Asset Management Demo Launchpad

Transcript

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Asset Management Demonstration Launchpad

Introduction: Asset Management Improves Return on Assets and Drives Down IT Costs

Today's executives in asset intensive industries are seeking to extend the useful life of capital assets, improve efficiency and lower IT cost for a greater "return on assets". Many industries including manufacturing, transportation, oil & gas, utilities, and healthcare have found themselves using different solutions for different classes of assets.

From our point of view, there are five major types of assets: Production, Transportation, Infrastructure, Facilities and IT. When organizations have disparate asset management solutions, they are not able to implement enterprise-wide best practices, share inventory, optimize resources, and create complex IT environments

The IBM Maximo Asset Management solution is an end-to-end, integrated approach to asset lifecycle management, designed to address the requirements for managing all of the critical assets of an organization on a single, standards based platform. This enterprise asset management (EAM) solution has key modules for asset management, work management, materials management, service management, and contract management. The capabilities of these modules have been developed and fine tuned through working with customers from a wide variety of industries to include best practices in asset management for the benefit of all customers.

In addition, there is deep industry functionality built into Maximo Industry Solutions designed to meet the needs of the most asset intensive industries: Nuclear Power, Utilities, Transportation, Life Sciences, Government and Oil & Gas. With aging infrastructures across many industries organizers will benefit from the Maximo Spatial and Linear Asset Management solutions.

Another powerful trend is developing around converged assets. Converged assets leverage operational assets with embedded IT functionality. These operational or mechanical devices are becoming IP enabled. For example, new smart meters are being installed which allow utility companies to communicate with the meter more frequently to help customers control energy usage. Embedded IT improves asset performance by enabling remote monitoring and automation of the assets condition.

IBM Tivoli Asset Management of IT (TAMIT) is built on the same architectural platform as Maximo Asset Management and is optimized to track and manage the lifecycle of IT assets.

TAMIT allows organizations to:

- Manage security policy compliance
- Track hardware and software deployment,
- Manage audit, lease and software compliance exposures.
- And Combine inventory, maintenance, contracting processes

The business benefits of asset management are diverse, powerful, and in many cases, directly applicable to cost-reduction initiatives. When assets are managed optimally, their lifespans will increase. When assets generate business value for longer periods of time, the cycle of replacement becomes longer as well; this translates directly into deferred capital expenditures. The funds originally earmarked for new assets can then be invested into other strategic initiatives.

Asset management typically delivers significant benefits by increasing labor utilization between 10 and 20 percent, increasing asset utilization 3 to 5 percent, and increasing warranty recoveries 10 to 50 percent. Organizations that optimize inventory management reduce the amount of inventory they carry at any given time for support of specific assets. Therefore, these organizations can expect significant cost reductions as a result—up to 30 percent or more.

Asset management also comes into play as a cost-reduction strategy in many more subtle contexts. Many costs, for instance, may come as a consequence of business risks that could be better visualized, quantified and mitigated through improved asset management. Safety and compliance risks serve as a good example; when organizations fail to meet operational and financial regulatory requirements, they can face substantial fiscal penalties if they are found to be noncompliant in an audit.

An organization's software inventory also invites optimization. All too frequently, organizations fail to ideally track and maintain the software they own against changing organizational requirements. By deploying and leveraging Tivoli asset management offerings, organizations can often reduce the overall software budget by 5 to 10 percent—a substantial improvement.

IBM asset management solutions support the goals of cost-reduction and greater "return on assets" by extending the useful life of capital assets, improving workforce efficiency and lowering IT cost by improving key elements of visibility, control and automation. And as a way to fulfill these goals in the context of asset management, the best-in-class IBM Maximo family of solutions provides an elegant platform to track and manage assets—both operational and IT—to ensure they align closely with business strategies and generate as much business value as possible, at every stage in those assets' lifecycles

Expert Testimonial Videos
The transcripts of the expert videos are each included on the launchpad page which the video is embedded and therefore are not included here.

Demo 1: Asset Management for IT - Asset Lifecycle Management
Managing your IT Assets effectively throughout their lifecycle lowers cost, mitigates license and regulatory compliance risk, and aligns IT with your company's business goals.

This demonstration shows how Tivoli Asset Management for IT helps efficiently manage an IT Asset throughout its full 'Plan, Acquire, Deploy, Manage, and Retire' life-cycle process.

There are many individuals from different departments that perform tasks at various times as an IT Asset moves through its lifecycle. This demonstration highlights one scenario of how Tivoli Asset Management for IT's easily configurable user interface and workflow capability enables individuals from multiple departments to complete their tasks in a coordinated IT Asset Management process.

Tivoli Asset Management for IT's flexibility to configure user interfaces and workflow enables you to establish a controlled and efficient IT Asset Management process in your environment.

We will start with the 'Plan' phase of an IT Asset's lifecycle. The Plan Phase is where a company formulates a budget and an associated schedule for hardware and software acquisitions. The technology refresh cycle indicates when existing assets will need to be replaced based on company policy. Stock rooms are used to keep spares and check inventory before a purchase is made.

Our scenario starts with John Vincent an IT Asset Manager. He receives an e-mail notification that the company is bringing on 12 new employees and they will need a new laptop for each of them. The hiring manager has requested that each employee get a model D600 laptop.
John launches Tivoli Asset Management for IT to see if he has sufficient laptops in stock meet the needs of the new hires.

Once logged in John Vincent is presented with his Start Center.

The Start Center is designed to provide quick access to the user's most frequently used tasks. It can also be configured with charts and graphs to provide snapshots of relevant information.

John's start center is configured for his work as an inventory manager. You'll see other examples of configured start centers as we continue through this demonstration.

For details on available D600 laptops in Inventory, John goes to the Inventory application.
John types "D600" in the Find window and hits "Search"

On the inventory screen, John can see that although he has 16 laptops in the storeroom, 9 are on reserve for work that is already approved. That leaves only 7 which isn't enough to provision the 12 employees so John will have to order some more laptops

John checks the reorder details, then uses the Reorder option from the Select Action menu.
John previews what will be ordered and then selects "Run Reorder". Tivoli Asset Management for IT processes the reorder and provides a Purchase Request number.

Note that Tivoli Asset Management for IT could have done this on a scheduled basis for John if he wanted complete automation.

The Acquire Phase is where the asset is purchased and created as an 'Asset' in Tivoli Asset Management for IT. Assets can be created from a PO, receipt of an asset into inventory, or directly from a vendor.

In our scenario, John's Purchase Request has been through an initial review and approved for a Purchase Order. Before placing the order with the vendor, the Purchase Order must complete a financial review and approval process.

John's purchasing agent reviews the Purchase Order which is going to be placed with DATACHIP (the vendor) to buy the laptops that John needs.

The purchasing agent reviews other approved Purchase Request line items and sees that there are other items to be bought from the same vendor that can be included on this Purchase Order.
Then, the purchasing agent routes the Purchase Order for any required approvals using Tivoli Asset Management for IT's Workflow.

At any time during the approval process, the purchasing agent can view the workflow assignments to check what is happening with the PO.

Here, he can see this purchase order has been assigned to Katherine Storm, the financial manager, for approval.

Katherine Storm is notified that she has a Purchase Order to approve.

She logs into the application and can see the Approval waiting for her in her Start Center queue. She can also see when this approval was originated and how much time she has to complete the assignment.

Katherine clicks on the workflow button and the Purchase Order opens with a dialog box prompting her for approval.
She can review the Purchase Order and then make a decision.
She decides to approve the Purchase Order.
Note the status has changed to approved … and her Inbox queue is now clear.

The Deploy Phase is where assets are assigned either to an employee, project or business unit.
Employee information including location is received from HR feeds. This section will show how Assets are received and delivered to the end user.

Frank Jones is a Receiving Clerk. He begins the day's receipts by going to the Receiving application in his Start Center.

Frank has received some goods. He checks the paperwork and sees that the bill of lading references Purchase Order number 1086. He types that into the find window and locates the Purchase Order that was sent to Datachip for new computers.

Frank clicks on "Select Ordered Items" to see the items that were ordered on this Purchase Order.
He received some laptops with this shipment … But only 12 of the expected 20 have arrived, so he will receive those 12.

Laptops are serialized assets so in order to receive the items; they need to have asset numbers assigned.

Frank now has the option to enter the serial numbers for each laptop. He can do this manually…or if he has a barcode scanner, he can use the wand to scan in each laptop's serial number. In this case, he'll just autonumber the assets

He can also record the component builds of the machines by using the "Apply IAS" icon next to each laptop. If there are serialized components within the laptop that need to be tracked, Frank can enter them here.

The receipt procedure is complete and the 12 laptops will be transferred into the Hardware Storeroom as available stock.

Some time after the new laptops have been received, an IT technician arrives at Frank's storeroom to begin deploying some of the new machines. He has a Change request to deploy a laptop.

Frank goes to the Issues and Transfers application and then enters the Hardware Storeroom.
Frank asks the technician for the Change ticket number and clicks on the "Select Reserved Items" button.

Frank sees that for Change Ticket number C1023, the technician has a laptop on reserve and selects it for issue.

Frank now identifies the specific Asset number for the laptop that he is issuing to the technician.
Frank can also verify the new intended location of the laptop, as well as any General Ledger billing data.

The Manage Phase is where asset reconciliation between what is discovered vs. what has been purchased occurs. Installs, moves, adds and changes are recorded. In this section, after a year or so the asset is suffering from performance issues and a service request prompts the need to add more memory.

Bob Caldone is a Service Desk technician. When he logs in to his Tivoli Service Request Manager start center it shows him a list of tickets that have been assigned to him.
Bob sees a priority 1 Service Request in his queue and clicks on it to investigate.

He reviews the ticket and sees that it has been submitted by Tony Redding. Using the detail menu next to the Asset field, Bob looks up the assets assigned to Tony and populates the ticket with the laptop's asset number.

Bob now has access to much more information to help him resolve this ticket. For example, from here, he could view all tickets associated with this laptop.

Bob wants specific details on the laptop that Tony is using, so he navigates to the Laptop's asset record.

He then moves to the specifications tab…… and pulls up the asset details. Bob notes that the machine only has 512 MB of RAM.

Going back to the asset tab, Bob checks the item master record for the D600 laptop.
The D600 specifications show that all D600 laptops SHOULD be equipped with 1 GB of RAM but Tony's laptop only has 512 MB of ram.

Bob returns to the original ticket and creates a change request to upgrade the RAM in Tony's laptop. At this point – or once the change is complete, the Service Request ticket can be resolved.

The Retire Phase is where an asset has reached its end of life. The asset can be disposed, auctioned, donated, sold to an employee, returned to a leasing company or purchased. In this scenario, the Company policy states that after the 2 year warranty expires, machines are replaced.

Tivoli Asset Management for IT can help manage a number of different contract types, including purchases, labor, software licenses, and warranties.

Here, we rejoin Bob Caldone as he examines the warranty contract that covers our D600 laptops. Tivoli Asset Management for IT can track the terms of the contract as well as which assets are associated with the contract.

In this organization, an escalation has been created to monitor the warranty dates for covered assets and has automatically created a Change ticket to replace an old laptop that is coming to the end of its covered warranty life.

Note that the change plan has been pre-populated with the steps that need to be taken and the required materials. In this case, a new D600.

Using the detail menu next to the Item Number, Bob can check to see if there are any new D600s available and where they are located. It looks like there are 50 D600's in the Hardware storeroom, but 9 have already been reserved for other work. Still, that leaves 41 available and Bob only needs 1, so he can start work on this Change.

On the Actuals tab, Bob records his work on the Change. He draws a new laptop from the Storeroom using the "Select Reserved Items" button. Because this Change has been approved, we know that the necessary laptop has already been placed on reserve.

Once the asset is drawn from the storeroom, Bob expands the row to fill in the Asset Serial Number.

Using the Move/Modify Asset dialog, he marks that the original asset has been moved back into the Hardware storeroom.

With the work done, He can now set the status of this Change to Completed.

Next, he navigates to the asset application. He finds the old laptop asset and changes its status to de-commissioned.

Tivoli Asset Management for IT keeps track of auditable events in the Asset Move History for the entire lifecycle of an asset

Tivoli Asset Management for IT can help you establish an efficient and coordinated IT Asset lifecycle process in your environment that lowers cost, mitigates license and regulatory compliance risk, and aligns IT with your company's business goals.

Demo 2: Transportation Solution
This discussion focuses on how IBM Asset Management helps Transportation companies generate real economic value by enabling a more dynamic infrastructure for their organization. A dynamic infrastructure is focused on maximizing the value of critical business and IT assets over their lifecycle. And as you will see during the course of this discussion, IBM delivers benefits to transportation companies by providing

Asset Management solutions that reduce the cost of operations, improve the services delivered by each line of business and help them manage the risks inherent in their business.

Unprecedented economic conditions, low confidence in major markets and the financial market crisis in recent months have created the most challenging business environment witnessed in decades

- On-time Delivery – Deliver Freight and Passengers on time
- Preserve capital – Extend useful life of assets to defer new purchases, improve ROI for all assets,
- Reduce operating expenses – Streamline operations, reduce labor & inventory costs, consolidate systems, Prepare for regulatory changes;
- Reduce maintenance costs – Improve productivity/reliability/quality, deferring non-essential maintenance activities, standardize & enforce processes,

- Increased globalization of trade - experiencing greater globalization of brands and products which allow companies to enter new markets. And transport companies are partnering as an approach to "going global".
- Fuel price volatility - Costs have gone up and down and are expected to gradually go up again (additional cost is difficult to pass on to customers)
- Increased security costs – resulting from increased efforts to secure our borders as well as keeping our networks and data safe from cyber attacks
- Increased competition - differentiation often measured in numbers to the right of the decimal point, Transportation companies must understand the full scope of their activities and be able to recognize what is perceived by the market as differentiating … and what is not … in order to set priorities and compete for customers
- Increased regulation – growing requirements at the international, federal, state and local level (involving safety, security, system integrity, emissions, new accounting requirements, etc..)
- Commoditization - high levels of price sensitivity, disloyal customers, and eroding margins
- (Continued) Focus on increased reliability and safety – rigorous attempts to improve maintenance to keep fleets operating reliably and without safety incident.

To remain competitive, asset-intensive companies, like Transportation, must establish innovative strategies to extract maximum value from their assets, resulting in improved profitability and increased shareholder value.

By design, a dynamic infrastructure is service-oriented and focused on supporting and enabling employees, partners, and customers in a highly responsive way.

Asset Management addresses today's challenges and tomorrow' opportunities through:
- It allows for improved SERVICE - Not just focus on the asset, focus on the service delivered by the assets. Not just high availability and quality of existing services, but also meeting customer expectations for real-time, dynamic access to innovative new services.
- And reducing COST. Looking at assets in a new way, business dependence on assets, value they provide to the business – likely to change business processes. Not just containing cost, but achieving breakthrough productivity gains through virtualization, optimization, energy stewardship, and flexible sourcing. Pure cost – extend asset lifecycles – requires more maintenance, asset mgmt business processes; efficient use of labor, optimal inventory (e.g. spare parts)
- And finally, not just managing the RISK requirements that we are facing today, with security, resiliency and compliance challenges, but getting in front of new risks that may come with a more connected and collaborative world. Environmental health and safety, financial visibility, Sarbanes-Oxley – risk to the business, fines and penalties, environmental impacts

The World of Assets is evolving just like everything else around us. New methods, processes, techniques and technologies are constantly being developed, tested and implemented. Every asset intensive business wants to produce as much as possible, at the lowest cost, with the highest return, at the best efficiency rate. And of course, they want to do this without running their assets into the ground, while

making sure they are in compliance with regulatory mandates. In other words, organizations need to ensure they maximize the performance and lifetime value of all business assets across the enterprise.

Asset Management allows companies to address the following critical areas:
Total Cost of Ownership – organizations need to reduce the cost of the asset through its lifecycle but also get the best return on the systems used to manage all assets.

Efficiency – Increase operational & labor efficiency and production reliability, while making sure that service levels and customer satisfaction are improved

Compliance - These days more so than ever organizations need to make sure they in compliance and get a hold on any costs associated with mitigating compliance risk

System Consolidation – As operations become more complex and companies are globalizing, businesses need to consolidate their key systems to streamline efforts and costs.

Asset Convergence – We're are seeing a convergence between operations and IT with increased use of pervasive devices, expanded IT services and the like. These days traditional operating assets - such as trucks with on-board diagnostics - are clearly more sophisticated with IT-EMBEDDED COMPONENTS that make them computer-driven. So, business (operational) data can now travel over infrastructure that was traditionally under the control of IT. This blurs the line of ownership between operations and IT. Which organization is now responsible for this asset, especially for its maintenance and repairs? To manage the assets cost effectively and efficiently, IT and Operations need to be able to manage assets from a unified system.

A lifecycle view and optimal mixture of capital investments, operations, maintenance, resourcing, risks, performance, and sustainability, is a minimum checklist for strategic enterprise operations. Customers that lack the Visibility, Control and Automation of their assets will not be able to meet these challenges

This brings us to IBM's Asset Management for Transportation, which provides clients Visibility, Control and Automation

VISIBILITY: To respond faster and make better decisions
•Through Role-based views – real-time, enterprise-wide views of all asset types; this is meaningful because information that was once only available by accessing multiple systems, with differing levels of detail, is now available from a single view based on functional role.
•And visibility allows users to access details of transportation assets across the entire operation and freight across the supply chain … all from the same system.

Service Management also provides CONTROL: To increase governance and reduce operational risk
•Control to optimize asset management to extend asset life; reducing inventory costs by stocking only what you need, when you need it; and controlling fuel spend by maintaining assets to be more fuel efficient
•Control also to Mitigate compliance - having better data lets customers know their compliance status; and it mitigates security risk – better control of freight, systems and data reduces the risk of freight being compromised, lost or stolen; and reduces the chance of transactional breach or cyber attack

And AUTOMATION: To improve asset utilization with proactive asset management
•This includes Consolidation of systems – Traditionally we have managed our different assets – like fleets, facilities and IT – as siloed, unconnected systems. But now, as the need for innovative change grows greater …. companies need to manage IT and physical assets together within the same management platform, where data, processes and workflows can be shared seamlessly … to be more effective, efficient and highly responsive.
•Automation also includes Enhanced operational capabilities – utilizing automated workflow to streamline work process, taking advantage of standard reporting to conduct various analytics and working with accurate inventory data to improve reliability.

Only IBM offers a comprehensive asset management solution, comprised of software, services, and hardware offerings, for clients to manage end-to-end assets and address business imperatives

Demo 3: Chemical & Petroleum Solution
In the chemicals and petroleum industries, producing and refining crude oil and natural gas are mission-critical activities, requiring a safe, reliable and available industry infrastructure. Enterprise Asset Management, also known as EAM, helps senior managers across operations, engineering, maintenance and IT take a strategic role in managing asset and service performance.

IBM Maximo for Chemicals and Petroleum is a leading EAM solution designed to provide chemicals and petroleum organizations with the best practices to help improve the performance of their critical assets and enable organizations to better support people, processes and technology.

IBM provides enterprise asset and service management solutions for more than 300 chemicals and petroleum organizations worldwide. These customers use Maximo to manage a wide range of assets, equipment and supporting business processes.
In the chemicals and petroleum industries, providing safe and reliable operations are mission-critical activities. For exploration, production, transportation, refining and petrochemical companies, the management of assets such as drilling rigs, offshore platforms, onshore well-sites, pipelines, floating production and storage vessels, terminals, refineries and petrochemical facilities is a critical challenge.

Chemicals and petroleum organizations have been repeatedly challenged by the volatility of the energy industry, capital investment and regulatory uncertainty, rising energy demands and capacity constraints, an aging infrastructure, and aging workforce demographics. Senior executives must optimize smaller budgets while meeting increasing safety, security and regulatory requirements and fulfilling global energy demand.

Advances in technology such as sensors and controls, wireless communications and distributed intelligence have become industrialized applications, providing additional capabilities to drive real time information into operational processes. Many clients are looking to manage the physical and IT assets, and their relationships, on the same platform to provide the best solution for optimizing the service and performance of these assets.

Significant productivity improvements have been gained by automating work and asset management processes. Now companies are looking to catch the next wave of productivity improvements by adopting an integrated approach to achieve business results. By creating visibility into asset performance and workforce productivity, chemicals and petroleum organizations can better control and govern their assets. Then they can build agility into their operations through automation to enable best practices in asset management such as integrated safety, reliability and asset life cycle programs. This will help companies achieve their business objectives for the optimization of capital expenditures, and achieve cost reduction targets.

In this series of real-world scenarios, you will learn how IBM Maximo for Chemicals and Petroleum can help you:
- Continue to improve the safety, reliability and productivity of your organization's business processes.
- Improve visibility into asset performance across your organization.
- Align your operations, engineering, maintenance and IT strategies to support best practices in asset management.

IBM provides an information integration framework that enables measurement points anywhere in the enterprise, against any asset having a sensor or control device without having to know the tag ID. This information can be shared through the Web internally or anywhere in the world to support remote monitoring, performance management and supply chain optimization.

There are many ways to monitor the condition of equipment performance ranging from simple readings through complex multi variable calculations. In many facilities, operations, maintenance and engineering

resources also identify asset condition problems, and radio in the problem or input them into a logbook to generate a service request or work order. In this scenario, we are highlighting event correlation of several performance variables against a refining unit of operation using a health monitoring system.

The health monitoring system or operator's console identifies a problem with a refining unit and validates that the event has not already been reported. A notification is sent to operations and IBM Maximo directly, identifying the asset, location and problem code information.

Maximo's workflow interprets the notification based on predefined criteria including reason for work, criticality of the asset, safety and environmental impact then automatically creates a defect record. This defect is related to a critical asset and therefore the system automatically generates a high-priority inspection work order to gather further information. Notifications of the high-priority inspection work order are then sent to the asset custodian and operations.

Maximo's workflow automatically approves the work order and places it with appropriate prioritization within the maintenance supervisor's queue to be assigned to a maintenance technician. Using Maximo Assignment Manager, the supervisor picks the best crew or mechanic to be deployed.

Using Maximo Mobile, the mechanic receives the inspection work order, assesses the damage, takes note of what else is impacted, and determines the parts to be replaced.

The mechanic uses Maximo Asset Navigator to select replacement parts and order them through an automated material request. The store room issues the parts, which are automatically added to the work order.

The mechanic makes the repairs, enters one or more actions and remedies for each system and component combination, and records labor hours.

The work order tracks the needed materials, tools and labor. Additionally, repair and failure codes are captured for use in reporting KPIs and asset performance. Warranty items are identified on the work order and at the store room when parts are issued.

At any time during this process, authorized personnel can generate an incident, investigation or improvement for additional review and analysis for continuous improvement.

Here, you can review the business process for the scenario we have just described.

There are many reasons for change in the chemicals and petroleum industry, including regulatory compliance, mechanical integrity and safety improvements. Managing change is a critical process to ensure safety and reliability within the industry.

In this scenario, we are highlighting the management of a deferral request for a safety critical preventive maintenance work order.

Most regulations are not prescriptive in terms of the specific activities an asset owner needs to demonstrate for compliance. IBM Maximo allows a company to associate various regulations with an asset or location, or both, to demonstrate the association of regulations to those assets. The details of the actual compliance or inspection work are normally captured in a job plan, but associated to the regulation. Therefore, a regulatory inspection is normally carried out by a regularly scheduled work order or preventive maintenance work order that is associated with the job plan details that illustrates how a company complies with the regulation.

A preventive maintenance work order is generated to test a fire pump based on a schedule determined by a regulatory requirement. During the daily operations meeting and review of safety critical work, it was determined that existing work in the same location created risk associated with the temporary cessation of the fire pump for the new work order. It is agreed that the fire pump test work order should be deferred and a management of change, also known as a MOC, is raised to defer the work.

The MOC includes scope and deferral justification, and sets the deferral to temporary until the other work in the area is completed. The MOC is saved, and Maximo's workflow directs the MOC to operations for their verification.

Operations verifies the MOC request, and assigns the maintenance supervisor as the owner. The maintenance supervisor adds reviewers and approvers, as well as pre-start actions including risk assessment and work order date modifications, and post-start actions.

Maximo's workflow then routes the MOC to an engineering manager and safety managers for their review of the asset history and MOC history. The safety manager contacts the operations supervisor doing work in the existing location and confirms the high risk associated with also taking on the fire pump testing work order. The safety manager confirms that there have been no previous failures or deferrals, and then approves the MOC request.

The Pre-Start action modifies the target date of the fire pump test work order based on the target completion of the existing work in the same location.

Three weeks later, following the completion of the original work order, the fire pump test work order is re-entered into the work queue, then scheduled and assigned using Maximo Assignment Manager. The work order is then completed and closed out.

The Post-Start actions on the MOC include review of the completed work order. Having identified there were no issues uncovered, the MOC is closed.

A complete audit trail identifying the entire process and those involved is now available for organizational usage, continuous improvement and regulatory compliance.

Here, you can review the business process for the scenario we have just described.

The chemicals and petroleum industries are subject to multiple environmental laws and regulations   including air emissions, water quality, wastewater discharges, solid wastes and hazardous material, and substance management. These laws and regulations generally require organizations to obtain and comply with a wide variety of environmental registrations, licenses, permits, inspections, and other approvals. Failure to comply exposes the organization to fines, penalties, and possible interruptions in its operations. Regulatory compliance costs are a critical component of the industries' cost of service, so improving how they manage compliance can represent millions of dollars.

In this scenario, we are highlighting how IBM Maximo can help ensure compliance at lower costs primarily because compliance becomes part of the existing process, versus an adjunct process which many companies have deployed.

A compliance analyst from the Health, Safety and Environmental, or HSE, organization is responsible for keeping the association of regulations with locations and assets within Maximo. First the analyst updates the regulatory application that inventories and categorizes all the applicable regulatory requirements for the facilities under consideration.

As notifications and updates are received from the regulator, the analyst can easily find the affected locations using a "where used" search, and then update those locations based on the regulatory change.

Scheduled inspections based on regulatory requirements generate work orders. The work order pulls in the regulatory requirement information from the location and any specific regulatory requirements are specified on the job plan associated with the inspection.

The maintenance planner reviews the work order against other work orders in the queue, updates the work order and prepares for scheduling.

The maintenance scheduler reviews the work order details and schedules it based on priority of work and crew and labor availability.

The maintenance supervisor uses Maximo Assignment Manager to assign the work order to a specific resource.

The maintenance technician performs the inspection based on the job plan details, records findings, tools, materials and labor used to complete the inspection. If appropriate, the maintenance technician can raise an incident for a failed inspection, requiring further analysis and investigation.

A complete audit trail identifies the entire compliance process, those involved, and steps executed. At any time this same history can be queried or used to generate internal and external audit and compliance reports.

Here, you can review the business process for the scenario we have just described.

There are many ways to drive improvements around safety and equipment reliability in the chemicals and petroleum industries. Although they may have different names from customer to customer, many utilize incident management as a way to improve safety and defect elimination as a way to improve equipment reliability.

In this scenario, we are highlighting how IBM Maximo provides solutions for incident management and defect elimination as part of an integrated work and asset management environment that encourages and enables collaboration between operations, maintenance and engineering disciplines.

A maintenance technician is assigned a work order to replace a high-pressure separator drain value after it had been reported as failing to open on demand. During work execution, a substantial leak occurred, despite proper closure of the isolation valves. The maintenance technician creates an incident of type "environmental" to track the details of the incident.

Raising the incident from the work order automatically creates a relationship between the original work order and the incident, and populates much of the incident information from the work order, saving time on data entry.

The asset custodian, as well as the environmental analyst, receives performance information and KPIs related to incidents in their area of responsibility, identifying troubled locations, assets, processes or procedures. Since this incident type is "environmental" and represents a near miss on loss of containment, Maximo's workflow automatically creates an investigation record from the incident.

The investigation is then routed to those responsible for conducting a root cause failure assessment, also known as a RCFA. Upon completion of the RCFA, various outcomes could occur, including corrective action, improvement recommendation, a management of change request, or simple closure of the investigation, noting the lessons learned.

An operator, performing daily rounds, notices a motor running at an abnormal temperature. The operator raises a defect with proper defect classification, identifying a potential problem with the motor.

The asset custodian, as well as engineering, receives performance information and KPIs related to defects in their area of responsibility. The engineer notices that the defect service level on this particular motor exceeded the service level and therefore warrants further investigation.

As the engineer takes ownership of the defect, a notification is automatically generated to operations and maintenance personnel, identifying that the defect is being investigated by engineering. Engineering reviews the conditions with the manufacturer, and it is agreed that the motor should be repaired before any significant damage occurs.

The engineer generates a repair work order from the defect, retaining the relationship of the original defect and the new work order, as well as populating the new work order with much of the required information. The operator and asset custodian are notified that a repair work order is being generated to resolve the issue with the motor.

Here, you can review the business process for the scenario we have just described.

Demo 4: Getting To Problems Before They Get To You

Ever since the dawn of modern industry, regardless of how old your plant or assets are or what type of product is made at your plant, it's all about getting to problems before they get to you.

Maximo is the key to making this all happen. First, capture the performance data and import it directly into Maximo. We use that data to recognize alarm conditions before failures occur. When conditions do point towards likely failure, we trigger a response. Automatically, we ensure that the right actions, skills, materials and tools are included in the response. And we get the work to the tradesperson as quickly as possible via their mobile device. They then ensure that the work is completed quickly.

Our scenario starts by looking at how our performance data makes its way into Maximo. Through it's linkage with all sorts of smart devices, Maximo is able to leverage critical performance data, data such as engine speed, vibration, temperature and pressure. Now let's see how Maximo deals with and interprets this critical performance data. From this Maximo user start center, let's move to the condition monitoring application. Here we'll see all of the points that are capturing incoming data from smart devices. The record that we've pulled up is one capturing outlet pressure for a centrifugal pump. Here are the warning and action pressure limits, and the job plan that will be carried out when that limit is met. Here's a historical list of past readings, the most recent of which is known to be beyond the alarm point. As such, a work order has been triggered. Due to the alarm, Maximo knows what details need to be included in the work order. Let's go to the work order application and view what was automatically generated as a result of our alarm. We know the work order number from the condition monitoring application. We'll input it here to call the record up. The Maximo work order has a tremendous amount of information, a lot of it copied over from various points in the system that contribute to the work order. Work type, failure class, problem code, these are all important when it comes time to step back and look at how effectively we dealt with the situation.

Our job plan and safety plan also have information that will direct the tradesperson to effectively deal with the problem. Our supervisor and lead technician are included in this, as well as the owner group. The details of the job plan are contained on the Plans tab. The steps that the tradesperson will need to carry out to address this problem are listed here, as is the craft, skill level required to deal with the problem. As well, all materials that are required to deal with this situation are listed here as well. Now let's get the work order sent to our mechanic's wireless device. We'll now leverage our wireless LAN to send this work order out to the mobile technician. They review the work list in their queue and ultimately select Work Order 1184, the one that was generated as a result of our alarm condition. It's important that they indicate for time capturing purposes that they've started their work, so they select the green dial at which point the clock has now started in capturing their labor to be posted against this work order. This change in condition is indicated by the change in color. It's also important that the tradesperson take ownership of the work so that no one else within that maintenance group takes that work order to do as well. Before getting too deeply into the work, they'll want to have a look at the asset details. These have come over directly from Maximo as part of the work order. They can see the capacity, size, the speed, the pump that's to be worked on, as well, the size of the motor that drives the pump, spare parts that are typically consumed when dealing with any situation with this pump. Now it's time for the mobile technician to correct the problem and provide appropriate feedback. We'll start by selecting work order from our work list on our mobile device. The one in green is the one that's currently in progress. We'll also review the task steps that we've had to complete in order to address this situation, as well as the materials that have been consumed. Critical to effective feedback is providing a failure report.

This allows us to evaluate the effectiveness of some of the decisions that we've made in dealing with this situation. We already have a symptom, we need to identify the cause for this problem. With our mobile device we've linked back to the server to retrieve the possible causes and selected a mechanical assembly failure as the cause for this problem. We also need to identify what it was that we chose to do

about this problem. Here, we select Adjust Component, because we found that adjusting the component would be the easiest and most effective way to deal with this particular situation. That may not always be the case. Additionally, we've observed that increasing the frequency of the PM may in fact have an influence on reducing these failures. So we note that as a remark in our failure report. We now need to complete our labor booking. We do that by selecting the red timer at the top of the screen. The end date and time are automatically populated to go with the start date and time that were automatically populated when we hit the start timer. The only aspect really left to do is to change the status of the work order. We do this by selecting Completed from the drop down list. We have one last opportunity to offer any information that may help those that run into similar situations in the future. We can add unlimited text here. After we're done, we can see from our work list that our work is completed, the status changed to complete and we're ready to send the details back to the server. There are four key elements to optimizing the up time of your assets. First, leverage all that data from your smart devices. Secondly, be able to recognize potential issues before they become real problems. Thirdly, respond with an approach that you know is going to work. And lastly, have the experience and information that you gather contribute to a continued improvement strategy. You can meet these goals with IBM Maximo Asset Management and IBM Maximo mobile products.