

USHERING IN THE ERA OF INTELLIGENT DATA

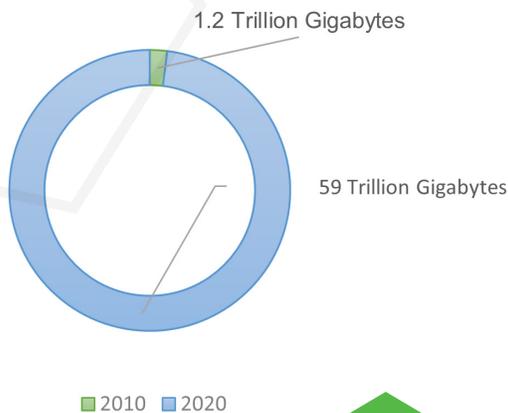
THE MOST VALUABLE ASSET ACROSS ALL TECHNOLOGIES AND INDUSTRIES IS DATA ITSELF.

Most of today’s technology sets have failed to fully prevent data loss. The solution is to infuse protection into each piece of data to protect itself, anywhere, always, throughout its lifecycle. Data creation and exchange has profoundly changed the landscape of how each of us live, work and play. Data exchanges happen non-stop across the globe each day. Whether that data is being created by its owner or being shared and accessed by others, we have reached a critical juncture in the need to secure that data and protect the rights and privacy of its owners. To that end, we at Keyavi Data have developed and launched our innovative technology that *makes data self-protecting, intelligent and self-aware.*

Understandably, many will be skeptical of these bold statements. *For most, having their data secured and truly protected at all times has been an unattainable goal.* But Keyavi’s technology gives data owners complete control over their data’s security – even after it leaves their possession. In this overview, we explain the long over-due need for our technology, how we designed it and how it works.

From 2010 to 2020, the amount of data created, captured, copied, and consumed in the world increased from 1.2 trillion gigabytes to 59 trillion gigabytes, an almost 5,000% growth.
- Forbes

Data created, captured, copied, and consumed



THE DIRTY LITTLE SECRET IN CYBERSECURITY

Until Keyavi, cybersecurity experts have had to rely on technologies that focus on data loss prevention and breach detection. With their current toolsets, they have been fighting a losing battle: data – operating in the real world – is designed to flow and be shared as people and organizations are constantly collaborating for business and personal transactions. What has been missing is the ability to **keep data absolutely protected** from the time it is created, through its entire lifecycle by all intended recipients, and throughout its entire lifecycle.

THE POWER OF INFUSED MICROPOLICIES

Simply treating the symptoms of data loss is wasted effort. Rather, the protection for data must be infused into the data itself. Keyavi's technology provides many new advances for data protection in the real world:

Infuse protection into the data itself. This is Keyavi's key differentiator that changes the fundamentals of data security. The owner can control access to the data by anyone, at anytime, anywhere it goes.

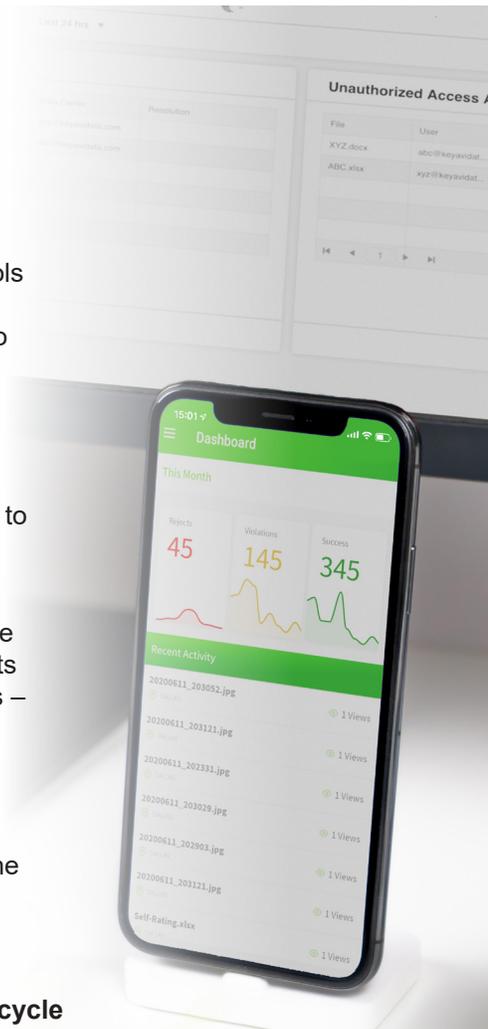
Install true intelligence and interactive decision-making into data itself. Static controls and rigid containment solutions have not worked because data, systems, devices, cloud, and the internet are all too dynamic to be completely predictable. Data needs the ability to assess its security on the fly, at all times, under any conditions, on demand.

Protect anywhere, anytime with agnostic control. Self-protecting data needs to work anywhere it goes, no matter the destination, platform, device, application, operating system, cloud service or data center. It must be universally deployable and interoperable to provide real-world protection across today's diverse environments.

Enable the data to remove itself from a given situation at its owner's command. The owner needs the ability to revoke access wherever it resides. If the owner no longer wants the data accessible, the data must have the ability to revoke or remove itself from access – long after it leaves its owner's possession.

Allow the data owner to maintain control throughout its entire lifecycle. Data must follow its owner's commands, policies, and operational rules to remain safe even when the owner later changes permissions.

Provide forensic capabilities in its logging and control, recording the complete lifecycle of its experience. This logging must be from creation through usage to storage to destruction. Data needs to be able to provide its own proof of possession, custody and control. It needs to provide this information back to its owner for every copy or instance from anywhere.



MAKING THE IMPOSSIBLE POSSIBLE

Simplified, Keyavi has developed a proprietary multi-level “wrapper” system using patented multi-key encryption technology. The self-protecting data technology’s multiple encryption tiers achieve the following:

Cybersecurity has been based on one insurmountable, age-old premise – that data cannot protect itself. Now it can.



Protect and encrypt data content, either individual files or groups of files.



Create and apply policy and rulesets embedded into the “wrapper” of the data with more encryption – encompassing both the data and its encryption keys.



Define and deploy the policy sets, making the data accessible only under the right conditions of geo-location, identity of recipients, specified devices/services/platforms, time embargos, digital rights management, and more.

OUR PLATFORM: HOW WE MADE IT SECURE

Our wrapper technology is based on our patented multi-key system which is designed so that no single key can allow access to the data. The layered key access model provides a systematic approach for data to evaluate its safety and situation:

The data can geo-sense and geo-fence.

When data are outside approved locations, they can self-protect or stay encrypted, and report back to the data owner.

The data assess and approve their location,

and will confirm if rights have been revoked or changed, using industry-standard encryption controls.

The data will unlock only if the recipient is still allowed access

by unlocking its policy models and intelligently processing its policy rulesets.

Finally, only when all other checkpoints are passed,

will it then use another content key to allow access to the data.

If data are offline, a “default safe and closed” policy can be applied. Through conditional allowances, like geolocation and time parameters, Keyavi-secured data can be accessible offline.

Keyavi wraps and infuses the data with multiple independent encryption layers, so no single layer can be compromised without triggering protection mechanisms in the surrounding layers. The data can only be accessed when all of the owner’s permission parameters are satisfied, which can be tailored to each owner’s policy settings. A data owner can allow or prevent access by geolocation, such as company site and home office or at a street, state or country level. An owner can choose to change access permissions or revoke access completely from any or all recipients at any time – for the life of the data, wherever it is stored – by simply changing permissions from their device. With the Keyavi API for enterprise customers and OEM partners, developers can build comprehensive data protection into their applications, products, firmware and services. The lightweight API allows developers to integrate data protection into existing applications and data workflow within the client, server, gateway or cloud.

FUTUREPROOFED AND BUILT ON COMMON STANDARDS

Our architecture is specifically designed to be futureproofed in operations. Inevitably, encryption controls will be upgraded, and new methods like blockchain and quantum encryption will take hold. Our technology is designed to use the CryptoAPI and controls on the device, platform, or OS that the data arrives on. We designed a “dual-stack” encryption model where the data can interchangeably use PKI and/or blockchain to encrypt, decrypt and operate on all layers.

WHAT DOES KEYAVI’S CAPABILITIES MEAN FOR EXISTING TECHNOLOGIES?

Self-protecting data is a game-changer in the world of cybersecurity and technology. Keyavi works seamlessly to complement other cybersecurity solutions, eliminate redundancy and inefficiencies within your tech stack, and dramatically enhance capabilities with all new data protection controls. This paradigm shift creates the foundation of a wholly new technology ecosystem.

Obviously, security breaches will continue so long as attackers are successful in accessing valuable data. But when Keyavi is infused into your data, regardless of other protections in place, your data will alert itself when access is attempted, and it will protect itself. Even if a file gets into the wrong hands, Keyavi’s protection will prevent that valuable data from being exposed or extorted – making data breaches irrelevant. By making data self-aware, intelligent and self-protecting, Keyavi is changing the fundamentals of data security.



[Click here to learn more about self-protecting, intelligent and self-aware data security technology.](#)

ABOUT KEYAVI

Headquartered in Durango, CO, Keyavi's multi-award-winning self-protecting, intelligent and self-aware cybersecurity technology enables an individual piece of data to think for itself, secure itself, refuse access to unauthorized users, stay continually aware of its surroundings and automatically report back to its owner. The company's API platform and a full suite of applications riding on that platform also provide data owners with powerful controls to allow, revoke or deny access to their information – no matter who has it, where it's stored, or how many copies exist. Under development for years before launching in 2020, this multi-patented technology is so unique and innovative that leading industry analyst firm Omdia designated "self-protecting data solutions" as a new cybersecurity industry category, with Keyavi as the clear leader. Keyavi's easy-to-use yet robust solution delivers the ultimate in peace of mind for public and private organizations, their remote workforces and partner ecosystems in solving the security challenges of controlling confidential and intellectual property from data leaks, breaches and ransomware.

TO LEARN MORE ABOUT KEYAVI AND ITS BREAKTHROUGH TECHNOLOGY, VISIT [HTTPS://KEYAVI.COM/OUR-TECHNOLOGY/](https://keyavi.com/our-technology/).

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