



# Quantum Safe Data Sovereignty



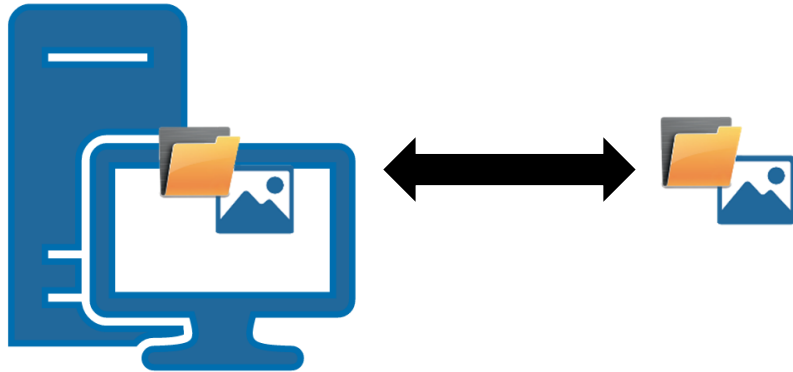
fragmentiX empowers  
every person, every company, every state  
in effectively protecting their digital  
knowledge and data assets against  
asymmetric hybrid warfare, data theft and  
industrial espionage.

**Werner Strasser**  
Founder & CEO, fragmentiX

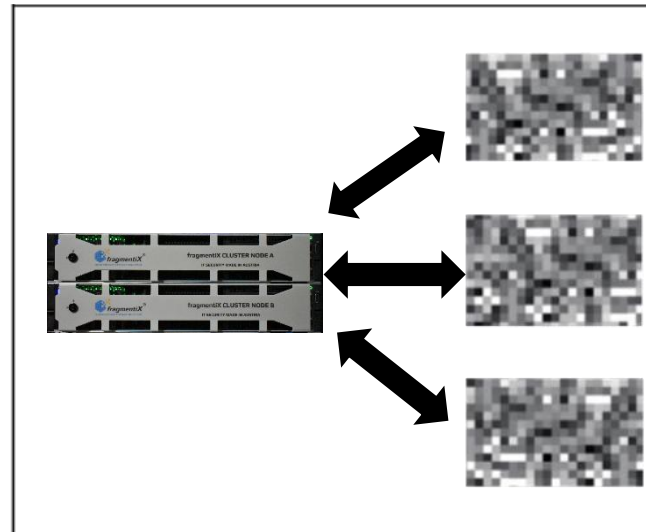
# fragmentiX Technology in a Nutshell

## LAN / user side:

fragmentiX desktop client software or WebDAV-provided network drives under Windows, MacOS and Linux or acts as an S3 proxy for applications using S3 directly



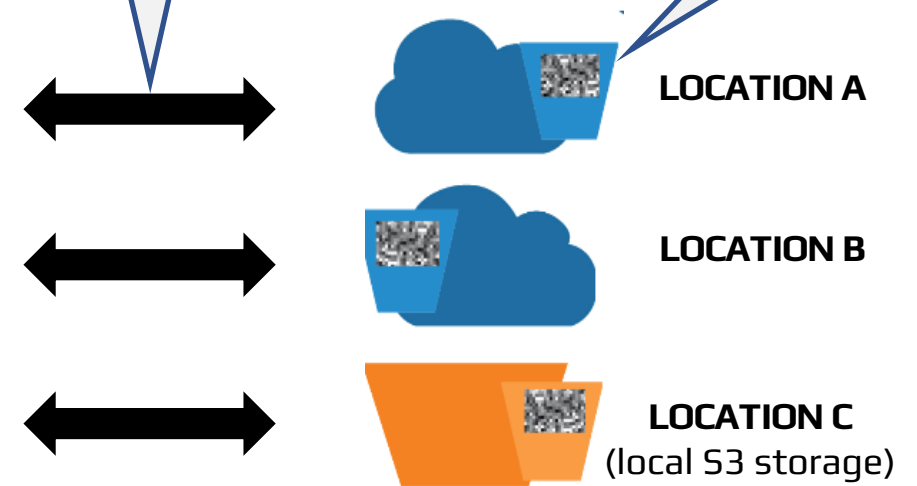
## fragmentiX Secret Sharing Appliance



data on  
transit

WAN side  
read and write  
to/from S3 storages

data at  
rest



Files are saved on a  
fragmentiX network drive or  
on a virtual S3 storage

The fragmentiX appliance  
uses Secret Sharing  
algorithms to split the  
data into fragments

Each fragment is assigned  
to a separate physical  
storage location in a  
hybrid/multi cloud

# Quantum Safe Sovereignty – ITS !

## LOCATIONs



Each fragment is stored in its own public cloud or local S3/Azure/NFS/USB storage location.

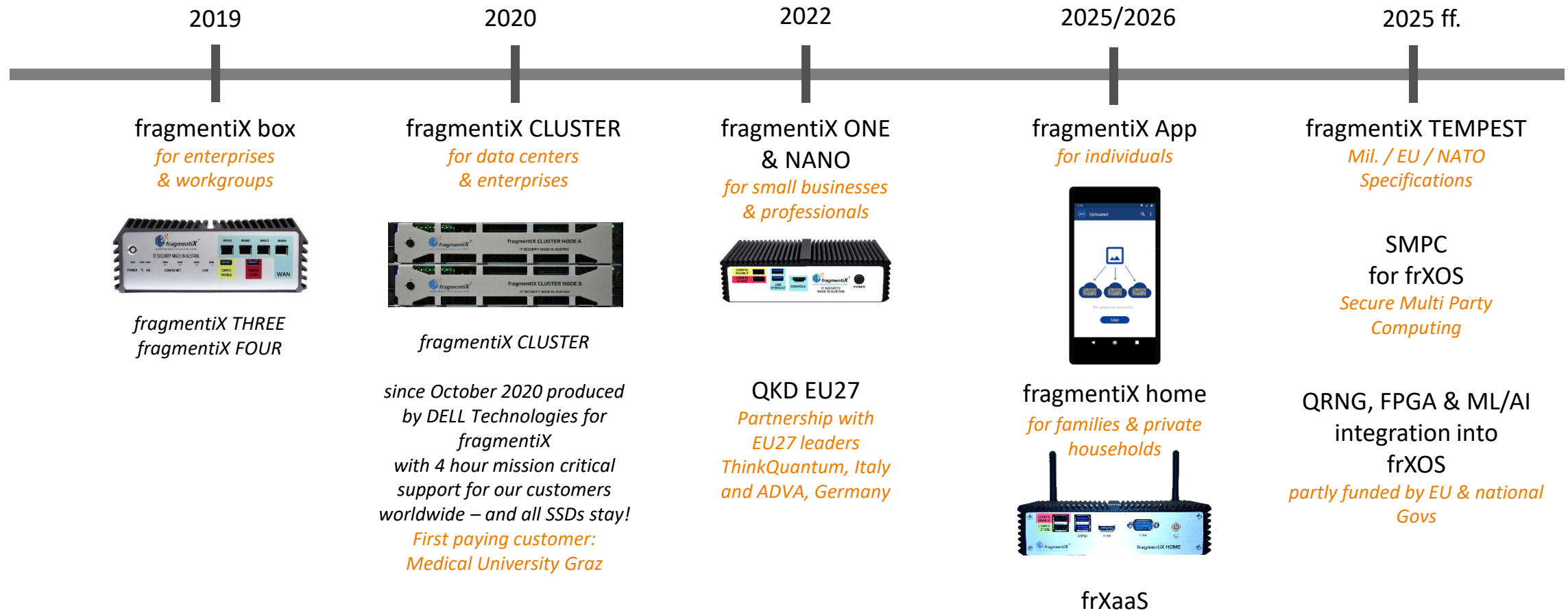
Only the owner of the frX appliance knows where all the LOCATIONs are.

Should 1 fragment be stolen/hacked: it is absolutely useless to the data thief/spy as fragmentiX Secret Sharing enables you to store data with ITS:

**ITS – Information-Theoretical Security**

**Not even unlimited future quantum computing power has a chance to break it!**

# fragmentiX Products Overview





# fragmentiX ONE/CLUSTER – High level protection



- The **secret sharing algorithm** and the optional **symmetric encryption on dedicated hardware appliances** and the use of “**cryptosticks**” ensure even better security of data and business secrets.
- **Only the owner/administrator** of the fragmentiX Box can split and store on defined storage LOCATIONS in any desired combination.
- fragmentiX appliances have a **hardened operating system** and can only communicate via predefined interfaces and protocols, which significantly reduces the attack vectors compared to a software solution.
- Updates must be installed by the administrator because the **fragmentiX appliance does not receive automatic updates** via the Internet to reduce the risk of manipulated software.
- Furthermore, all fragmentiX appliances are “**stateless**”, which means that no user data worthy of protection is stored on the hard disk

# fragmentiX – Future proof investment



- Multiple low-cost S3 storage providers - even with low service levels - combined with fragmentiX offer a **higher level of security and resilience** compared to expensive high-end storage providers.
- **Prevent dependency** on a single cloud storage provider by using hybrid public/private cloud storage.
- fragmentiX appliances are **hardware based on DELL systems**, which are readily available and provide Mission Critical Support worldwide.
- fragmentiX appliances can be **easily replaced in case of loss/defect**.
- Any combination with a quantum key distribution (QKD) infrastructure and post-quantum encryption (PQC) is possible.

# Strategic cooperations – DELL OEM Hardware



fragmentiX CLUSTERs are built by DELL under a global OEM partnership to frX specs within the EU (Poland). This provides for 5 years of worldwide mission critical support on customers' premises:

- Every frX CLUSTER customer is under a four (4) hours around the globe hardware repair / replacement response time.
- Sensitive CLUSTER parts, like SSDs, always stay at the customer premises.
- All security-related components and the frXOS operating system are installed by frX, DELL has no access to any IP held by frX.





- As a trusted partner of Germany-based secunet, fragmentiX provides customers:
- EGovernment-grade network encryption and ultra-secure clients
  - More than 250,000 installations in 25 countries worldwide
  - Approved by German BSI, EU and NATO for classified communication up to SECRET
  - Designed for complex national and international infrastructures
  - Central security and network management



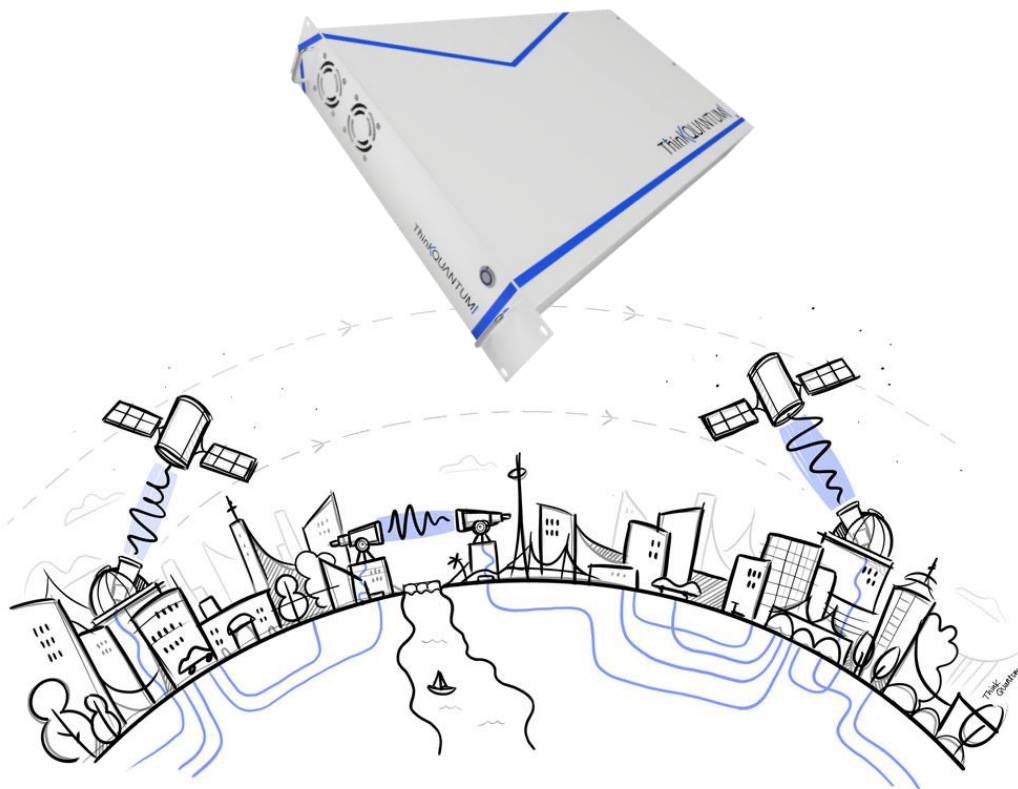
**Distributed Symmetric Key Establishment  
(DSKE)**

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As a partner of Toronto-based Quantum Bridge, fragmentiX provides customers:

- A comprehensive, integrated approach to DSKE key distribution together with fragmentiX Secret Sharing Quantum-Safe Sovereignty
- No distance limitations, because it is delivered over the internet
- No single Security Hub knows the key

## ThinkQUANTUM



As a partner of ThinkQUANTUM, fragmentiX provides customers:

- Quantum key distribution (QKD)
- Quantum random number generators (QRNG)
- Satellite QKD equipment.

This infrastructure relies on **controlled European supply chain** from Italy. The QKD equipment can be deployed using optical fibers, free-space links, as well as satellite links.

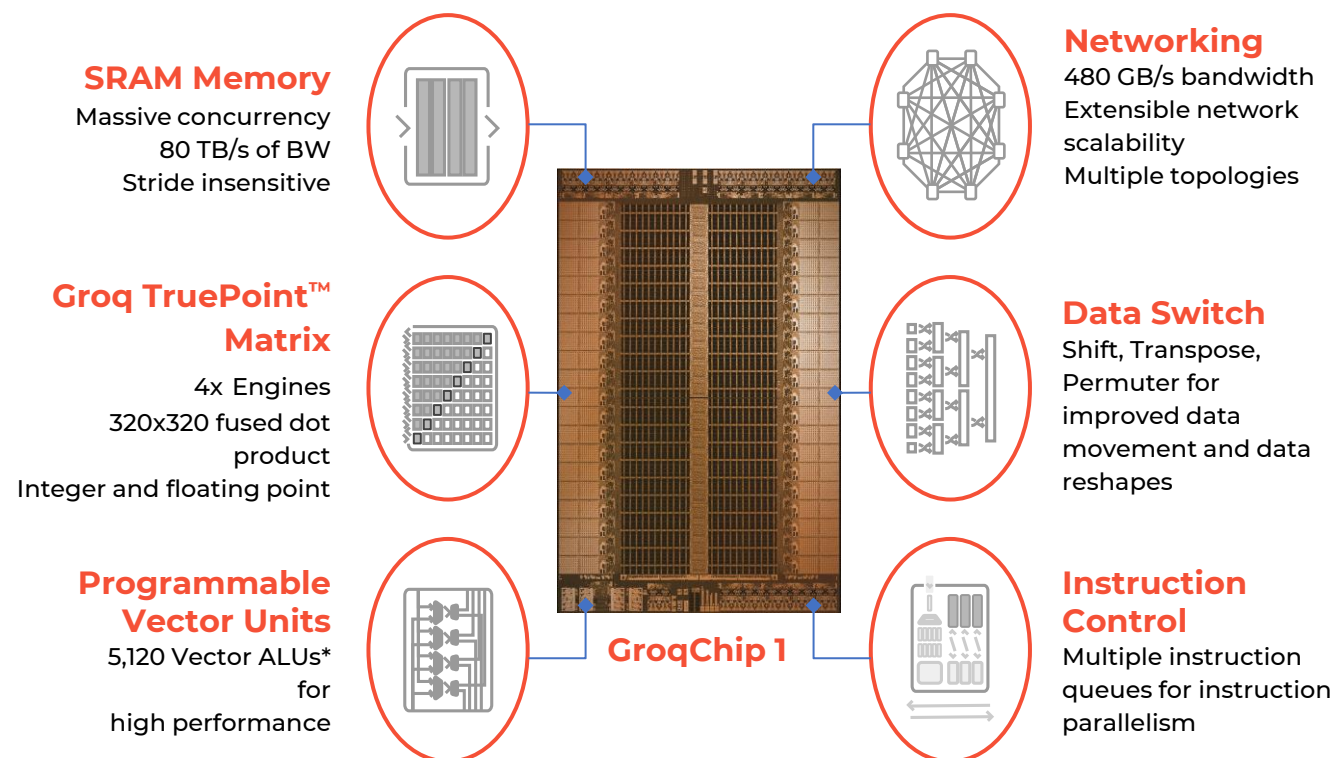
# Strategic cooperations – AI and QC Simulation



**MAXELER**<sup>™</sup>  
a groq company

- frX is a global Maxeler and groq technology and sales partner
- groq is the fastest AI inference architecture on the planet today, faster than industry std GPUs, and uses less energy

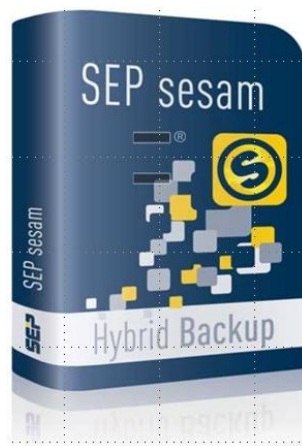
## GroqChip<sup>™</sup> Scalable Architecture





As a worldwide partner of Germany-based SEP, fragmentiX provides customers:

- An enterprise approach to fully automated backups & recovery on all platforms
- SEP sesam is fully compatible and certified with all frX Quantum Safe Sovereignty Technology Appliances
- sesam's servers can run on Windows & Linux
- frX customers interested in SEP sesam, qualify for special deployment conditions

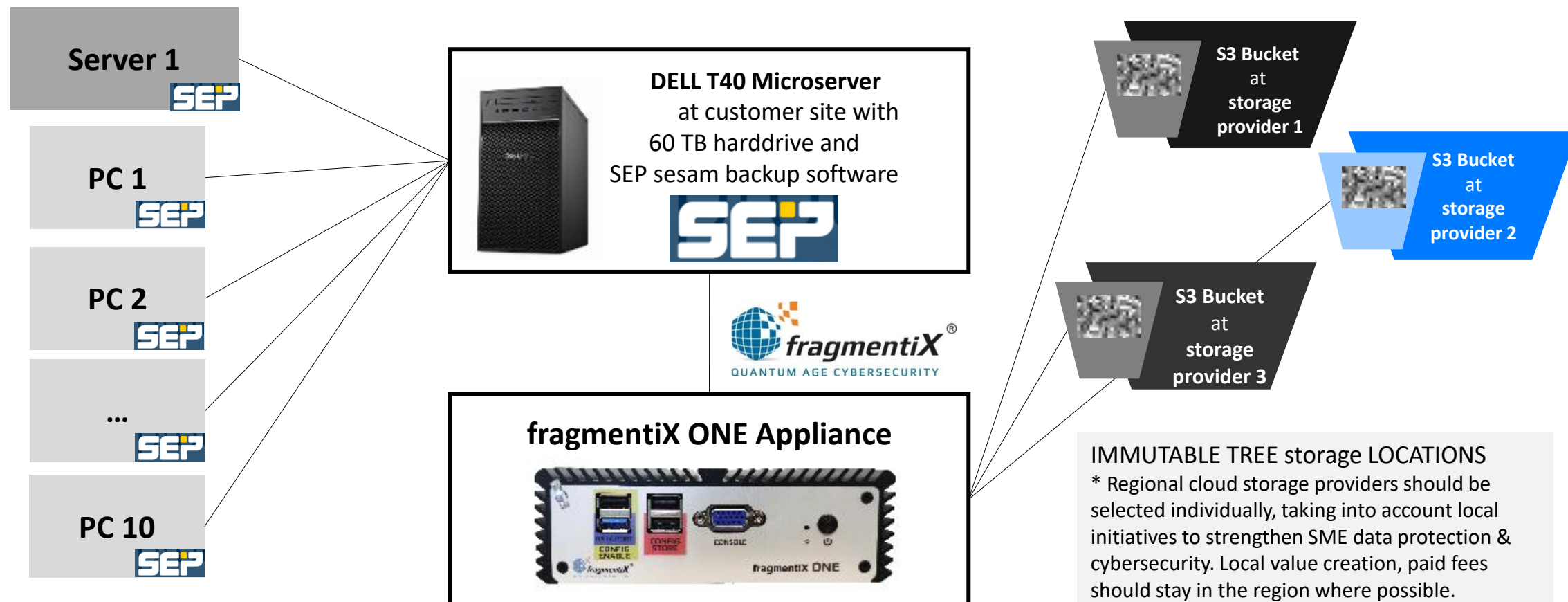


# Usecase- Regional SME Cyber-Security Support

Existing customer network

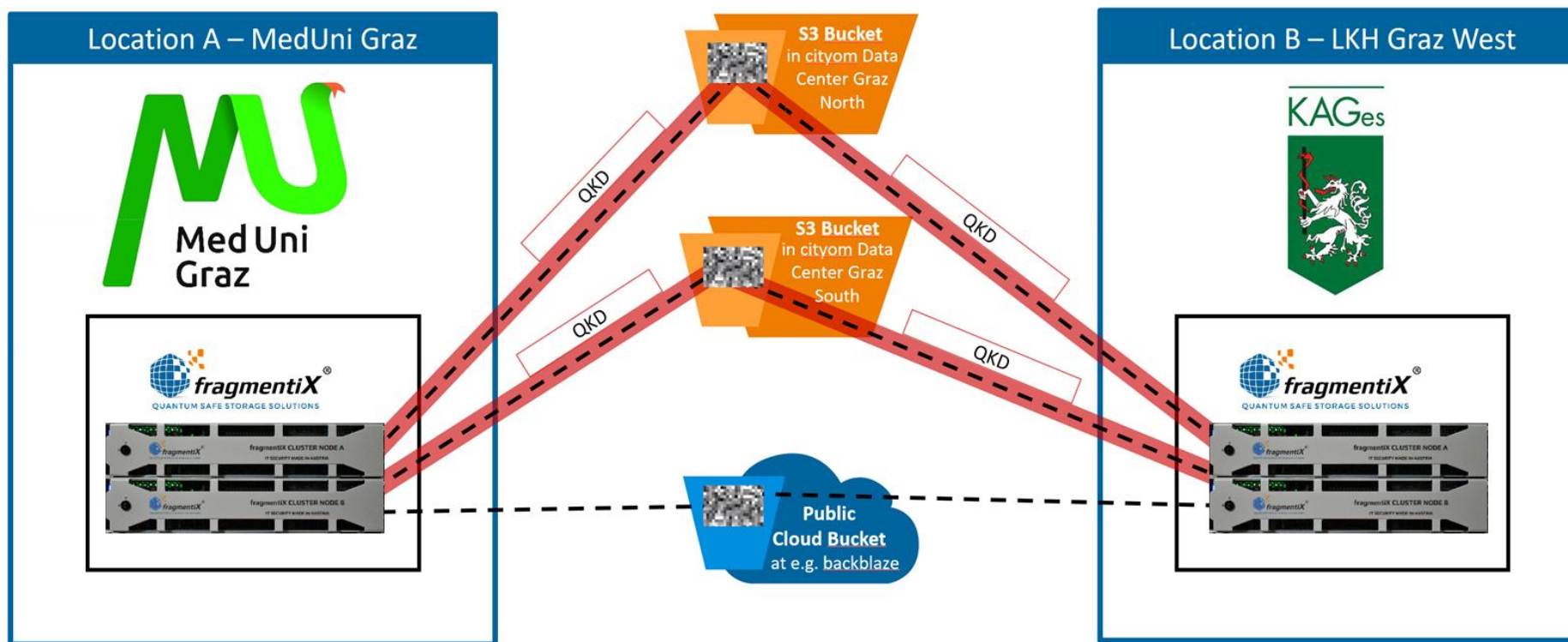
New hardware at the customer

Cloud infrastructure





# Usecase- Protecting the Most Sensitive Medical Data



# Selected fragmentiX Cutting-Edge Projects

## Government

 Bundeskanzleramt



Smart FOX

 Federal Ministry  
European and  
International Affairs  
Republic of Austria



## EU

OPEN  QKD



## Global



GEORGETOWN UNIVERSITY  
School of Medicine





- Austrian cybersecurity company since 2018
- Cutting-edge technology „first of its kind“ globally
- Developer and producer of appliances for quantum-safe data sovereignty based on secret sharing

**Digital Sovereignty is Our Vision, our Mission, our Passion**





# Headquarter & offices



## Head office

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# Quantum Safe Data Sovereignty