalies, issues and potential failures.
– Speed resolution with configurable drill-down capabilities that can be integrated into existing workflows for EAM.
– Get rapid, low-cost, cloud-based deployment to accelerate time to value.

Industries

Travel and transportation, manufacturing, civil infrastructure, utilities, and oil and gas

[Read the solution brief →]
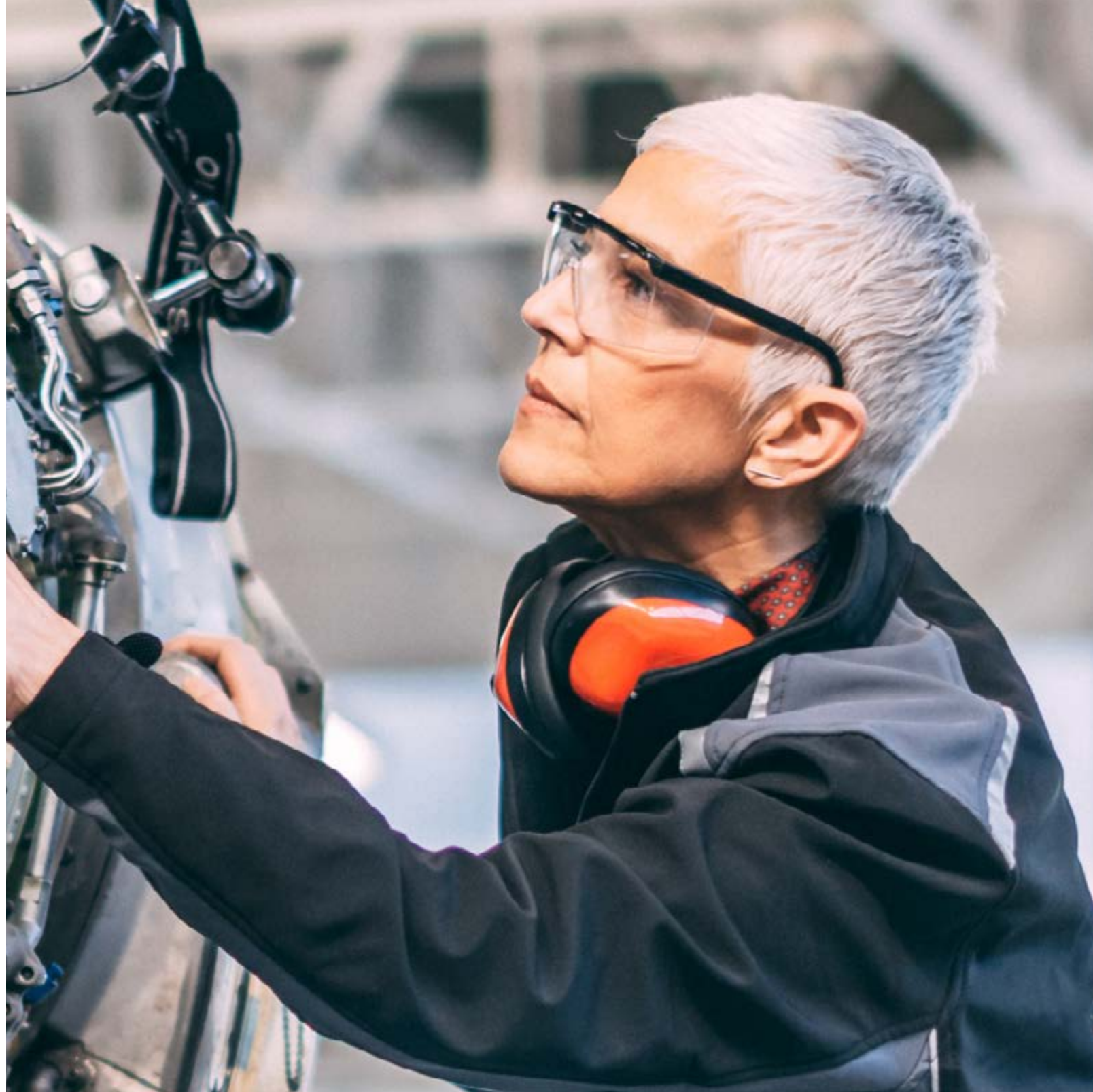
IBM Maximo Visual Inspection
IBM Maximo Visual Inspection is a computer vision solution that builds highly accurate customized AI models in an easy and fast manner.

Using existing cameras or commercial and off-the-shelf iOS devices, you can get immediate, actionable notifications of any emerging issue.

Purpose
Performing automated visual inspections to detect errors or anomalies at the point of installation

Outcome
Improving quality and reducing defects with automated visual inspections that generate real-time results

Benefits
With IBM Maximo Visual Inspection, you can:

– Improve quality continuously through defect detection at the point of installation.
– Boost uptime with the help of AI by quickly identifying and mitigating issues through proper diagnosis.
– Enable any subject matter expert to improve performance through AI-powered visual models.
– Monitor and enforce regulations for safety, protecting workers from hazardous environments and dangerous conditions.

Industries
Manufacturing, energy and utilities, oil and gas, transportation, and civil infrastructure

Find out more from
the solution brief →

IBM Maximo Health
IBM Maximo Health is an equipment management application that compiles condition-based readings and information from other influencing factors like age, maintenance history and cost data.

It can also help you make an informed decision on refurbishment versus replacement planning.

Purpose
Providing a 360-degree view of assets

Outcome
Showing the real-time status of critical business assets with insights from data and analytics to reduce unnecessary preventative maintenance.

Benefits
With IBM Maximo Health, you can:

– Get a complete picture of asset health with real-time sensor data, alerts from supervisory control and data acquisition (SCADA) systems, and maintenance and failure history combined with environmental data.
– Customize your view based on specific needs to quickly identify and investigate assets.
– Combine scoring elements and rules to generate a method for assessing the health of assets.
– Define asset criticality and risk, used in concert with health, to prioritize the action needed.
– Investigate all assets with specific characteristics using preconfigured lists.
– Get a single asset view with your critical KPIs in graphs, charts and tables.

Find out more from
the solution brief →

IBM Maximo Predict
IBM Maximo Predict is an asset performance management app to identify potential failures and optimize production output. It looks for patterns in asset data, asset usage and the environment in which it's operating.

Purpose
Using data to predict failures

Outcome
Predicting failures to help prioritize maintenance and reliability work

Benefits
With IBM Maximo Predict, you can:

– Apply predictive analytics to your maintenance strategy through insights from IBM Maximo Monitor, IBM Maximo Visual Inspection and IBM Maximo Health.

– Forecast failure dates, modes, probabilities and anomalies with models built from templates.

– Identify issues with charts, graphs and tables from templates.

Learn more from
the solution brief →

Three licensing options

IBM Maximo Application Suite, IBM Maximo Application Suite as a Service and IBM Maximo Application Suite Dedicated are the three options available. You can choose the one that best serves your specific asset management requirements.

	IBM Maximo Application Suite		IBM Maximo Application Suite as a Service (MAS SaaS)	IBM Maximo Application Suite Dedicated
01. Management model	Client-managed		Managed by IBM Site Reliability Engineering	Managed by IBM Site Reliability Engineering
02. Deployment	On premises	Hyperscalers	Cloud	Cloud
03. Procurement	The client provides infrastructure and purchases the IBM Maximo Application Suite.	**BYOL:** The client purhcases the software from IBM and the infrastructure from hyperscalers. **Marketplace:** The client purchases the software and infrastructure from hyperscalers.	The client purchases a single part, including software, infrastructure and operations, from the AWS Marketplace.	The client purchases the software managed services, including infrastructure from IBM.
04. Provision and operate	The client provisions, manages and operates at full stack.	The client runs IBM-provided automation scripts to deploy the IBM Maximo Application Suite on the hyperscalers cloud. The client manages and operates both software and infrastructure.	IBM provisions, manages and operates the client's application environment on AWS Cloud. IBM uses our AWS Cloud account.	IBM provisions, manages and operates the client's application environment on IBM Cloud® in an IBM-owned account. There are two types: a shared cluster—existing, on IBM Cloud only—and a new dedicated cluster.

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All these options have a simple licensing and operating model using a credit-based system called Application Points (AppPoints). You can add more users, deploy more apps and pay only for what you use with a single entitlement that provides access to applications without additional provisioning.

	IBM Maximo Application Suite	IBM Maximo Application Suite as a Service (MAS SaaS)	IBM Maximo Application Suite Dedicated
05. **Supported cloud platforms**	Platforms enabled by Red Hat OpenShift	Red Hat OpenShift on AWS	Red Hat OpenShift on AWS, IBM Cloud
06. **System provisioning, maintenance and upgrades**	Client-managed	Automatic	Scheduled
07. **Customizations**	Fully customizable	UI-driven and API-driven	With approval
08. **Licensing**	Perpetual, subscription and monthly	SaaS subscription-based	Perpetual, subscription and monthly
09. **Benefits**	Offers maximum operational flexibility — Simplifies procurement and deployment — Allows select clients to select their hyperscalers — Provides flexibility for clients to manage and operate their environment	— Reduces time to value — Reduces operational costs — Allows clients to focus on business priorities	— Simplifies deployment and operations — Provides more customization flexibility than SaaS — Provides more operational flexibility than SaaS

Reasons to migrate

If you're already using the existing IBM Maximo solution, here are seven reasons why you should consider migrating to the IBM Maximo Application Suite:

1. You can automate operational processes and connect maintenance and management data across functions to reduce bottlenecks and manual work, improving uptime and productivity while reducing costs.
2. A recent IDC analysis has shown that the IBM Maximo Application Suite delivers a 450% ROI over five years, reduces downtime by 43% and increases productivity by 28%.[3]
3. IBM Maximo Application Suite is highly configurable. You can merge your operating model and procedures with embedded industry best practices, mobility and easy-to-plug add-ons.
4. You can integrate industry solutions and extensions that provide best practice data models and workflows for improving safety, reliability, and environmental and operational performance. It can help you comply with manufacturing, transportation, energy and utilities, oil and gas, and government regulations more effectively.

5. You can also integrate data into no-code and low-code applications for visual inspection, asset monitoring, remote assistance and predictive maintenance. It can help you gain deeper insights into the organization and automate workflows for extended asset lifecycle and improved operations.
6. IBM Maximo Application Suite is built as an enterprise operations system, connecting to enterprise resource planning (ERP), a manufacturing execution system (MES), human capital management (HCM) and other system data that governs business operations, financials and production.
7. Overall, the suite provides an intuitive platform to log in, do the work and act on digital insights for improving asset performance and transforming the operating model.

Request a live demo →

Buyer's guide checklist

Phase 1: Plan
– Identify stakeholders, users, decision-makers, internal influencers and all interested parties.
– Have a kickoff conversation.
– Define objectives.
– Validate the budget.
– Establish timelines.
– Confirm owners.
– Choose your preferred management model, deployment model, licensing model, system provisioning, maintenance and upgrade model.
  • If managed service deployment is selected, review the options here.
– Finalize the plan.
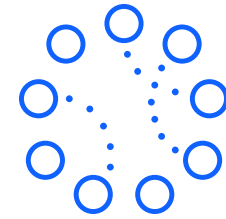
Phase 2: Research
– Be specific about business needs by identifying processes and use cases the new technology should support, deploy, enhance and facilitate, and specify detailed requirements.
– Research the available options and new technologies that can be effective for your business.
– Validate your research with insights from leading analyst agencies, such as Gartner, IDC and Forrester.

Phase 3: Evaluate
– Identify three to five vendors and conduct a strategic planning analysis, such as strengths, weaknesses, opportunities and threat (SWOT) analysis; political, economic, sociocultural and technological (PEST) factors; and gap planning. You can also score them based on your parameters
– See if there are trials and demos. Select a few users and encourage them to sign up for trials and demos to help make an informed decision.
– Select a group of users, decision-makers and stakeholders and present your findings.
– Adapt the plans to get everyone on board.
– Get a consensus on one vendor.

Phase 4: Finalize
– Connect with the selected vendor. State your objectives, goals and requirements.
– Understand the onboarding experience, the time required for the application to be up and running, and what type of support you'll have.
– Evaluate the offer. Send it to the procurement or contract specialists.
– Get approval from decision-makers.
– Execute the contract and start onboarding.

Glossary

Asset failure analysis
It focuses on instances of asset failure events.

Asset inspection and health score analysis
It focuses on asset inspections, health scores and recommended treatments recorded as inspection results.

Asset installation and removal analysis
It focuses on asset installation and removal.

Asset lifecycle analysis
It focuses on measurements associated with the lifecycle of an asset.

Asset maintenance analysis
It focuses on capturing measures specific to asset maintenance.

Asset reliability analysis
It focuses on assessing asset reliability.

Asset risk analysis
It focuses on risks based on the consequences of an asset failure and its probability of occurring.

Asset work labor analysis
It focuses on labor information recorded for the work performed on the asset and examines overtime and unplanned work and the relationship between the labor and the contracted work.

Asset work resource cost analysis
It focuses on the cost of the work based on the type of resource that's consumed or used in the assessed period.

City gate maintenance analysis
It focuses on the maintenance work carried out on assets in city gate facilities.

Crew availability and utilization analysis
It focuses on the hours the crew is available for work and the efficiency of crew labor planning and utilization.

Crew outage readiness analysis
It combines forecasted outages and the number of impacted customers with available crew hours in the assessed period and location.

Engineering accuracy analysis
It compares the task template standard resources with resources planned and used for tasks. Resource types include labor; contractor work; materials; equipment, tool; and assets.

Equivalent annual cost analysis
It focuses on owning and operating an asset over its entire life span.

Gas emergency work analysis
It focuses on gas emergency work orders and captures measures specific to the leak, fire and carbon monoxide-related emergencies that occurred in the assessed period.

Gas inspection job analysis
It focuses on gas network inspections and work arising from the inspection results.

Hold analysis
It focuses on the holds that prevent the work from continuing and shows the holds that were active, created or removed in the assessed period.

Line and structure analysis
It focuses on overhead lines and the pole and tower structures that support these lines.

Network risk analysis
It focuses on network risks.

Power fault analysis
It focuses on instances of power failures and related tasks and outages and affected assets.

Project financial analysis
It focuses on the financial status of a project and enables more than one subcontractor to undertake a project.

Service disconnection work analysis
It focuses on completed jobs related to fieldwork involved in customer service disconnections and reconnections.

Standard unit analysis
It assesses task-type templates, focusing on standard material quantity and standard labor duration.

System asset availability analysis
It focuses on the availability and use of assets on the network.

Task planning analysis
It compares the planned and actual task start and completion date and the labor duration associated with the execution.

Work cost budget and forecast analysis
It focuses on the cost of work budgeted, forecasted or actual in the assessed period and can be recorded at the level of the task, work order or project.

Items collected from multiple sources can be used for standard, budgeted, forecasted, planned and actual costs.

Work order completion analysis
It focuses on the number of work orders, work duration and the accuracy of planning for the completed work.

Work order dispatching analysis
It focuses on the performance related to the dispatch and resolution of unplanned work.

Work order scheduling analysis
It captures the number of work orders created and scheduled and includes the number of measures based on the work status changes.

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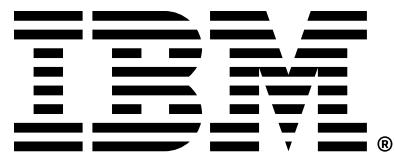
1. IBM Intelligent Asset Management, IBM, Jul 2022

2. IBM Transformation Index: State of Cloud, IBM Institute for Business Value, Sep 2022

3. The business value of IBM Maximo, IDC, Mar 2022