Dell EMC PowerStore Helps Unlock Critical Care Data

Dell EMC and Medical Informatics Corp. (MIC) Monitor Patient Vitals at the Edge to Enable Care from Anywhere

Sickbay Keeps Patient Care at the Center

- Unlock and unify all patient data across disparate networked and non-networked bedside devices

- Integrate aggregated data with complimentary data from the EMR such as labs and meds

- Enable flexible, vendor-neutral, software-based remote monitoring at scale

- Rapidly build algorithms by leveraging web-based apps and/or open APIs and SDKs

- Develop and deploy your own patient-centered AI

Patient Care in the Data Era

We are in the midst of the data era. A time in which technology and connected devices are producing more data than ever before. Across the globe, in many different industries, business and IT professionals are determining how to better utilize this influx of data. Hospitals and healthcare facilities are no exception. In fact, data managed in the healthcare industry grew by 878% from 2016 to 2018[1].

Some of the most valuable data comes from wearables, IoT devices, and biomedical devices used at the bedside monitoring patients. These connected devices generate massive amounts of data every second providing most valuable information and insight about a patient's condition. In critical care environments, the volume of data exponentially increases due to the number of devices monitoring a patient at any given time.

In many cases, bedside devices don't store any of the data. Those that do, often only store it for a few days and delete it once the patient is moved or discharged. This leaves key historical data unseen and unavailable for future patient care.

This data has value and could lead to better, more proactive patient care, a personalized medicine approach, and even accelerate research and AI. MIC delivers the software that unlocks this data allowing it to be viewed, analyzed, and actionable.

Sickbay™ Clinical Surveillance & Analytics Platform

Sickbay is MIC's FDA cleared platform for clinical monitoring and analytics. Sickbay unlocks and unifies all patient data, including high fidelity waveforms, across disparate bedside monitoring devices and integrates it with other data from the Electronic Health Record, such as labs and medications. This information is then transformed into web-based applications so members of the care team can control how they want to access and solve multiple clinical and operational needs from the same platform. These include vendor-agnostic remote monitoring and virtual ICUs at scale, alarm management, and/or user configurable patient-specific risk scores and analytics. Sickbay also features open APIs and SDKs so hospitals can finally get access to the data that has previously been stored in siloed, proprietary formats and deleted shortly after acquisition and therefore not available to support clinical care.
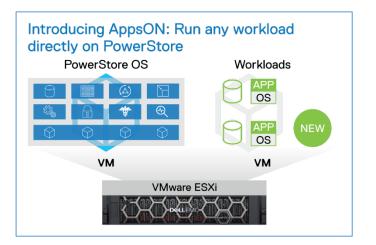
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Sickbay simply unlocks data that has never been available before and gives hospitals and healthcare teams the ability to simplify their architecture, perform remote monitoring at scale, and leverage aggregated data to reduce costs, increase revenue, improve clinical and operational efficiency, and develop and deploy patient-centered AI at scale.

Sickbay is the platform every hospital needs to create the foundation for a new standard of data driven medicine and patient-centered care. Since Sickbay is collecting, storing, and transforming such life critical information it means that It requires a robust, scalable, and reliable infrastructure at the edge to store and process all of this data. Dell Technologies is a trusted MIC partner, and Dell EMC PowerStore is the ideal appliance that is bringing this solution to life.

Dell EMC PowerStore

PowerStore has an adaptible and flexible architecture that facilitates Sickbay to be deployed at the edge. Powerstore's AppsON functionality allows for MIC apps to run directly on the appliance using VMware tools and methods that would traditionally be used with external hosts. By placing PowerStore at the edge, data can be collected from bed-side care devices, leveraged by SickBay, and placed in front of a physician in real-time. All of this can be done in a small 2U footprint, while meeting network and data retention requirements. PowerStore offers unique capabilities of supporting multiple data types, simple centralized management, and advanced replication to core data centers. This allows for data to be collected at the edge and moved into larger data sets for algorithm creation and archiving.

Dell EMC PowerStore provides a data-centric, intelligent, and adaptable infrastructure that supports both new and emerging edge workloads such as Sickbay, as well as traditional workloads. What makes PowerStore stand out is its ability to deliver unified storage (physical, virtual, block, file, or container-based), as well as the performance and efficiency with which these workloads can be run. PowerStore is architected with end-to-end NVMe and always-on inline data reduction, which enables it to stream the data from bedside devices at incredible speeds. Like most applications in healthIT, availability and security matter. PowerStore nodes are active-active and are designed for 99.9999% availability. You can maintain this availability and performance as you scale up and scale out as your compute or capacity requirements grow while getting the most out of your storage with 4:1 storage efficiency guarantee. Finally,

proactive monitoring and predictive analysis is provided by enabling you to reduce risk, plan, and improve productivity.

Dell EMC PowerStore and MIC's SickBay together can improve patient care, accelerate clinical research, and help healthcare facilities quickly react to unplanned growth of critical care. As always, Dell Technologies is your trusted strategic technology partner for all your healthcare workloads.

¹ Source: 2019 Dell EMC Global Data Protection Index Survey

Learn more about Dell Technology solutions for Healthcare

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