

Integrated Asset and Service Management for Healthcare Providers

Executive Summary

Today, Healthcare providers are under increased pressures to enhance patient care and improve clinical outcomes while reducing costs and ensuring compliance with a myriad of applicable regulations.

To meet these seemingly divergent objectives, Healthcare Administrators are seeking ways to efficiently and effectively manage an increasingly sophisticated mix of Clinical, Biomedical, Facilities, engineering and Health Information Technology assets.

Healthcare Executives are seeking for new opportunities to lower capital expenditures, extend asset longevity and maximize service delivery. Proactively managing assets ensures their availability and peak performance through the entire lifecycle, thereby lowering capital and operational expenditures associated with these increasingly complex assets.

Integrated Asset and Service Management solutions provide key capabilities that Healthcare Executive should leverage to:

- ▲ Improve uptime to support patient care and optimize procedure scheduling
- ▲ Control costs for procurement, maintenance, labor and materials
- ▲ Extend asset longevity
- ▲ Support regulatory compliance and reporting activities

Smarter and Connected Healthcare

To support their mission, Healthcare organizations are managing an increasingly sophisticated mix of devices and equipment. The delivery of high quality healthcare is increasingly dependent on a wide variety of sophisticated diagnostic, surgical, therapeutic systems, the environment of care, as well as supporting IT infrastructures.

The proliferation and convergence of healthcare assets beckons for an integrated solution to manage all assets classes

Historically, these assets have been procured, managed and supported by individual departments in a decentralized and silo fashion. Healthcare organizations managed this sophisticated mix of assets in functional areas including:

- ▲ Clinical and Biomed
- ▲ Facilities and Engineering
- ▲ Health Information Technology
- ▲ IT Infrastructures and Networks

The proliferation and increasing reliance on medical technologies has created Smarter and more Connected Hospital. It has also brought forth a new level of complexity and risks. Simply put, interconnected healthcare cannot be effectively managed in stovepipe environments.

From MRI to Robotic Assisted Surgery and Automated Medication Dispensing Devices; Building Management systems to Backup Generators; fire suppression systems to Electronic Health Record; healthcare delivery relies on the consistent operation of assets across the organization. Increasingly, these assets have onboard computing power and networking capabilities. The convergence of operational and IT assets is blurring the line between asset classes and increasing the potential risks for undesirable interference.

IT infrastructures and networks have become vital to the collaboration and communication required to provide high quality healthcare services.

The proliferation of this indispensable medical technology has created a strain on capital investment and operational budgets for healthcare providers and hospitals. As a result, providers are looking for ways to extend the asset longevity by managing these assets more efficiently and effectively. Integrated Asset and Service Management solutions can provide greater control and visibility across the multiple asset classes that available in a hospital environment. The proliferation and convergence of healthcare assets beckons for an integrated solution to manage all asset classes.

Integrated Asset and Service Management systems provide unified and consistent platform, to enable total visibility from multiple sites, across functional areas to support cross-departmental initiatives. The resulting increase in asset and service efficiency supports improved patient care while managing costs.

To attain these benefits, Healthcare Providers should consider the implementation of Integrated Asset and Service Management solutions.

The Connected Healthcare Infrastructure

Modern healthcare facilities depend on the availability and use of the clinical and biomedical equipment to deliver patient care. In turn, these rely on the facilities and engineering assets that makeup the environment of care. Environmental and housekeeping services play a critical role to the operation of modern healthcare, addressing sanitation, decontamination cross-contamination prevention. All of these intelligent and interconnected assets depend on networks and other IT infrastructure that enable collaboration.

The management of IT assets and networks has become a critical component to the delivery of healthcare

The issue of interoperability, connectivity and security of underlying IT networks and systems has recently driven a global focus on the management and control of connected healthcare assets. This is a challenge for the entire 'eco-system', the suppliers of devices and diagnostic equipment, the healthcare providers, and the networks that are used to connect them.

The International Electromechanical Commission (IEC) in collaboration with International Standard Organization (ISO) has issued IEC 80001-1. This standard seeks to promulgate the application of risk management techniques to information technology networks incorporating medical devices. This proposed standard shift from the traditional stand-alone risk management approach. Instead, IEC 80001 addresses the concern of potential patient injury associated with the interoperability of devices and the networks and systems that they rely upon.

FDA, for its part, has also recently issued a reminder to the medical community on the need to ensure control over networked medical devices. The Agency's focus was on the maintenance of cyber security and IT networks supporting the interconnectivity of medical devices. According to the Agency, this is a shared responsibility between devices manufacturers and medical device user facility.

In Smarter and Interconnected Hospitals, the line between different assets classes is blurred. The management of IT assets and networks has become a critical component to the delivery of healthcare. This convergence beckons for an integrated Asset and Service Management solution that can be used to manage all classes with a single solution. This approach provides the visibility and control needed to gain the efficiency and effectiveness.

Asset Management - Operational Excellence vs. Compliance Tool

Many healthcare organizations today, use multiple Computerized Maintenance Management System (CMMS). In many cases, their primary function is "Documenting" regulatory events, such as Preventive Maintenance activities and scheduling work orders.

Regulatory compliance should be a natural outcome of the well-designed and executed processes

The ability to provide documented evidence that healthcare assets are maintained in accordance with regulatory requirements should be a requirement for Asset and service management systems. However, operational excellence does not result from a primary focus on regulatory compliance. Regulatory compliance should be a natural outcome of the well-designed and executed processes.

Therefore, it is critical for Healthcare providers to shift from this compliance and CMMS approach in order to look at ways to improve and focus on operational excellence without sacrificing regulatory compliance.

Shifting from CMMS to Integrated Asset and Service Management has enabled healthcare organizations to improve patient outcome, while at the same time lowering costs. The ability to predict asset availability, leads to improved patient care and lower costs. Proactively managing assets, rather than responding to asset failures resulting in break/fix work orders, minimizes downtime and reduces maintenance costs.

Integrated Asset and service Management platforms can also support operational excellence, lean and Six Sigma- activities by providing visibility needed to improve product quality and financial performance, while continuing to meet regulatory requirements.

Redirect Operational Savings to Improve Patient Care

Healthcare Executives are seeking innovative approaches to lower capital and operational expenditures to redirect these funds to improve patient care.

Operational Savings can be Redirected to Improve Patient Care

Yet the lack of asset and service visibility has prevented the implementation of these approaches. As Lord Kelvin said, 'If you can't measure it, you can't improve it.'

Leading Healthcare providers have eliminated departmental maintenance budget. Instead, they pool maintenance funds into a single budget. This approach has enabled more efficient use of maintenance funds by:

- ▲ Implementing a self insurance model for some asset classes
 - ▲ Based on Asset Maintenance history data
 - ▲ Secure maintenance contracts for selected assets
 - ▲ Bid contracts to OEM and 3rd Party providers
 - ▲ Purchase replacement parts from reputable providers on the open market

- ▲ Centralizing service contract negotiations
 - ▲ Leverage larger asset pool across multiple sites to obtain
 - ▲ Volume Discounts
 - ▲ Multi year Discount

- ▲ Consolidating Labor Management in a single Asset Management System
 - ▲ For internal and outsource services
 - ▲ OEM and 3rd Party service providers provide service report within 24 hours of service.
 - ▲ Pay for performance model closes the loop between work performed and payment through service report

Leading Healthcare providers are utilizing Integrated Asset and Service Management systems to provide visibility across departments and sites. Pooling assets and resources across the organization allows them to leverage economies of scale lowering capital and operational expenses savings, which can be redirected to patient care.

Real Time Location of Assets

An emerging area for Healthcare facilities is the use of real time location services. Lack of real-time visibility in hospitals has led to the over-procurement of assets, especially mobile assets that are easily misplaced.

It is not unusual for technicians to spend as much time searching for mobile assets as performing the required maintenance task. In some organizations when an asset is “not found” twice in a row, it is retired in the system. A retired asset is an unusable asset; when found and used in an un-maintained state, it can be a liability.

Technicians often spend as much time looking for mobile assets as performing the required maintenance task

Another use case for real-time location services is loss prevention. A Healthcare organization recovered a stolen asset after bidding for it online and taking delivery from the parking lot at the local mall. As manufacturers pack more functionality into smaller and more mobile use profiles, tracking mobile medical assets in real-time to prevent their loss becomes a critical issue.

The combination of Integrated Asset and Service Management platforms with real time asset location capabilities affords Healthcare providers the ability to address these and many other use cases. Real-time visibility and control can translate into faster and more accurate decisions, supporting improved patient care and lower costs.

Conclusion and Recommendations

Increasing pressures to “Manage Healthcare Costs” call for changing business, technology and regulatory models traditionally used in the industry. Integrated Asset and Service Management solutions can help HC providers improve care while controlling costs.

Healthcare delivery dynamics are driving organizations to seek innovative approaches, which provide the highest quality patient care and improve clinical outcomes while at the same time reducing the overall costs of providing this care. They must manage the proliferation and complexity of the medical technologies needed to provide the highest quality of healthcare. All while ensuring compliance with all applicable regulatory requirements.

Integrated Asset and Service management platforms enable Healthcare organizations around the world to lower the cost of Healthcare from Inside Out.

To support these initiatives, organizations should shift from a compliance documentation approach to an operational excellence model. In this paradigm, compliance becomes the natural outcome of well-designed and executed processes; healthcare providers must focus on operational excellence without sacrificing regulatory compliance.

Asset convergence is blurring the line between the traditional classification of assets and calls for the availability and use of a single asset management solution to manage facilities, engineering, biomedical, clinical as well as IT networks and infrastructure that are required to make these work. Healthcare providers would benefit from the use of integrated systems to manage all asset classes with a single solution.



Finally, healthcare providers are seeking ways to attain real-time visibility from assets in real-time. Real-time location technologies can enable cost reductions by limiting equipment losses, increasing asset availability, and minimizing equipment over purchasing.

This approach can yield:

- ▲ A coherent approach to data collection and analysis
- ▲ The ability to identify patterns and trends across multiple facilities before they become issues
- ▲ Reliable action plans that meet regulatory requirements and improve patient care.
- ▲ A consistent platform to provide a uniform Asset and Service Management approach.

Integrated Asset and Service Management enables Healthcare providers in their quest to enhance patient care and improve clinical outcomes while reducing costs and ensuring compliance with all applicable regulations.

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Published May 2010