

# Cyber-Protected Smart Cities

## New Cyber-protections available for IT systems and data



### Defending Our National IT Infrastructure

- |                                    |  |
|------------------------------------|--|
| • Banks & Financial Infrastructure | • Hospitals & Medical Systems                          |
| • First Responder Systems          | • Logistics & Supply Chains                            |
| • Communications Systems           | • Command and Control Systems                          |
| • Utilities and Power Grid         | • FINRA, SOX, SEC, HIPAA Electronic Records Compliance |
| • Industrial Control Systems       | • Contracts & Acquisition Systems                      |
| • Personnel Records                | • Training Reference Material                          |
| • Mobile Cloud –based Systems      | • Sensors and Intelligence Collections                 |
| • Disaster Recovery Gold Images    | • Systems & Data Survive Cyber-attacks                 |

**CYBERdisks™ and WORMdisks™ - Keeping Systems Operational**

**Data Protection for Cities, State and Local Governments** are required in our current state of cyber-attacks on our infrastructure. We depend on our emails, phones, banks and ATMs, gas stations, supermarkets, transportation, emergency response, internet and infrastructure to be operational. Today's terror attacks and cyber-attacks can hit anyone and at any time. The threats are real, and are constantly happening today.

Cities are particular targets because of the high-density of people that would be impacted by a cyber-attack. Municipalities are vulnerable because of the dependencies on IT and support systems that could be impacted by data or system sabotage.

### CYBERdisks™ and WORMdisks™ protect systems and data from damage

A new cyber-protection technology is now available that simply plugs into your existing systems. Your systems and data are protected from viruses, intentional sabotage, data manipulation, data deletion, re-formatting, Ransomware, firmware attacks and other viruses. When natural disasters strike, or cyber-terrorists attack, cyber-protection is here.

CYBERdisk™ and WORMdisk™ technologies provide permanent or temporary protection at the push of a button. They are plug-and-play, use standard interfaces, support standard file systems and file formats, and are used as the D: drive, an external USB, or network shared, just like any other disk. Capacities range from 500GB up to multiple Petabytes.

### Protect your City, State and Local systems and data

Modern cities employ a variety of services that require reliable networks, systems and data. Common city service applications that benefit from safe, secure data and system protection may include:

**Street Cameras for video surveillance** – WORMdisks™ provide secure immediate chain-of-custody, periodic and permanent legal holds and retentions, video analytics, content management, actionable intelligence.

**Police-worn body cameras** – All video and audio require permanent storage of these events. It is imperative that recordings cannot be deleted or modified by police officers or others.

**Crowd-sourced video** – Consider the Boston bombing scenario where everyone was taking video of the event and the unexpected happened. The FBI confiscated cellphones for several days to get chain-of-custody of the evidence. But now simply drag-and-drop the video to the WORMcloud™ for chain-of-custody and immediately return their cellphones.

**Permanent records protection** - Court documents, judicial system legal, law enforcement all require data protection from sabotage, manipulation or deletion and need to be safely retained for a period of time.

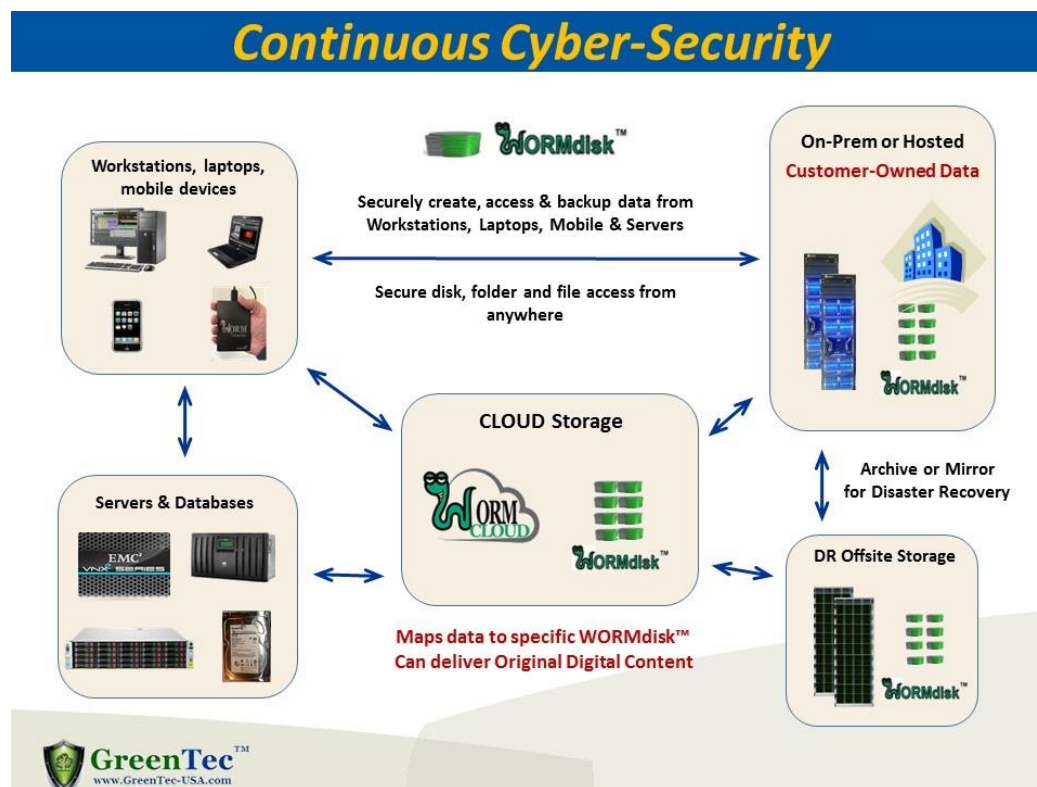
**System and data reliability** – Police, fire departments, hospitals, utilities, financial systems, traffic management, energy management, control systems, city management support systems must be readily available, especially when tragedies strike. Data and endpoint protection, at the core, within the disk drive itself.

**Critical Data secure backups and archives** – Periodically data and systems need to be backed up and archives need to be stored in a trusted, easy to use capability. These processes may be automated to ensure they are done on a timely basis and data is stored redundantly either locally, remotely, or in the cloud.

**Monetize old legacy data** – Take control of historical data and content. Tax records, land records, legal records, and business records all need to be permanently protected. Many are stored on old media like microfilm, microfiche, paper, CDs, DVDs, floppy disks and tapes. Old mechanical devices will fail and become obsolete. WORMdisk™ conversions allow you to utilize, obtain value and exploit legacy data to immediately benefit city operations and services.

**Disaster Recovery** – Cyber-harden mission critical IT systems require recovery from trusted Gold Image system and data images from a known baseline. In times of catastrophic attacks, public cloud providers, or communications may be down. You need a local trusted image that is ready to be brought online for your applications.

**Private and hybrid Cloud solutions** - Simple, safe, secure private on-prem or hosted cloud solutions allow you to control and own your data. Original digital content and digital evidence are mapped to specific WORMdisks™ for strong legal defense. Hybrid cloud solutions combine your Private Cloud with AWS, Azure or others.



# Protect data at the core with hardware-level security

Prevents a hacker from sabotaging, injecting viruses, modifying or deleting your data

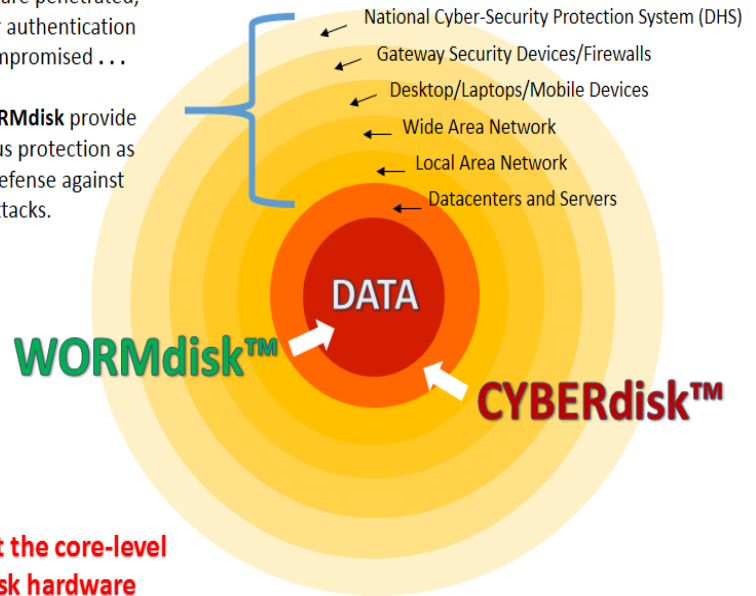
## CYBERdisk™ and WORMdisk™

Technologies provide a unique approach to strengthen your cyber-posture for national defense and industry with continuous hardware-level protection against dangerous cyber-attacks on computer systems and data storage systems. These new technologies provide you with Survivable Data and Survivable Systems to ensure continued operational capability.

When network firewalls have been breached, viruses attack, or disgruntled employees or human errors attempt to sabotage, manipulate, modify, delete or reformat data, the secure **CYBERdisk™ and WORMdisk™ Storage Solutions™** provide your last line of defense.

When perimeters are penetrated, access controls or authentication methods are compromised . . .

**CYBERdisk & WORMdisk** provide vigilant continuous protection as the last line of defense against cyber-attacks.



Easy to use like a typical disk drive, they incorporate into existing environments, support native file formats and use standard interfaces while preventing data modification or data deletion – at the individual disk hardware level. Protection travels with the disk wherever it goes, regardless of which computer system it is attached to, or what permissions the user has. **CYBERdisk™ and WORMdisk™ Storage Solutions** provide a strong cyber-defense by protecting both the sensitive OS boot disk and your data files from damage or deletion. Cyber-attacks cannot modify data files, Master Boot Records (MBRs), disk partition information or firmware, thereby protecting valuable data from deletion, modification, re-formatting, re-flashing or eavesdropping and protecting your systems from viruses like Ransomware, the Equation Group virus and other malware that would otherwise wipe out your data and your disks.

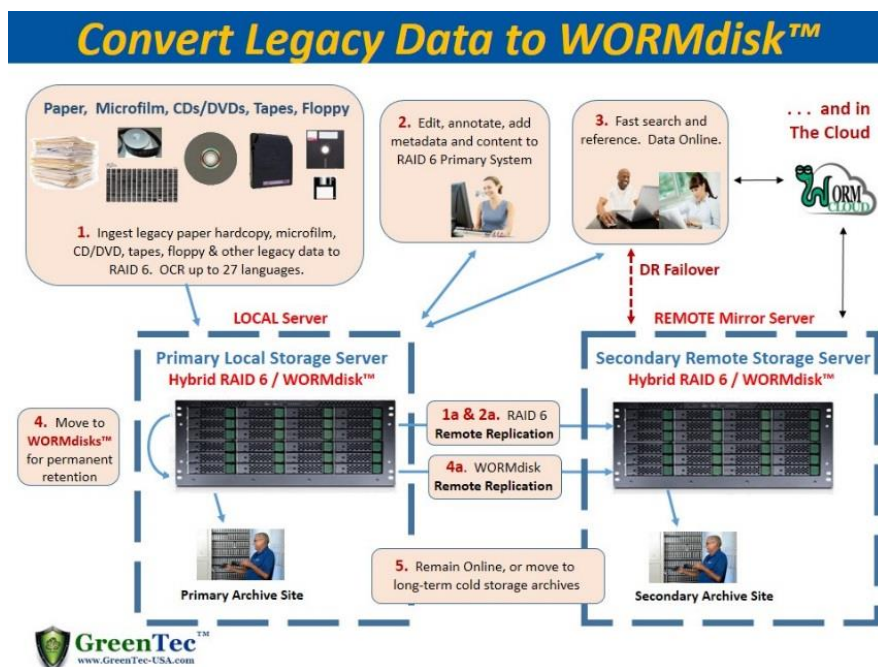
Initially developed for the U.S. DOJ with thousands delivered but it is now available to protect data for any application that stores data to disk drives. Software applications easily interface with these technologies, including applications for video surveillance, digital evidence chain of custody, financial transactions, medical records, legal records, firewall & system audit logs, CAPSTONE retention, SEC, SOX, Dodd-Frank, HIPAA, NRC, DoD 5015.2, PII and other data compliance requirements.

Available as internal, external USB/eSATA or rack mount solutions from 500GB up to Petabytes.

## Get value from Legacy Data by converting to online and searchable data

### Monetize and Exploit Legacy Data:

- Copy legacy data from CD, DVD, tape, floppy, paper, microfilm & microfiche.
- Online and protected - Tax records, Land records, Legal documents, and other legacy data. Fast search, add metadata.
- Local, Remote or Cloud multiple redundancy. Disaster failover.
- Monetize and exploit legacy content.
- Over 1,275 CDs & DVDs may be stored on one 6TB WORMdisk™.
- Easy to implement, access from anywhere, scalable from 4TB up to Petabytes.



### Solves issues with Legacy Media:

Easy to use, easy to search. Eliminates cumbersome and hard to use paper files that are susceptible to fire, and are degrading.

- Convert old deteriorating microfilm, microfiche and celluloid movies. Old readers will not be around forever.
- Eliminates need for difficult to find tape & floppy disks mechanical readers with high failure rates.
- It is impossible to search 8,000 old CDs or DVDs. But converting to WORMdisks™ make searches instantaneous.
- You need to maintain the security and "WORM" protection that paper, CD, DVD, Microfilm and Microfiche provided. WORMdisks™ provide that legacy data cyber-protection, so original content cannot be lost.
- WORMdisks™ prevent accidental or deliberate sabotage, manipulation, deletion and stop cyber-attacks like Ransomware and viruses.
- Up to 100 year shelf life when stored in environmentally conditioned facility and spun up twice per year to exercise the disk. Automated processes to spin up and perform integrity checks.
- Easy to use management GUI generates audit logs, monitors disk activity and capacity, tracks disks as they are inserted and removed, generates alerts and notifications, provides remote management capability.