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Ciphertex Data Security is Trusted by US Military, FBI, Government Agencies, Hospitals and Forensic, Media and Entertainment Companies with an Encrypted, Portable, Rugged NAS System that enables Fast, Secure Migration and Sharing of Large Files and Big Data – best solution for Cybersecurity, Software Development and Product Design, Manufactured in the USA



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"Data is expanding every minute of every day and safely storing and moving that data has become a mission-critical undertaking" Jerry Kaner

CEOCFO: Mr. Kaner, what is the overall idea behind Ciphertex? What is your focus right now?

Mr. Kaner: Ciphertex comes from the world of digital forensics. In a previous lifetime, I spent a lot of time with law enforcement, developing products for the FBI and Secret Service, meeting with Interpol and law enforcement agencies across Europe. We spent an enormous amount of time focusing on the issue of cyber security and the associated costs of cyber-attacks on the US and European economies– it was mind-boggling. We are talking about many billions of dollars each year for each sector.

Through this work I decided to start designing and manufacturing the most secure products to store, protect, and securely move data available. In recent years, Ciphertex Data Security has focused on storing large amounts of data in as secure compact enclosure as possible for easy transport, as well as improving storage improvements for faster transfer speeds.

CEOCFO: Why physical products as opposed to software solutions? What do you understand about the problem that leads you to have a variety of hardware products?

Mr. Kaner: It's actually a combination of both. Our almost indestructible SecureNAS® units are powered by our proprietary CX-Linux ZFS™ operating system.

Data is expanding every minute of every day and safely storing and moving that data has become a mission-critical undertaking. One of the issues that comes up when working with various organizations and government agencies is that transferring data over the internet is not all that secure. It also takes a lot more time to transfer data over the internet, even if the organization has access to ultra-fast upload times via their internet service provider. For example, it generally takes several days to migrate 100 terabytes of data to a faraway cloud. Transferring data locally onto a secure, high-performance system such as ours takes only a few hours at most.

For this reason, I designed a small secure product in compliance with US government and healthcare information processing standards. The product was originally designed for the US Air Force. They were the primary customer at that time and still are today.

To secure the data, SecureNAS uses a FIPS (Federal Information Processing Standards) 140-2 validated, AES 256-bit physical hardware encryption key, called "Ciphertex Protect Encryption Key," in addition to multiple instances of complex passwords. Someone must turn the system on, insert the physical key, enter the key's password, then enter another password to access the interface. Inside the USB-C key, there is an encryption chip which has a unique serial number only recognized by one storage server appliance with a corresponding unique serial number. In other words, only administrator paired keys can unlock the system. If properly managed, this process of multi-factor authentication makes the system incredibly resistant to malicious attacks.

These features were specifically implemented to meet the needs of the US military. They also required a certain degree of ruggedness for use on their aircraft, so we very intentionally designed for physical durability as well. Since then, we have branched into many industries including healthcare. Today, companies such as Cerner are selling our products to thousands of hospitals in the United States and around the world.

CEOCFO: Are people starting to recognize the need to have that physical security?

Mr. Kaner: You'd think so, but sadly no. People are frequently intimidated by encryption and avoid broaching complex security topics related to storage and networking. However, as a company we have worked diligently to simplify the communication of basic protocols and procedures so every organization can easily beef up its data security.

We have also built our systems to be used and configured by anyone, from the most IT savvy individuals to general office staff. Lots of our security features are inherently built into the product and require no setup. For the implementation of more advanced features, we make sure to include a detailed quick start guide and user manual with every product.

CEOCFO: You have a number of different products. Is it a matter of different sizes, different strengths? What are some of the differences in the products that you offer?

Mr. Kaner: The number of different products we offer is for the most part based on our customers' capacity and performance requirements. I should also note that generally the more drive bays a product has, the more redundancy it offers.

In terms of performance and capacity, decisions often follow this line of thought: HDD storage for massive capacity, SSD storage for performance and reliability, and NVME SSD products for even greater performance.

In terms of physical appliance size and form factor, Ciphertex builds 4-bay, 8-bay, 12-bay, 14-bay, and 16-bay portable NAS models that range in capacity from 8TB to 320TB.

CEOCFO: *What is the competitive landscape like? Are there many companies that are trying a similar approach?*

Mr. Kaner: We focus on the military, governmental agencies, and large enterprises that require storing massive amounts of highly-sensitive private or classified information. This is a niche market.

There are plenty of consumer desktop NAS appliances that look similar to ours. However, as consumer products, they do not work for travel, heavy repurposing, or data intensive applications. It took years of experience to design a rugged product that can handle severe abuse and repeatedly traverse thousands of miles. As far as I know, no other desktop NAS has FIPS validated encryption and ISTA certification by a Department of Defense certified environmental testing laboratory to meet the stringent requirements of the US military.

The key for us is building products that can move and purge data quickly in all environments, whether in the desert or in the data center. The rugged SecureNAS build happened as a natural consequence of many years of experience working directly with the military. On the other hand, to quickly cleanse drives of their data happened more recently due to the evolution of drive technology.

Previously, a standard system wipe of 150 terabytes or so of data took anywhere from 25 to 35 hours. We developed an instant secure erase feature that purges 150 terabytes to 200 terabytes in mere minutes. It is very important not to leave any recoverable data on the drives because the data is often private, classified, or sensitive in nature.

CEOCFO: *Is it an outright sale with a customer service component? What is the business model?*

Mr. Kaner: For the most part yes, with the exception being our government, military, and larger private contracts. We tend to sell our hardware and software directly to customers and provide complementary customer service as a matter of doing business. We release and send out software updates for free, which is another unique thing that Ciphertex does. Typically, when companies sell servers, customers are required to buy a server management software license and pay a yearly renewal fee. We install and ship the software on our products free of charge, and there are no renewal fees.

CEOCFO: You were at HIMSS this past week. How do you stand out when you are at a conference with so many attendees and so many people with products and services that they would like people to know about?

Mr. Kaner: We are only one of a few companies that displayed physical hardware products that attendees can touch and feel with their own hands. I think this helps us stand out amongst hundreds of healthcare giants.

It is nice to see so many hospital decision-makers and IT professionals stop by our booth and recognize us and our products. They are all work for large-scale hospitals and use the product differently, so it is nice to hear feedback on what we're doing well and the features they would like to see in the future.

It feels good because we are doing something impactful: protecting patients' personal information and internal hospital information. It also boosts our employees' morale and is a reminder that they are doing something important and worthwhile.

CEOCFO: What have you learned over the years, both from your experience and as you have been selling more and more to the government, about how to navigate some of the challenges?

Mr. Kaner: From a security perspective, we have learned how to communicate the importance of security procedures, protocols, and implementation. Relationship upkeep is a lot easier when you can relay security principals and communicate in simple language what your products do. Also, I've learned, especially in terms of the government, that it is always wiser to be upfront and transparent.

We have multiple contracts every year with the government. Most of the contacts are carried out through the GSA and SEWP. These two organizations require an open-door policy of sorts.

CEOCFO: Do you need to have much inventory on hand? Are there any supply chain issues at the moment?

Mr. Kaner: We have quite a large inventory of components on hand to shield us from the effects of supply chain issues. Because order size and configuration changes from customer to customer it makes sense for us to have a large inventory of key parts and build our machines as orders come in. Of course, we always have base models on standby ready to ship out at moment's notice when upgrades and custom configurations are not necessary.

It typically takes us three to six business days to build, test, and ship our products for orders ranging from one to fifteen units.

CEOCFO: There are so many products, services, and ideas to look at. Why is Ciphertex important?

Mr. Kaner: Today, it is no secret, that the most precious commodity is no longer oil; it is data. Almost every company has data and must routinely transfer it from one place to another. Even the cloud-based solution involves migrating data from place to place. Ciphertex products are the most rugged, safest mode of large-scale data transport available anywhere.

Our largest portable system has a capacity of around 740 terabytes in one unit. That is a lot of data! However, the more data you have, the more data you can lose, so it needs to always remain protected and secure. We offer that protection and security.

