Manage all asset classes in hospitals and healthcare organizations

Integrated IBM Maximo for asset and facilities management solutions provide clear views of complex assets

IBM

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Executive summary

Effective asset management is critical for hospitals and health-care organizations. These organizations face increasing quality of care and regulatory pressures as well as financial requirements that make effective asset management a key part of their success. IBM Maximo® Asset Management helps healthcare providers track, monitor and manage the increasing variety of assets on which clinical outcomes and patient care depend. The increasing reliance on complex medical technologies and equipment to deliver the highest quality care highlights asset management as a critical component to the current and future success of health-care organizations focused on patient care and service delivery.

Maximo Asset Management provides a fully integrated software technology platform, enabling healthcare organizations to clearly view information on all assets across the organization, including clinical and biomedical, facilities and transportation, and infor-mation technology assets. The use of an integrated solution increases asset availability and utilization, supports regulatory compliance and capitalizes on untapped potential. Easier access to information within the solution helps ensure that equipment is ready for use when needed and assets are utilized more effec-tively. The solution can help organizations increase equipment availability, reduce operating and maintenance costs, support regulatory compliance and sustain higher quality requirements.

Healthcare providers aim to maximize patient care, increase service quality, reduce risk of noncompliance and manage costs to reduce asset investments, while assuring the availability of all assets supporting patient care. Maximo Asset Management helps organizations manage equipment across departments as well as facilities across the organization. It also helps organizations man-age and monitor efforts to support compliance with a crosswalk of governmental and industry regulations, especially with regard to reporting requirements. This same management capability helps healthcare organizations optimize the use of increasingly complex technology, whether clinical or biomedical, facilities and transportation, or information technology.
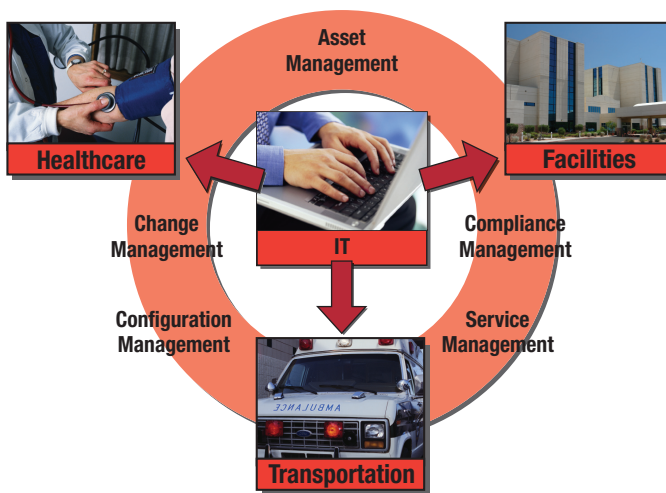
Using Maximo for asset and facility management, organizations can better coordinate needs of distinct physical facilities or sites while maintaining specific functions within these different facilities. The solution also provides key functionalities for healthcare such as calibration of instruments, tools and special equipment; support for electronic signatures, records and audits trails; support for asset-related incident management and corrective and preventive actions (CAPA); reporting requirements of the Joint Commission on Accreditation of Healthcare Organizations—now called Joint Commission (JC)—and other regulatory bodies; compliance assistance documentation and support; and integration with business intelligence, reporting and document management systems.

This white paper discusses how Maximo Asset Management is a proven solution that can help organizations stay competitive and responsive to business drivers such as utilizing assets more effectively, taking steps to minimize risk, and better managing regulatory compliance efforts and reduced energy costs.

Introduction

For today's hospitals and healthcare provider organizations, effective asset and facility management is essential. Delivery of high quality medical care requires an increasingly sophisticated mix of instruments and equipment. As individual healthcare organizations consolidate into larger organizations, assets may also need to be managed across multiple facilities, sites and departments. At the same time, increasing requirements from regulatory bodies can make documentation of asset management processes and activities even more critical.

With Maximo for asset and facility management, hospitals and healthcare organizations can track, monitor and manage all of their critical assets. The Maximo software portfolio enables hospitals and healthcare organizations to better respond to changing market requirements by helping them increase equipment availability; reduce operating, maintenance and energy costs; and support higher quality requirements to improve patient care and satisfaction.

Maximo Asset Management delivers a comprehensive view of managing clinical and biomedical equipment, facilities, mobile assets, transportation, and environmental and housekeeping assets, as well as IT assets across the organization.

Asset and facility management from IBM

Part of the IBM Tivoli® portfolio, Maximo Asset Management takes the power, performance and possibilities of asset and facility management to a new level. Built on a single software platform, Maximo Asset Management delivers a comprehensive view of managing clinical and biomedical equipment, facilities, mobile assets, transportation, and environmental and housekeeping assets, as well as IT assets across the organization. This perspective enables you to track, monitor and manage all these

assets and equipment and can help identify the untapped potential of these assets. You gain the knowledge and control you need to more closely align your organization's goals with your overall business goals.

Maximo Asset Management consists of six key management modules: asset, work, service, contract, materials and procurement management. On top of that, the solution also provides capabilities to address specific building management requirements more intelligently, helping to reduce energy cost and increase facility utilization. You can use Maximo Asset Management to help maximize the performance and lifetime value of complex assets to help:

• Improve return on assets (ROA)
• Decrease costs and risk of noncompliance
• Increase productivity
• Improve asset service-delivery responsiveness and revenue
• Manage regulatory compliance efforts
• Lower total cost of ownership

Highlighting the Maximo solution

Maximo Asset Management can help hospitals and healthcare organizations to:

• Optimize use of all assets across the total organization
• Increase equipment availability
• Track or locate all critical assets
• Reduce operating, maintenance and energy costs
• Achieve better labor efficiency
• Support and maintain higher quality and service-delivery requirements

Maximo Asset Management provides a single location to allocate assets ranging from facilities to transportation to IT.

Maximo Asset Management provides a single location to allocate assets ranging from facilities to transportation to IT. Healthcare organizations can use the solution to maximize asset and facility utilization and performance while helping to monitor and better manage regulatory compliance and reporting efforts. Information is readily accessible to hospital administration as well as hospital staff and equipment maintenance personnel. This easy access to information can help facilities ensure that all equipment is prepared and ready for staff and patient use. When facilities can more accurately monitor the availability of assets, they can improve labor efficiency and optimize materials usage.

Supporting healthcare business objectives

Healthcare organizations are looking for information management solutions to support their changing business objectives. These organizations place a priority on business drivers that range from maximizing the quality of services delivered to mitigating the risk of noncompliance to ensuring the availability of all assets. In addition, these entities want to manage costs and reduce asset investment while applying advanced management strategies. For some institutions, it is also important to enable scientific creativity within corporate guidelines.

In addition to addressing these business drivers, with Maximo Asset Management, healthcare senior management can also better manage asset performance during the life of the asset. By managing critical assets more closely throughout the life of the asset, healthcare organizations can work to increase shareholder and stakeholder value by:

• Improving availability of all their critical and strategic assets
• Reducing costs of acquiring, managing and maintaining those assets
• Better managing compliance requirements from regulatory entities such as the JC and the Food and Drug Administration (FDA)

Maximo asset and facility management solutions help organizations better manage materials, compliance efforts, technology and their facilities.

Asset management across the organization

Maximo Asset Management enables organizations to support their business objectives and respond to business drivers by helping them to better manage materials, compliance efforts, technology and facilities throughout the organization.

Managing materials

Managing equipment in hospitals and healthcare organizations can be challenging. Equipment costs are high, resulting in a growing demand to manage expenditures by utilizing equipment efficiently. This efficient use can be complicated as equipment assigned to one department is often used by multiple departments. While it can be difficult and time consuming to coordinate equipment use across multiple departments, failure to adequately coordinate use can cause delays and additional costs.

Healthcare equipment ranges from equipment used in procedures (such as surgical supplies in operating rooms), to testing equipment (such as ultrasound machines), to equipment for direct patient care (such as monitoring equipment or other equipment used in intensive care units). With Maximo Asset Management, organizations can track, monitor and manage critical or strategic assets such as instruments, tools, and measurement and test equipment. Monitoring these assets can help organizations improve their operational equipment efficiency (OEE) and their ROA.

Managing compliance efforts

Hospitals and healthcare organizations must comply with a variety of governmental and industry regulations. The JC requires reporting compliance for medical equipment inventory as well as medical equipment maintenance plan standards. In addition to

helping organizations better manage this JC requirement, Maximo Asset Management can help organizations address Health Insurance Portability and Accountability Act (HIPAA) requirements, FDA rules, as well as compliance with carbon emission regulations.

Managing technology

Hospitals and healthcare organizations rely heavily on technology, which extends beyond operations to technology that is integral to the delivery of medical care. Maximo Asset Management, combined with IBM Tivoli IT Service Management solutions, helps hospitals and healthcare organizations manage all their IT and IT-related services, including service-level agreements and contracts.

Maximo Asset Management was developed to align with IT Information Library (ITIL) standards—a framework of best practices and standards that supports the delivery of high-quality IT services. ITIL includes extensive management procedures that promote quality IT services through consistent, documented and repeatable processes.

With Maximo Asset Management, organizations can optimize the use of current technologies. At the patient care level, hospitals and healthcare organizations have to manage a new wave of equipment that is increasingly computerized. Technology assets now include radio frequency identification (RFID) tags as well as new patient monitoring systems.

The addition of real-time asset location capabilities to Maximo Asset Management provides complete visibility of an organization's total enterprise assets in real time. This unprecedented visibility enables organizations to improve asset utilization and employee productivity by providing the current location of existing resources.

Hospitals have to determine best practices for inspection and maintenance of these assets. Work orders must be prioritized based on risk: what is the risk associated with failure of

life-support equipment; and how can inventory of critical items be both monitored and minimized? In addition, facilities must be able to manage third-party outsourcing agreements while addressing JC, FDA and HIPAA requirements.

Maximo Asset Management can help hospitals and healthcare organizations manage and maintain diverse physical facilities at different locations.

Managing facilities

Hospitals and healthcare organizations frequently comprise diverse physical facilities at different locations. Not only can the physical plants differ widely throughout an organization, but the particular facilities within each physical building can run the gamut from traditional offices to clean rooms. Some facilities focus on testing or diagnostics, such as laboratories or imaging centers. Others comprise patient-care areas that range from emergency departments to in-patient rooms. Maximo asset and facility management solutions can help hospitals and healthcare organizations manage and maintain the specific functions of these different facilities and optimize their workplace management strategies. This efficient management, in turn, helps organizations to fulfill their overall business goals and objectives.

Specific functionality for healthcare

Maximo Asset Management is a complete asset management solution for hospitals and healthcare organizations. In addition to the core solution, special functionalities are available for use in the life sciences industry, which can also be applicable in hospitals or other healthcare organizations. These functionalities include:

- Calibration with the option to use mobile calibration capabilities
- Support of electronic signatures, electronic records and electronic audits as required by FDA guidelines

- Support for asset-related CAPA
- Validation project support
- Integration with engineering or other document management systems
- Real-time asset location capabilities to obtain visibility of all critical assets in the organization

Calibration

Calibration is a critical function for organizations that operate in regulated environments or in situations in which tools and instruments are integral parts of maintenance to deliver quality output. Healthcare organizations often include laboratories with a variety of instruments, measurement and testing equipment that requires exact calibration. IBM Maximo Calibration is a key capability and can be fully integrated with Maximo Asset Management.

Mobile calibration

To improve efficiencies in terms of quality, time and resources, Maximo Asset Management provides the option to use the work order manager functionality on a handheld device. The IBM Maximo Mobile software portfolio offers the required functionality to introduce and use mobility more effectively within the organization—and in combination with calibration activities.

Compliance with FDA Title 21 CFR Part 11

Software used in life sciences and healthcare organizations must comply with FDA regulations such as Title 21 Code of Federal Regulations (CFR) Part 11. Maximo Asset Management supports efforts to comply with these FDA regulations by providing the capability to support electronic signatures. The solution's ability to track and monitor changes also helps organizations address compliance regulations and more efficiently support validation projects.

Corrective and preventive action

Maximo Asset Management supports complaint and incident management and asset-related corrective and preventive action. The solution provides a framework for all stages of the CAPA

process, including identification, termination, implementation and permanent embedding of CAPA as part of a continuous-improvement process. Maximo Asset Management provides capabilities that are required under FDA regulations for quality systems in 21 CFR Part 820, where corrective and preventive action is described.

Application and data integration

Healthcare organizations often need to integrate multiple applications. Maximo Asset Management can manage and monitor availability, performance and quality for all asset-related information throughout the organization. Maximo Asset Management has the ability to integrate capabilities with enterprise resource planning information systems, supervisory control and data acquisition systems, laboratory information management systems, document management systems or other legacy operational systems. The solution can also integrate mobile applications for work order management and inventory as well as calibration and RFID.

ECRI and asset management integration

The integration of Emergency Care Research Institute's (ECRI)[1] capabilities with asset management capabilities enables organizations to align their data with the industry-standard device classification system. It also enables them to process hazard and recall notices directly from the comprehensive ECRI healthcare product safety alerts system. With an integrated approach to asset, facility and service management, healthcare organizations can achieve additional benefits, such as reduced costs of specialized equipment parts.

Most biomedical equipment is made up of complex components. If the equipment is not regularly maintained and parts fail before expected intervals, the cost of replacing those parts can be an expensive proposition. Maximo Asset Management provides the ability to manage complex and transformative workflows by combining location tracking with the management of patient and staff assets into a complete solution.

Maximo Asset Management—Business value for healthcare organizations	
Asset reliability	• Improved availability of critical and strategic assets • Better management of service-level agreements and quality processes • Optimized equipment reliability
Asset utilization	• Improved utilization across all asset classes and facilities • More efficient planning and execution
Cost savings	• Reduced cost of acquisition, management and maintenance • Improved ROA through extended asset life • Increased work productivity
Compliance	• Functionality and features required under industry-specific regulations • Enhanced reporting capabilities

Conclusion

Maximo Asset Management can help hospitals and healthcare organizations increase equipment availability, reduce operating and maintenance costs, and maintain higher quality requirements. This optimized performance includes the ability to manage the complete lifecycle of all critical assets—beginning with planning and procurement and extending through deployment, tracking, maintenance and disposal. Maximo Asset Management enables hospitals and other healthcare organizations to manage output capacity to meet their patients' demands and expectations while helping ensure continuous quality improvement.

With the latest addition of the IBM TRIRIGA® solution portfolio, IBM can now also provide an integrated workplace management solution. These solutions and services address key customer needs for real estate portfolio management, capital project management and energy and sustainability. The extensible TRIRIGA technology provides customers with the business agility to rapidly configure and reconfigure the application as customers' needs change to achieve lower facility operating and occupancy costs, increased ROA through better space or asset utilization, better operational and resource efficiency, and reduction of vacancy rates and resource efficiency, as well as reducing carbon emissions and energy costs.

For more information

To learn more about IBM Maximo Asset Management, contact your IBM representative or IBM Business Partner, or visit:
ibm.com/software/products/us/en/subcategory/SWK11

To learn more about IBM facilities management solutions, please visit: **ibm.com**/software/products/us/en/subcategory/tivoli/SW22A

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