Technical Report

OPPORTUNITIES AND CHALLENGES OF A CLOUD COMPUTING-BASED ASSET MANAGEMENT SOLUTION FOR SAINT FRANCIS MEDICAL CENTER

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Abstract

The main purpose of this report is show about the opportunities and challenges of a cloud computing- based asset management solution for Saint Francis Medical Center. This report gives the better insight towards the meaning of cloud computing-asset management, when this technology was developed along with the advantages of using cloud computing-based asset management in Saint Francis Medical Center. This report also aims to provide better knowledge of infusion device management, how to make it available throughout the time also improving the performance along with longevity.

Keywords: Cloud computing, asset management, opportunities, challenges, Saint Francis Medical center, quality, efficiency.

Contents

Introduction

Cloud computing includes network, servers, storage and analytics. Cloud based asset management helps us to effectively manage the assets that we have without human intervention or minimal human intervention. As we know that it helps us to optimally utilize the resource but it is not limited to that. It also helps to increase the productivity and lower its cost. The term Real-time enables you to access all the assets and simply simplifies asset management and helps to make correct decision. There are a lot more benefits that were addressed by many companies.

Saint Francis medical center is a hospital and a facility that serves people in Missouri, Illinois, Kentucky, Tennessee and Arkansas. It was a 12 patient hospital during its opening year in 1875 and now has converted into a medical center to the regional 306 bed. While examining the asset management, there are two key issues that were observed and its major challenges. The issues were:

- Improve availability by improving infusion device management and efficiency.
- Improvement of infusion devices in terms of performance and inventory management.

Advantage of Cloud based-access management

We must first understand the advantages and characteristics of cloud-based assets management in practical terms. so that we may better understand why a healthcare organization that is quickly expanding like Saint Francis Medical Center is interested in cloud-based asset management. The advantages include real-time data, centralized

information, security, accessibility, accuracy, and loss minimization. Fewer IT employees, Accurate data monitoring, straightforward data reporting, effective operations, gathering more data for the best decision-making, cost and time savings, data centralized in one location, data security, fast data access, increased client satisfaction, a simple asset management solution, and many more. Given all these advantages, this asset management technique can be used as Real Time Location System (RTLS) to address the main problems at Saint Francis Medical Center. Data security is made possible by cloud computing technology, which stores data in an encrypted way. With an internet connection, this data are accessible from anywhere in the world. All of the medical center's records and current information are stored on the cloud. As a result, any modifications to the policies or schedules will be sent to everyone who filled up the form. Reduced human error in data entry allows the medical center to leverage automated services for more accurate inventory tracking, which is the main advantage of cloud asset management. By monitoring every item on the cloud, it aids in preventing loss and theft.

Challenges and Opportunities

The usage of cloud-based asset management solutions has both many benefits and difficulties. In the healthcare sector, they can be viewed from a variety of perspectives, including technological, managerial, security, and legal facets. Organizations can concentrate on vital work without having to pay for additional IT staff or training because cloud-based technologies do not require hiring IT professionals to update and manage the devices. Automation features in cloud-based technologies allow devices to turn down automatically after a task is completed. By eliminating the need for personnel to turn off

the device, it can assist the healthcare provider in lowering their electricity costs. By encrypting the data and adding more security layers to the server, cloud businesses try to prevent data leaks and breaches for their clients, like SFMC. Despite all of these advantages, cloud-based technologies are not without their share of drawbacks, including usability issues, data security and protection concerns, the need to restructure programs to meet new requirements, and data transfer barriers brought on by poor internet rates.

Solution

The study was carried out by Saint Francis Medical Center to find solutions for these problems and manage their assets. According to the research, there are numerous problems with infusion devices, including those related to availability, inventory, device management, performance, and efficiency. Due to underutilization of resources, patients are waiting longer to receive medical care, and the company's inventory is inadequately maintained. With asset management powered by cloud computing, SFMC can accomplish these two goals and ensure that all patients receiving care at their hospital receive prompt and dependable services. Infusion device profiling and record keeping are made easier by asset management based on cloud computing. It makes it simple for you to access, inventory-check, and order necessary equipment. The age of the equipment used in medical facilities aids medical professionals in their analysis and decision-making regarding the purchase of new or used equipment. Developers can alter and enhance device performance and lengthen device life by tracking Infusion device performance over time from the cloud. The cloud-based asset management software and services are accessible to Saint Francis Medical Center from providers like Amazon, Google, and Microsoft and others.

Conclusion

The solution for the problem can be integration of BD Alaris Asset Management and AeroScout Asset Management. However, there are some challenges even after using this method like Data lock-in, Data transfer bottleneck, hacker's protection, Resource exhaustion and so on. Some of the opportunities are time and cost savings, Theft or loss prevention, faster updates, location availability and more importantly increasing the performance. The regular and important responsibility in the healthcare provider is managing all intrusion devices. Improving infusion device availability, performance, longevity, and inventory management are crucial tasks. The aforementioned issues can be easily fixed at Saint Francis Medical Center with the aid of cloud computing-based asset management. It is automatic, secure, and dependable.

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