

# Highest level of cloud security for your business

Tresorit's End-to-End Encryption Technology Offers a New Level of Security for Cloud-Based File Collaboration and Sharing



## End-to-end encryption

- Using end-to-end encryption, Tresorit encrypts every file and relevant metadata on your devices with unique, randomly generated encryption keys.
- These keys are never sent to our servers in unencrypted format. **The encryption is performed with a fresh, randomly generated 256-bit symmetric key** chosen by the client-side application. The encryption algorithm Tresorit applies is AES256 in CFB mode.



## Zero-knowledge authentication

- Unlike other services, Tresorit never transmits or stores files, encryption keys and user passwords in unencrypted or unhashed form.
- **Tresorit only stores password in a salted hash format**, which we can authenticate users with. Tresorit never has access to your password in unencrypted form, even if our servers were hacked, your account would be safe from harm.



## PKI for all devices

- Tresorit uses **Public Key Infrastructure (PKI)** to authenticate each Tresorit user and their devices, without storing any information about their passwords.



## Cryptographic key sharing

- Tresorit's patented protocol ensures keys are shared automatically, without revealing them to anyone who has access to either the network
- Public key cryptography guarantees that even Tresorit cannot access the shared keys. This **key sharing is based on RSA-4096 with OAEP padding scheme used in group mode**, and PKI certificates, combining it with a tree of symmetric keys.



## Client-side integrity protection

- Tresorit applies a Message Authentication Code (MAC) to each file, guaranteeing that the contents cannot be modified on Tresorit's servers.
- Tresorit applies a Message Authentication Code (MAC) to each file's content, with a key known only to the user's client and those they share the file with, but not by the server. **Tresorit uses HMAC-SHA512 with a random key** for each different file



## Hardened TLS

- TLS (the successor of SSL) channel protection can be hardened through the use of client certificates. This method provides **public key-based security** when you connect to Tresorit servers.



Deutsches  
Rotes  
Kreuz

"Usability, secure encryption before the files leave the device, and end-to-end encrypted sharing. These are just 3 of the several reasons why we chose Tresorit. Tresorit is a big relief in sharing documents between our numerous facilities."

- **Gunnar Jasinski, Data Protection Coordinator, German Red Cross**

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## Zero-knowledge end-to-end encryption

- Unlike other services, Tresorit never transmits or stores files, encryption keys and user passwords in unencrypted or unhashed form.
- Due to the strength of Tresorit's end-to-end encryption and security, breaking this protection would take several human lifetimes.



## Highest level of security for your business

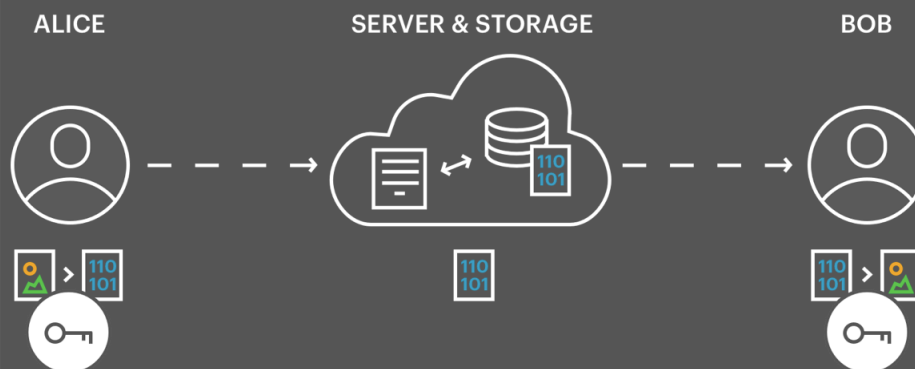
- Military-grade, AES-256 symmetric-key block encryption
- Patented sharable encryption: provides security of end-to-end encryption during the entire sharing workflow

## Work securely and keep control of your confidential files in the cloud

Tresorit provides the security and file control businesses need to collaborate securely in the cloud.

- End-to-end encrypted security
- Control and data governance for your organization
- Helps to demonstrate your compliance with GDPR
- Ease-of-use and deployment

## END-TO-END ENCRYPTION



Data is not decrypted on the server – never available in a readable format.  
Encryption keys are stored on the client side

## Benefits

- Collaborate securely by storing, sharing and synchronizing confidential data with encryption
- Keep company data secure from external and internal data breaches
- Easily manage file control and permission levels within your organization
- Keep ownership of your data when working with external contractors

## Why Tresorit?

Tresorit makes content collaboration secure for your business by combining end-to-end encrypted security, data governance features and ease-of-use. Using Tresorit's end-to-end encrypted cloud solution allows teams to collaborate securely by storing, sharing and syncing confidential files with ease.