

Securing Unstructured Data and Improving Patient Care

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Introduction

Healthcare organizations are making a big jump in storing and sending their patient records – they're transitioning to the cloud. This will improve patient care, interoperability and efficiency while eventually forging a new future for the healthcare industry where data will be leveraged to customize patient care.

IDC reported that by 2020, 80% of all healthcare data will be passed through cloud. 42 percent of this data will be unprotected, with all of it needing to be protected.

One type of data is the most difficult and the most vital to protect – unstructured data.

Unstructured data is information about a patient's history that does not have a pre-defined data model or application. Basically, if it can't be easily measured or if it's being scribbled on a page, it's an unstructured data point. This unquantified and cumbersome resource is found in the hard copies of physician notes and reports, discharge summaries, scanned documents, medical forms, authorizations, prescriptions, file shares, collaboration items and email messages.

The Health Story Project estimates that some 1.2 billion clinical documents are produced in the U.S. each year, and about 60 percent of these contain valuable patient-care information "trapped" in an unstructured format.

This data is wordy, cumbersome and hard to quantify. In time-sensitive situations such as medical emergencies, it takes too much time to locate and assess. Even an amount of time as short as a few minutes can be precious, and a hand-written note stored in a patient's medical record could make a difference in saving a life.

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1.2 billion clinical documents are produced in the US each year. About 60% of these contain unstructured data.

Before hospitals and healthcare organizations can store this data electronically and rectify this problem, there has to be a process in place to control who can access it.

This is one headache that's getting bigger for healthcare information technology professionals, but can be solved with a secure data transport solution.

Analysts from Merrill Lynch, Gartner and IBM have come to a general consensus that 80 percent of all healthcare data is unstructured and clinically relevant. This number is growing and further supports the need for a secure solution to transport this data.

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Generally, the current method of transport involves tools such as email, paper, and old-school fax machines, causing chaos for healthcare professionals. In response, the industry is adapting to new technologies while struggling to keep the security of patient records a top priority.

Healthcare organizations can now solve this problem with a reliable source of secure transportation – a fax board in the cloud.

Fax machines have a reputation for being slow, but this is no longer the case. By leveraging the cloud, fax becomes a lightning fast form of transportation that can send a 50 page document in seconds, when it previously took 30 minutes.

Prior to etherFAX, all fax servers were bottlenecked by transport, but that is no longer the case. Now healthcare organizations have the ability to send more than 100 fax pages in seconds. They can transmit unstructured data faster than the old fax machine without compromising security or reliability.

Traditional forms of communication like email and paper records can cause security vulnerabilities, setting off the one event that both patients and healthcare professional want prevented – a data breach.

Data Breaches Are Real: How Hospitals Secure Unstructured Data

Attacks on hospitals and other healthcare organizations accounted for 42.5% of all major data breaches in 2014.

A recent spike in data breaches has rocked the healthcare industry. The Health Insurance Portability and Accountability Act (HIPAA) data breaches at Anthem and Community Health Systems were two of the most recent, and put the data of more than 84.2 million records at risk.

According to the Identity Theft Resource Center, attacks on hospitals and other healthcare organizations accounted for 42.5 percent of all major data breaches in 2014.

Healthcare organizations and their patient's records are among the most targeted types of organizations, and it's only getting worse.

IDC conducted a health predictions survey for 2015 and found that by 2015, 50 percent of healthcare organizations will have experienced one to five cyber-attacks in the previous 13 months, with one of three attacks being successful.

This boils down to a likelihood of two data breaches a year – that's a lot of risk.

The risk comes from a reliance on antiquated systems to store and transport patient data – namely paper and email communications.

Healthcare professionals rely on a heavy volume of paper that is not going away, and contains unstructured information that needs to be electronically stored and shared with other systems. The sheer volume of information being transmitted alone increases the chance of a data breach.

The first step in securing this process is HIPAA compliance – providing a way for physicians to share this data securely.

The problem with HIPAA is that it's just a standard. It's a guideline for hospitals and healthcare organizations to ensure they follow best practices when storing and sending patient information. Unlike other standards such as The Payment Card Industry Data Security Standard (PCI DSS), the main security standard in the financial sector, there is no standard for regular tests to ensure network security.

The sheer amount of data being transmitted by a healthcare organization during the daily workflow is enormous. With most of this data being unstructured, the pressure to put a system in place for secure transmission of this data is mounting.

In order for healthcare organization to protect themselves and their patients against a data breach, subscribing to a data transport solution that is subjected to frequent testing is vital.

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Fax, fax servers and cloud-based data transport solutions like etherFAX provide a way to transport information in a digital world, securely and fully compatible with Electronic Health Records (EHRs). etherFAX is subject to regular testing to ensure the visibility of all security vulnerabilities and allows healthcare organizations to take the next step towards data security – regulating data access.

Solution – Regulating Data Access

Unstructured data is cumbersome, inefficient and hard to reconcile with industry standards like HIPAA that work to prevent data breaches. It needs to be electronic and easily accessible in the form of scans or electronic notes.

But this won't happen if it's not secure – only the correct people can be able to access it.

Technology such as Electronic Medical Records (EMRs) and the like pose a huge problem – in order to guarantee security, regulations securing data access through a secure network and endpoints must be enforced. This can be a struggle for organizations who might not know how to solve this problem or don't have the resources to do so.

Regulation is difficult for organizations who have concerns regarding cost and interoperability, as well as concerns regarding a possibly cumbersome implementation process that might include re-training staff members, a complex installation process or difficult disposal of old technology in accordance with compliance laws.

Because of this, the industry isn't taking enough proactive actions towards data regulation and unstructured data security.

A recent Healthcare IT News survey found that healthcare organizations are still in a reactive mode as they develop or apply strategies to bring the vast amount of unstructured data in alignment with their EMR and EHR systems.

40 percent of respondents are implementing a solution for unstructured clinical data, 25 percent are creating a strategy or a plan and 18 percent are looking at available solutions in the marketplace.

etherFAX reduces costs, improves interoperability and provides a seamless transition to the solution so that regular users wouldn't sense a change – there is no training process necessary.

Leveraging the security of fax technology with the scalability, cost-effectiveness and analytical power of the cloud has the potential turn the healthcare diagnostics process into a patient-specific powerhouse for hospitals and healthcare organizations.

The cloud will improve interoperability and communication between physicians as well as boost diagnostic speed in life-threatening situations. But this drastic improvement in patient care will only be powerful if patients and healthcare professionals are ensured that data is secure.

etherFAX can provide this security for healthcare organizations through an array of secure solutions.

etherFAX Solutions

In order to secure the transmission of unstructured data for the healthcare industry and boost interoperability, organizations need a cloud solution that's cost-effective, scalable and 100 percent guaranteed secure.

In a recent CommVault survey of healthcare IT managers in enterprise organizations, 75 percent of respondents – up 14 percent from last year – indicated they were concerned about the protected health information (PHI) residing in Bring-Your-Own-Cloud (BYOC) solutions, such as Box or Dropbox.

Healthcare IT managers should be concerned with public cloud solutions that don't provide a high level of security for patient data subject to government regulations. Simply having an

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electronic solution in the cloud isn't enough – the security must be guaranteed.

etherFAX can secure unstructured data for healthcare organizations.

The solution is a fax board in the cloud, and provides an array of solutions for the healthcare industry in need of securely transmitting unstructured data. It enables healthcare organizations and medical groups, insurance companies and billing operators to securely transport data and achieve compliance with government mandated regulations such as HIPAA and PCI DSS.

The etherFAX Secure Exchange Network (SEN) provides a private fax network in the cloud. Designed specifically for the healthcare ecosystem, SEN offers guaranteed secure delivery within the etherFAX network. SEN can replace old network solutions such as those that rely on expensive telephony equipment and PTSN.

For organizations not looking to transition away from their current telephony equipment, etherFAX can extend existing infrastructure to the cloud with etherFAX Analog-to-etherFAX (A2E) device.

As organizations transition to IP-based networks, extending fax machines to this infrastructure can be challenging. The A2E device connects existing analog fax machines to the etherFAX network, allowing faxes to be sent and received via the cloud, instead of the PSTN. This provides the ability to create a private HIE networks leveraging fax technology.

Guaranteed security of unstructured data will do more than just put a healthcare organization's data breach worries to rest. With data finally secure, an individual's health records have the potential to provide a purely customized healthcare experience in the near future.

Future of Healthcare – Unique Patient Profile Driven by Network Security

Electronic health and medical records are the future of healthcare. They will do more than improve efficiency for the industry. Data mining and big data computing will forge a path for healthcare that includes customized diagnostics.

The IDC recently stated that due to increased pressure to improve the quality of patient care and manage costs, 15 percent of hospitals will create a comprehensive patient profile by 2016, allowing them to deliver personalized treatment plans.

But first, patient records must be secured and the interoperability process must be streamlined. In recent months, the healthcare industry has been falling behind in this process.

A recent InformationWeek survey found that just 30% of respondents say their companies are very or extremely effective at identifying critical data and analyzing it to make decisions, down from 42% in 2013.

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Identifying critical data and analyzing it has come to a halt because organizations are fearful of a breach in cloud solutions. Without large amounts of data to analyze, healthcare professionals are unable to make fast determinations, potentially slowing the diagnostic process.

Healthcare professionals need a data transport solution that incorporates a reliable disaster recovery solution is cost-efficient, compliant and scalable, helping to fuel growth.

Network security helps to make big data analytics for the healthcare industry possible. Patients may be able to come into the doctor's office in the near future, facing a completely customized diagnosis faster than ever before, based on an analysis of their personal medical history.

In order to make this a reality, security has to be the first step. etherFAX has created a guaranteed secure network with the healthcare industry in mind, helping to make this future possible.

To learn more about securing unstructured data for your healthcare organization, please contact us at any time.

About EtherFAX

Established in 2009, etherFAX, LLC leverages 30-plus years of experience designing and developing fax technology solutions. By eliminating the need for costly components such as fax boards, media gateways, and telephony infrastructure, etherFAX's namesake technology, network and datacenter solutions leverage the Internet to manage business-critical fax communications.

As a hybrid fax solution, etherFAX eliminates the complexities and costs of provisioning SIP, T.38, PRI, T1, and other analog connections. By simply connecting on-premise fax server resources to etherFAX, all fax communications are securely delivered via the cloud. Say goodbye to expensive fax hardware, complex fault-tolerant designs, and costly disaster recovery solutions.

etherFAX is the fax board in the cloud, is highly scalable and offers high availability to business communications. Clients and partners that trust their business with etherFAX include Fujifilm, Callaway Golf, Hyundai, OrthoNet, Integra, McKesson and many more. Visit our website to learn more about how we can bring your fax server into the modern era: www.etherfax.net