

Be Digital. Be Secure

Sicher in Public Clouds mit Securosys

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Securing Digital Services and Cloud Systems

”Business interactions are built on trust”

**In the digital world
Encryption & Digital Signatures
provide this trust**

Encryption and digital signature are only as good as the KEYS used:

- How were the KEYS generated?
- Where are the KEYS stored?
- Who can access the KEYS?



**Hardware Security Modules (HSM)
protect your Keys**

If I have your KEYS:

- I can sign for you – I can impersonate you
- I can spend your money
- I can read and modify your documents

Keep your Keys separate from Public Cloud Providers



Securosys 365 DKE for Microsoft 365
(DKE: Double Key Encryption
HSM: Hardware Security Module)

- / 16 Jul 2020: Court of Justice of the EU (CJEU):
 - “US cloud services are incapable of complying with the GDPR and EU privacy laws”
- / Oct 2020: BSI (German Ministry for Security and IT)
 - “Cloud administrators cannot have access to customer keys.” in guidelines for Cloud Providers
- / 12 Mar 2021: French Conseil d'Etat on data on AWS
 - “Encryption is a sufficient safeguard, especially regarding the “triangular scheme” implemented: the encryption key is held exclusively by a trusted third party.”
- / Swiss Federal and Cantonal Data Protection Officers:
 - “Behörden haben nach wie vor die vollständige Verantwortung für ihre Daten und dürfen betroffene Personen nicht schlechter stellen, als wenn das Amt die Daten selbst verarbeitet – etwa weil diese einem Land mit nicht angemessenem Datenschutz zufallen könnten.”

“der juristische Weg in die Cloud lässt sich nicht abkürzen”

User Interface – Apply MIP Labels

that's it
What users will click

The image shows three overlapping windows from Microsoft Office. The top window is Microsoft Word, showing the 'REVIEW' tab with the 'Protect' button highlighted by a red box. The middle window is Microsoft Outlook, showing an email composition window for 'Loan Application for Mia Parker'. The 'Sensitivity' dropdown menu is open, with 'Recipients Only' selected and highlighted by a red box. A tooltip for 'Recipients Only' is visible, stating: 'Recipients Only. Confidential data that requires protection and that can be viewed by the recipients only.' The bottom window is Microsoft Excel, showing the 'Sensitivity' dropdown menu open, with 'Recipients Only' selected and highlighted by a red box. A red circle with the text 'that's it' and 'What users will click' is positioned above the 'Protect' button in Word, with red arrows pointing to the 'Protect' button and the 'Recipients Only' option in Outlook and Excel.

2014/2025
Hello Mia
This is to confirm that your loan application has been approved.

Administrator GUIs – Add a Securosys DKE key URL

Provided for *Microsoft Information Protection*

The one *missing link* Microsoft cannot provide for DKE customers – by design.

Microsoft Information Protection is powerful, elaborated and complete.

Double Key Encryption adds tailor made privacy by checking a box and adding a URL

Enter the path of where to go for DKE key operations

The DKE Core

Microsoft 365 compliance

Edit sensitivity label

- Name & description
- Scope
- Files & emails**
- Encryption**
- Auto-labeling for files and emails
- Groups & sites
- Schematized data assets (preview)
- Finish

Encryption

Control who can access files and email messages that have this label applied. [Learn more about encryption settings](#)

Remove encryption if the file or email is encrypted

Configure encryption settings

i Turning on encryption impacts Office files (Word, PowerPoint, Excel) that have this label applied. Because the files will be encrypted for security reasons, performance will be slow when the files are opened or saved, and some SharePoint and OneDrive features will be limited or unavailable. [Learn more](#)

Assign permissions now or let users decide?

Assign permissions now

The encryption settings you choose will be automatically enforced when the label is applied to email and Office files.

User access to content expires **i**

Never

Allow offline access **i**

Never

Assign permissions to specific users and groups * **i**

[Assign permissions](#)

2 items

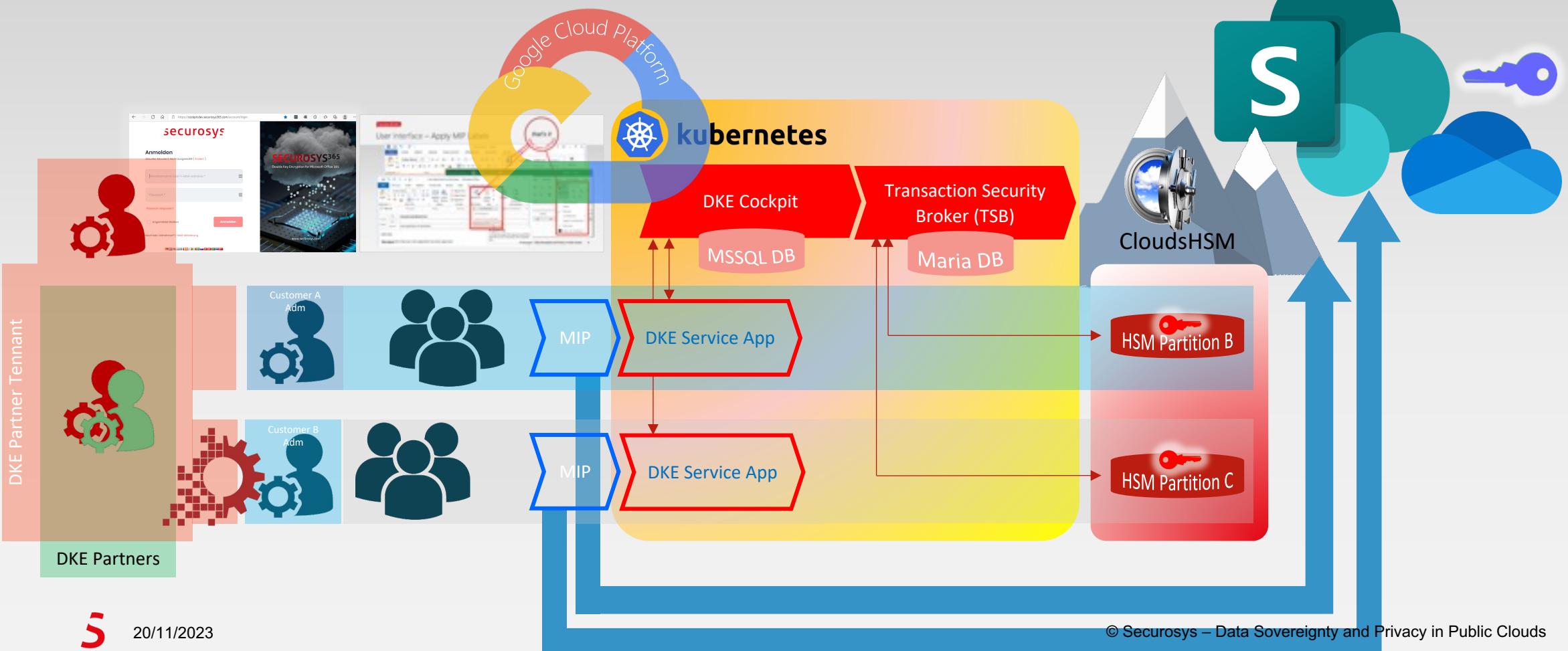
Users and groups	Permissions		
duokey.ch	Co-Author	Edit	Delete
securosys365.onmicrosoft.com	Co-Author	Edit	Delete

Use Double Key Encryption **i**

<https://d246e04b-abac-4b9c-aca9-35ec46c07c9c.securosys365.com/39347a5c-8cf1-4533-9efd-3cbdb5f08c8b>

[Back](#) [Next](#) [Cancel](#)

DKE Service Architecture



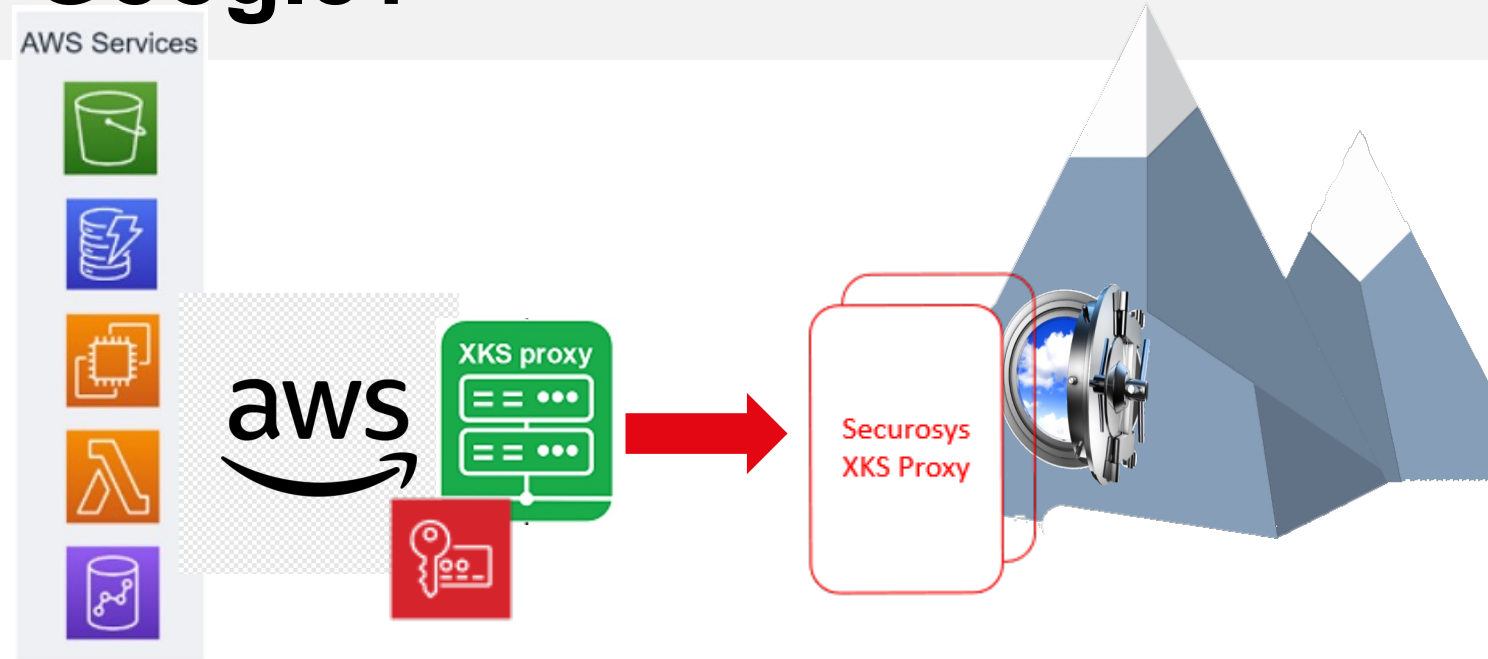
How about AWS and Google?

AWS – Amazon Web Services

- / AWS let's customers use an external keystore: XKS
 - Fully integrated with Securosys CloudsHSM

GCP – Google Cloud Platform

- / Google Docs: CSE – Client Side Encryption: Similar solution to Microsoft DKE
 - Will be integrated with Securosys CloudsHSM Q1'2024
- / Google Cloud: External Key Manager: EKM
 - Similar solution to AWS XKS
 - Securosys is looking for a GCP customer to engage for GCP-EKM



Challenges

Cloud Provider: Operations versus Compliance

- / The operations teams wants no external dependencies – having signature and encryption keys offsite is a problem for them
- / The compliance teams wants to offer solutions that conform to regulations such as GDPR

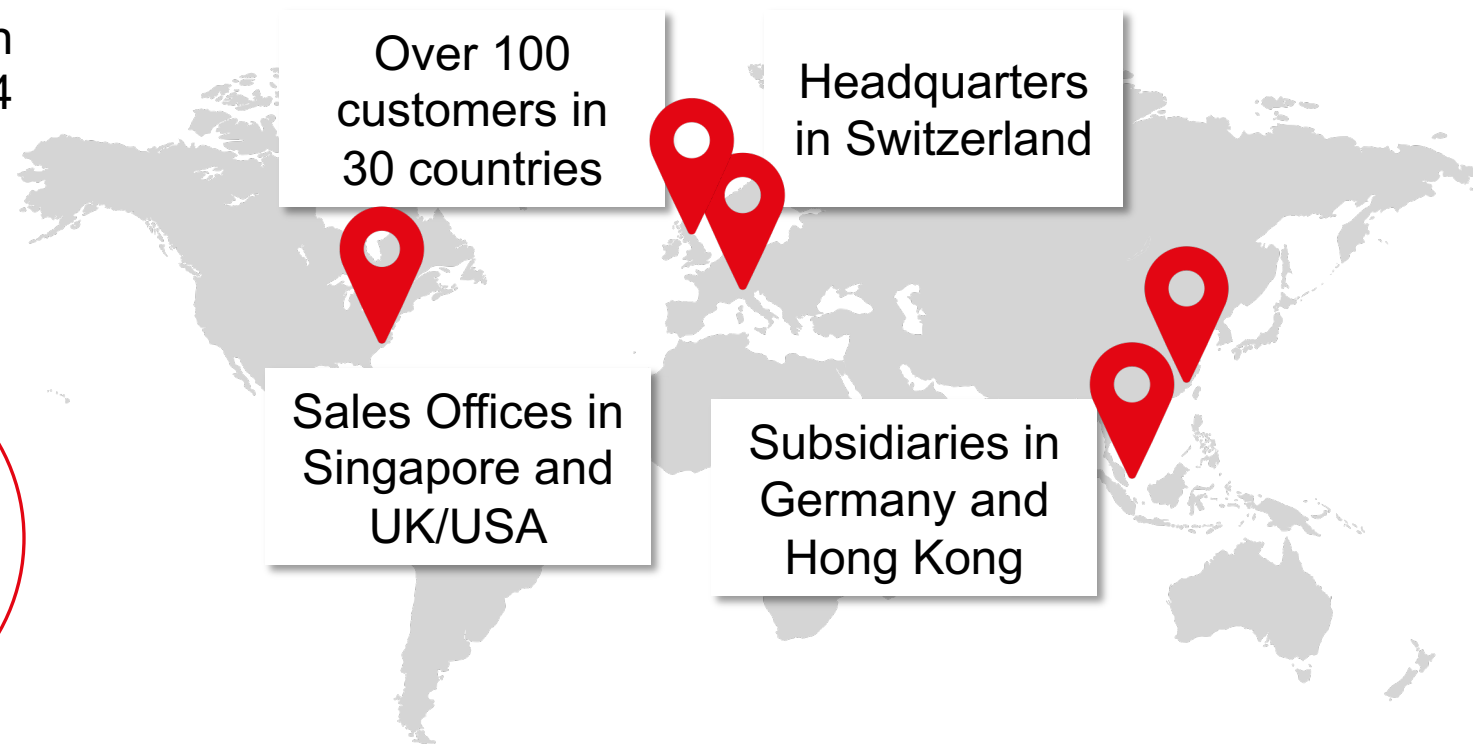
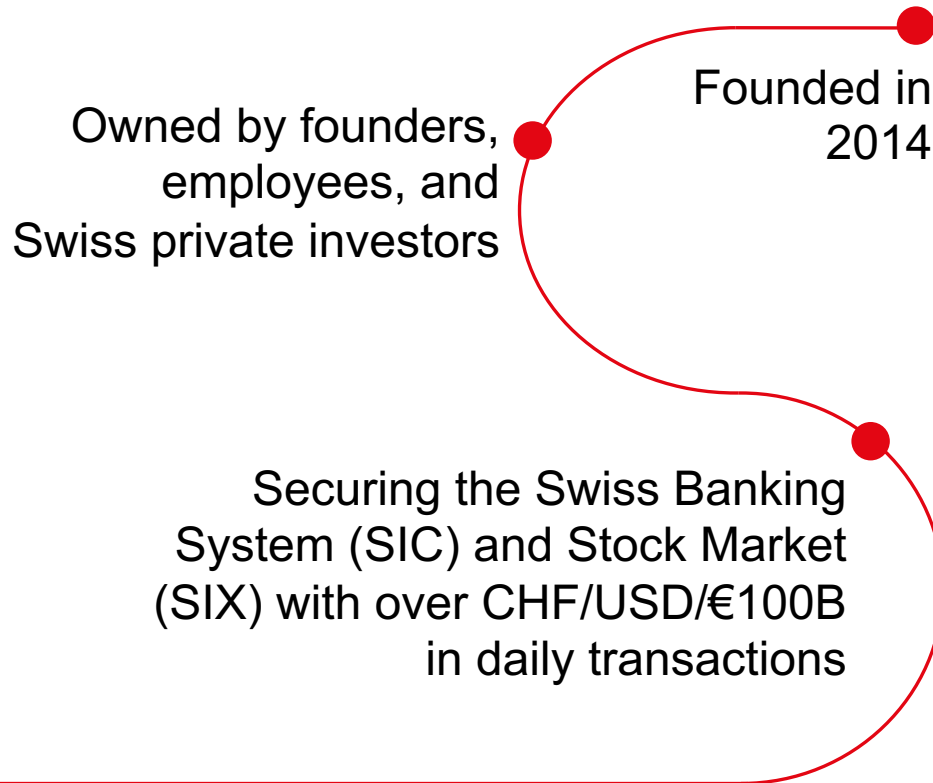
Customer: Additional Cost

- / An external keystore is not free
- / Microsoft requires a more expensive license for DKE (e5 instead of e3)

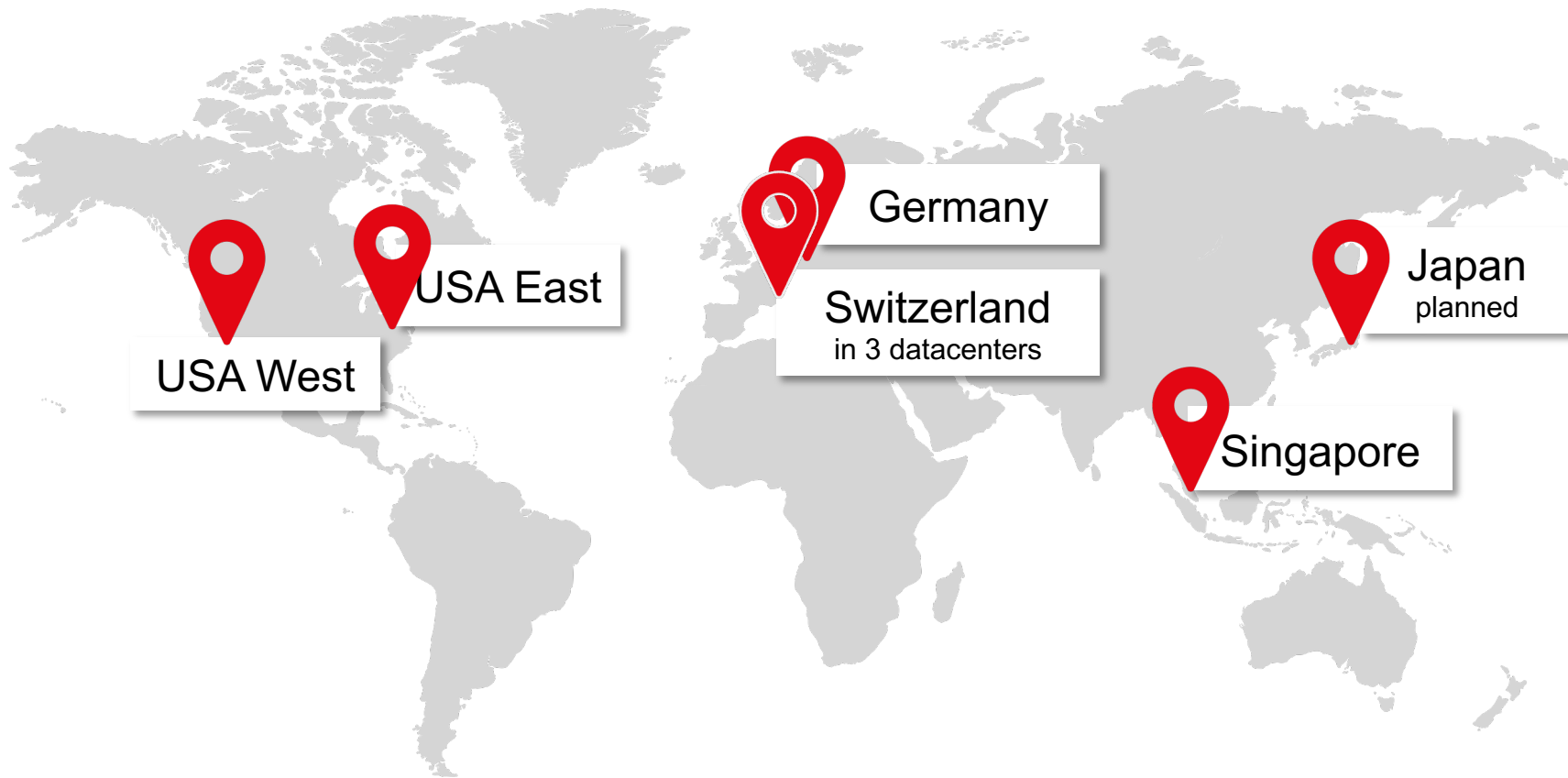
Customer: Acceptance, missing processes

- / Customers need to classify data
- / Each employee who interacts with data has to be trained on classification and respective processes

We secure data and communications.



HSM as a Service.



Trusted Provider
Separation of
duties



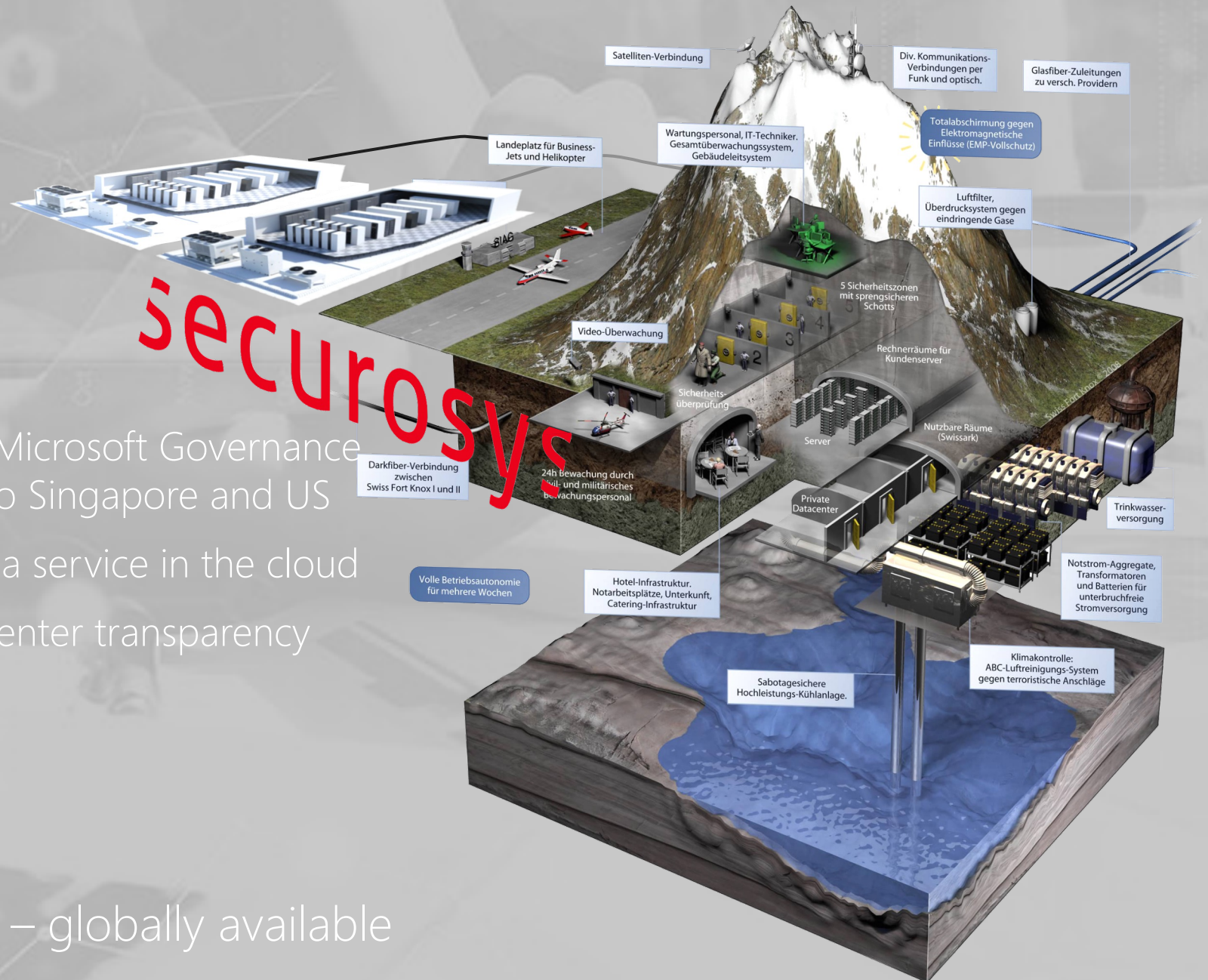
Certifications
ISO 27001, ISO 9001
FIPS 140-2 Level 3
Common Criteria EAL 4+



Redundant HSM
Clusters:
Local, Regional,
and Global

We Do Cloud

- Adding Securosys encryption to Microsoft Governance *Keys as a Service* – from DACH to Singapore and US
- Manage your encryption keys as a service in the cloud
- Highest level of security by datacenter transparency and built-in governance





We strive towards our vision.

A digital world where data is secured,
identities are protected and
privacy is guaranteed.

Call to action

**Be digital.
Be secure.**

securosys



Let's talk about cooperation.

Contact

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Different ...



Designed &
produced in
Switzerland



Quick setup,
simple
operation, and
management



Automated
clustering and
failover



Modern APIs
and interfaces
(REST)



Seamless
certifications



The digital world is changing constantly and leads to growing challenges for all businesses.

Protect your digital systems to safeguard your



Finances



Identities



Reputation



Securosys HSM protect your systems and applications.



Digital Signing



PKI



Fintech



Blockchain



Key
Management



Digital Identity



Microsoft DKE
BYOK



IoT



Double Key Encryption

- Two keys needed for *Microsoft 365* files
- No content accessible without applying both keys
- One key from *Microsoft* another one from *Securosys*
- Client processing: content always encrypted twice



Microsoft 365

Azure

 The safe deposit box made available by secure keys – in the right hands