



RTI CUSTOMER SNAPSHOT

DocBox

A LIFE-CHANGING APPROACH TO CLINICAL PROCESS MANAGEMENT AND CONNECTED HEALTHCARE

HIGHLIGHTS

In the wake of the COVID pandemic, and faced with severe staffing shortages and higher costs, hospitals need smarter solutions that integrate the latest medical technology with a variety of legacy and next-generation systems to reduce the documentation burden on its clinicians.

DocBox® delivers an innovative platform, The Clinician's Assistant in Critical Care, to automate the bedside, enabling hospitals to add new best-of-breed devices and expand the compatibility and speed of vital medical data, thus achieving better bedside care and improved operational efficiency.

DocBox selected RTI Connex* to manage all medical data safely, securely, and in real time.



It's humbling to know that our platform and RTI Connex have helped us take care of over 10,000 people...and that's a point of pride for our team. Our goal is to touch a billion lives in the next five years."

—Tracy Rausch
Founder and Chief Innovation Officer
DocBox

CHALLENGE

As the new decade got underway, it's fair to say that hospitals were under siege. The COVID pandemic meant that ICUs and hospital personnel were quickly overloaded, with demand straining the capabilities of existing healthcare systems to the limit and beyond. Even in well-staffed major cities, the sudden overwhelming burdens placed on clinicians ultimately resulted in roughly half a million healthcare professionals leaving the marketplace.

Among a number of hard lessons learned, the COVID pandemic highlighted the fact that the majority of critical care doctors are concentrated in urban areas, so that effectively 80 percent of the U.S. lacks nearby critical care coverage to some degree. Of course, waiting years for new clinicians to graduate and join the workforce is simply not a workable option. So how can hospitals switch gears and take care of the entire country with their existing critical care personnel?

The key is shifting to a "clinical care anywhere" approach — this means bringing the right resources to the patient, instead of the patient to the resources. As a result, hospitals are now increasingly searching for solutions that can improve both ICU

experiences and clinical efficiency. A solution that can not only improve the quality of patient care, but also function as a life-raft to support and retain overworked clinicians by reducing the data collection workload.

When it comes to providing clinical care anywhere, the biggest enabler is not any one particular device or process, but rather the idea of an open platform that can unite all medical data and devices — anywhere, and at any time. Buying new best-of-breed medical devices is only part of the battle. If these devices don't integrate well with legacy infrastructure and existing equipment, then the speed of vital data remains sluggish, forcing clinicians to handle room set-up on the fly and input bedside patient data manually.

SOLUTION

DocBox is a company that understands these challenges well. With over a decade's experience in developing MedTech solutions, the team just successfully launched a commercial version of its DocBox platform to automate clinical process management. DocBox's unique, vendor-neutral platform now enables hospitals to connect all medical devices and automate

nursing documentation to achieve greater efficiency, thus freeing up ICU physicians and nurses to do what they do best.

The DocBox solution for ICU medical devices enables automated transfer of medical device data, real-time nurse documentation and patient real-time vitals on one screen at the bedside. This is an important step forward, as hospitals are often locked into single-vendor solutions for ICU units that are sometimes inflexible when it comes to adding new technology. In some cases, vendor lock-in can even stifle new innovations that could clearly lead to improved patient care and safety.

Therefore, one of the drivers for founding DocBox was the team's desire to create an open platform where healthcare providers and hospital systems were able to continuously upgrade to the best sensors, the best algorithms and the best technology and make all systems work as one, even in rural areas that are characterized by low-bandwidth networks. To help accomplish this, DocBox developed a solution that leveraged RTI Connex, the software framework for data-centric connectivity based on the Data Distribution Service (DDS™) standard.

With the ability to manage safety-critical software communications reliably, securely and in real-time, Connex enabled DocBox to realize a key goal for its platform: allowing multiple devices and applications to access data simultaneously, while also being able to control the Quality of Service (QoS) for data flow right down to the individual application level. This capability opens the door to moving data securely and efficiently around the country to other hospitals and clinicians, with initial dashboards for remote viewing of real-time data and billing statistics. As a result, the DocBox platform supports telemedicine, and enables other popular use cases that are poised to improve patient care and safety with the fusion of data sources that drive real-time, intelligent algorithms and enhanced visualization.

BENEFITS

How important is efficiency for modern hospitals? Today, the DocBox platform enables the ability to automate nursing documentation of vitals, to help take humans out of the loop of data collection for greater efficiency. This approach yielded a variety of other key benefits, such as helping hospitals better utilize their current infrastructure, reducing documentation errors and accurately tracking all billable clinical interventions.

For example, the DocBox platform typically collects between two and three gigabytes of data per day at a critical care bed. With its initial flowsheet documentation of this data, the platform was able to reduce nursing documentation time by 70 percent. Moreover, through workflow automation, the DocBox platform was then able to track and capture lost revenue of approximately \$90 per day per bed. And once the number of beds is factored in, a large hospital's critical care unit could stand to recoup as much as \$1,000,000 in billings, just by using insights made possible and actionable by the DocBox platform.

This holistic approach to clinical process management seeks to solve not just portions of the technology challenge around running a modern hospital, but to transform the delivery of care. And that effort is based squarely on the importance of leveraging data correctly every step of the way.

"We chose Connex for our platform because it actually has very close parallels to how clinical workflows work, how physicians think, how nurses think...I could see the technical parallels with how DDS worked right away," said Tracy Rauch, Founder and CIO of DocBox. "In terms of scalability and flexibility for the DocBox platform, I would say the use of Connex probably took a decade off the development time of our system."

ABOUT RTI

Real-Time Innovations (RTI) is the largest software framework company for autonomous systems. RTI Connex® is the world's leading architecture for developing intelligent distributed systems. Uniquely, Connex shares data directly, connecting AI algorithms to real-time networks of devices to build autonomous systems.

RTI is the best in the world at ensuring our customers' success in deploying production systems. With over 2,000 designs, RTI software runs over 250 autonomous vehicle programs, controls the largest power plants in North America, coordinates combat management on U.S. Navy ships, drives a new generation of medical robotics, enables flying cars, and provides 24/7 intelligence for hospital and emergency medicine. RTI runs a smarter world.

RTI is the leading vendor of products compliant with the Object Management Group® (OMG®) Data Distribution Service (DDS™) standard. RTI is privately held and headquartered in Sunnyvale, California with regional offices in Colorado, Spain and Singapore.

Download a free 30-day trial of the latest, fully-functional Connex software today: www.rti.com/downloads.

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