dispersive technologies ™

Protect Healthcare Data With Dispersive Technologies

Highlights

1. Works with off-the-shelf hardware
2. Requires only a business-class Internet connection and Dispersive's software
3. Accommodates any fixed or mobile device
4. Divides data into non-duplicated streams
5. Sends data streams along independent paths
6. Rolls paths dynamically to avoid congestion and other problems

Benefits

1. Boost speeds
2. Increase reliability
3. Tighten security
4. Reduce WAN costs
5. Avoid hardware upgrades
6. Add flexibility
7. Optimize bandwidth

Today's healthcare system suffers from a data breach epidemic. It's virulent, costly, and spreading rapidly. Consider these statistics:

1. Cyberattacks on healthcare data increased 125% in the last five years;[1]

2. 91% of healthcare organizations experienced a data breach within the past year;[2]

3. The average cost of a healthcare breach in the U.S. is $398 per exposed personally identifiable record;[3]

4. Healthcare organizations suffer an average monetary loss of $2.4 million per data breach;[4]

5. The black market rate for a partial electronic health record (EHR) is $50. Conversely, the rate for a Social Security or credit card number is $1.[5]

It's not just the money that attracts cybercriminals to healthcare data. It's the industry's lack of technologies to prevent and detect attacks. Many organizations store data on aging computer systems that don't have the security necessary to deter invasions. Worse yet, participants in the continuum of care—insurers, hospitals, physicians, clinics, patients, etc.—too often value speed of access over security and don't take steps to protect patient records. And the problem is exacerbated by new technologies—such as Internet-enabled medical devices, sensors and surgical robots—that introduce a new vector for cyberattacks.

Fortunately, medical data theft and successful device hacks can be minimized. It can be done without overhauling the healthcare system. It can be done without purchasing expensive equipment or networks. And it can be done without having to choose between performance and privacy.

Preventing data theft is possible with solutions from Dispersive Technologies, Inc. ("Dispersive").

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1 *Fifth Annual Benchmark Study on Privacy & Security of Healthcare Data*, Ponemon Institute, 2015. **2** *Ibid.* **3** *2015 Cost of Data Breach Study: Global Analysis*, Ponemon Institute. **4** "Health Care Systems and Medical Devices at Risk for Increased Cyber Intrusions for Financial Gain," *FBI Cyber Division Private Industry Notification*, April 8, 2014. **5** *Ibid.*

Solutions That Thwart Cyberattacks

Dispersive's software-based solutions can protect stored information and deliver data with greater speed, tighter security and more reliability than competing approaches. All you need is a standard, business-class Internet connection (including cellular and satellite), off-the-shelf hardware and our software.

Protected by 24 patents, our solutions thwart man-in-the-middle attackers and stored data hacks. They protect everything from real-time communications between medical professionals to information sourced from medical devices, imaging systems, health records, insurance claims or research files.

Wherever you are in the continuum of care, Dispersive helps you achieve value, reduce risk and achieve compliance. Our solutions also enable you to:

Enhance the patient experience. From field triage, efficient check-in, intake and check-out to effective aftercare coordination and access to results, Dispersive's technology improves the security and seamlessness along the continuum of care. As a result, patients are more comfortable with and confident in your care.

Expand treatment capabilities. Medics, first responders and patients can more easily and securely communicate with healthcare professionals. Patients in remote and underserved areas can be assessed and diagnosed more quickly. Diseases can be managed more effectively. In short, treatment is more efficient and less costly.

Reduce capital expenditures (CAPEX). With a reduced dependency on networking hardware, you can do more with limited CAPEX funds.

Improve business agility. Faster network provisioning and response times enable you to introduce new forms of healthcare delivery. These can be data-intensive applications, including highly interactive and multimedia services.

Technology That Divides And Conquers

With standard networks, a device transfers data to another device along a single path. One data stream and one network path equal a single point of vulnerability to network congestion and router failure—and one big target for man-in-the-middle attacks.

Dispersive™ Virtualized Networks ("Dispersive™ VNs") change all that. Our virtualized networking platform splits data into smaller, non-duplicated packet streams and sends those packet streams across multiple transmission paths, increasing data transfer rates. By rolling paths, Dispersive™ VNs constantly refresh connections and ensure the fastest possible routing through the network. (See Figure 1.) The splitting and rolling of traffic makes it virtually impossible for man-in-the-middle attackers to know which routes are being used or to collect enough meaningful data to reassemble a transmission. Dispersive™ VN's built-in firewall can also provide additional security by rejecting incoming traffic from non-approved devices.

Benefits That Save Time, Money, And Reputations

No matter the size or scope of your organization, Dispersive will maximize the performance of your networking assets. Rely on Dispersive™ VNs to:

Boost speeds. Dispersive™ VNs send data up to five times faster than existing VPN solutions in domestic wide-area networks (WANs) and 10 times faster in international WANs.

Tighten security.[6] Each year healthcare organizations spend millions of dollars on network security breaches. However, the true cost of these attacks goes far beyond money. Theft of protected health records can lead patients, employees and third parties to lose confidence in your abilities.

Dispersive's technology combats that constantly and comprehensively. During the session, it continuously changes data path selection and varies message encryption from route to route. As a result, it's virtually impossible for man-in-the-middle attackers to know which routes you are using or to gather enough useful data to cause any damage.

Increase reliability. Dispersive™ VNs continuously monitor the health and performance of each pathway and then roll traffic to new paths when problems are detected. Your data bypasses bottlenecks and avoids router failures.
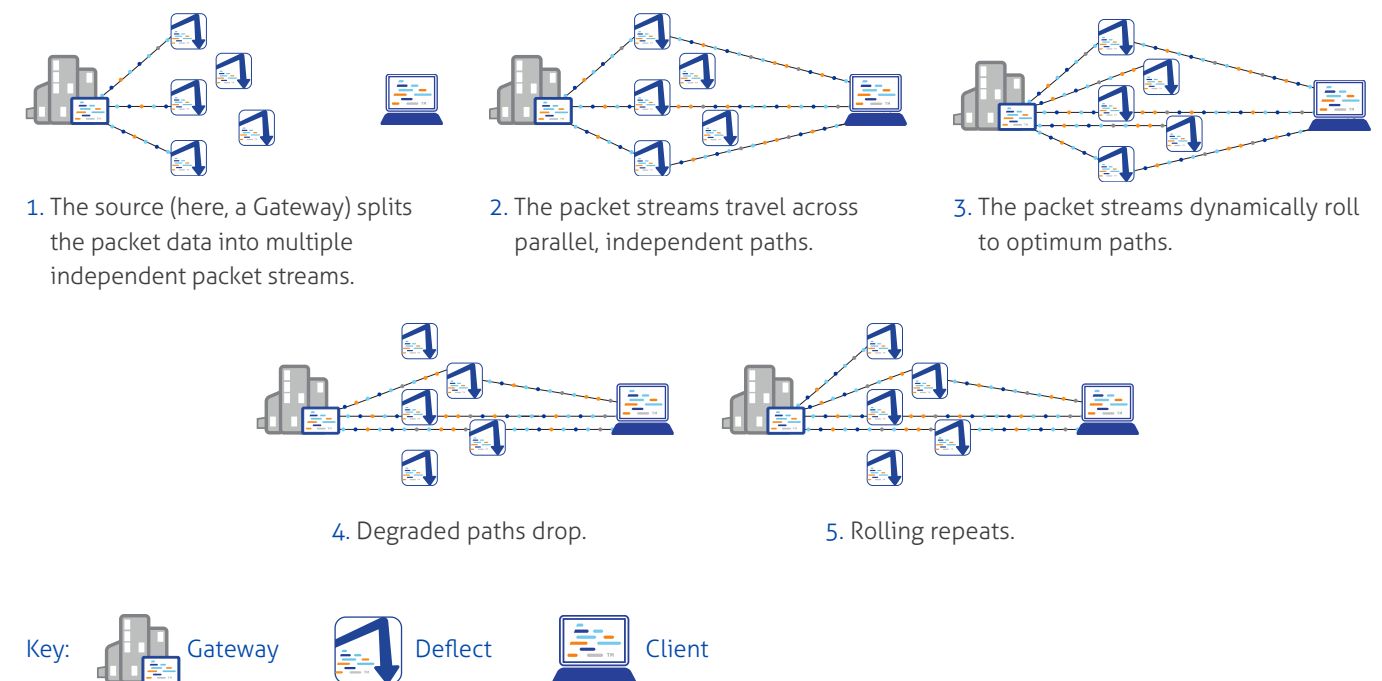
Reduce WAN costs. Customers typically reduce WAN communications costs up to 25% by offloading private network traffic to the Internet.

Avoid hardware upgrades. Our virtualized networks use standard, commodity hardware. No costly proprietary hardware is required.

Add flexibility. Dispersive™ VNs bring multiprotocol label switching (MPLS) benefits to cloud-hosted services without modifying your cloud architecture. And because you can use any Internet connection, you don't have to wait for lines to be installed or hardware to be provisioned.

Optimize bandwidth. Organizations often buy more bandwidth to handle occasional high-traffic periods. It's a costly and often unnecessary fix that leads to underutilized capacity. Dispersive can aggregate multiple network connections into one larger virtual connection. This means you can optimize your current bandwidth to achieve greater speed and reliability while delivering enterprise-wide cost savings.

Figure 1: How Dispersive Transfers Data

1. The source (here, a Gateway) splits the packet data into multiple independent packet streams.

2. The packet streams travel across parallel, independent paths.

3. The packet streams dynamically roll to optimum paths.

4. Degraded paths drop.

5. Rolling repeats.

Key: Gateway   Deflect   Client

6 Dispersive has completed a HIPAA/HITECH Business Associate assessment and its policies and procedures have been validated against NIST SP 800-53

Find out more: www.dispersivegroup.com

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