Cocoon Data

Technical Specifications

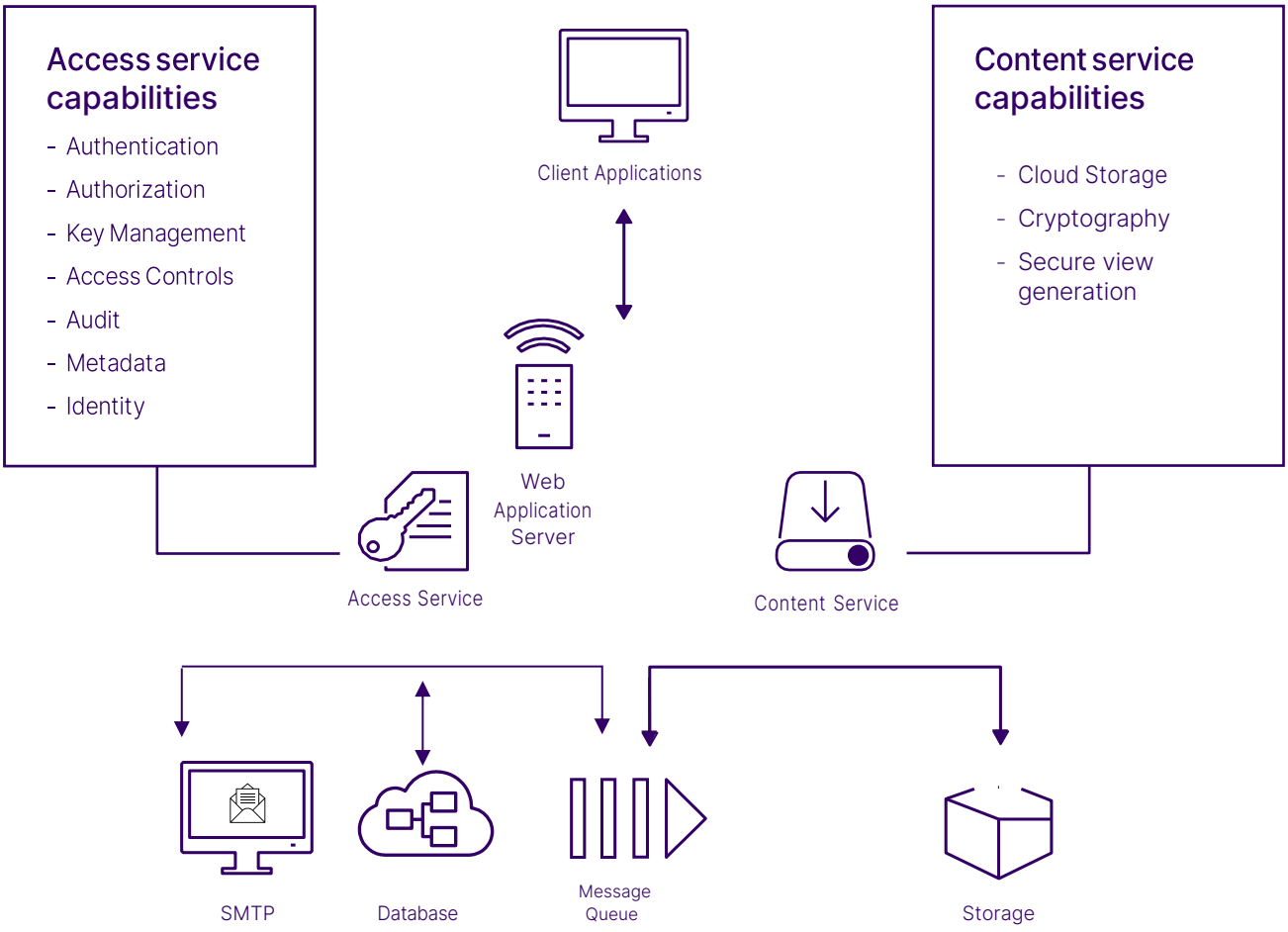
Secure File Sharing & Cloud Collaboration Platform

Overview

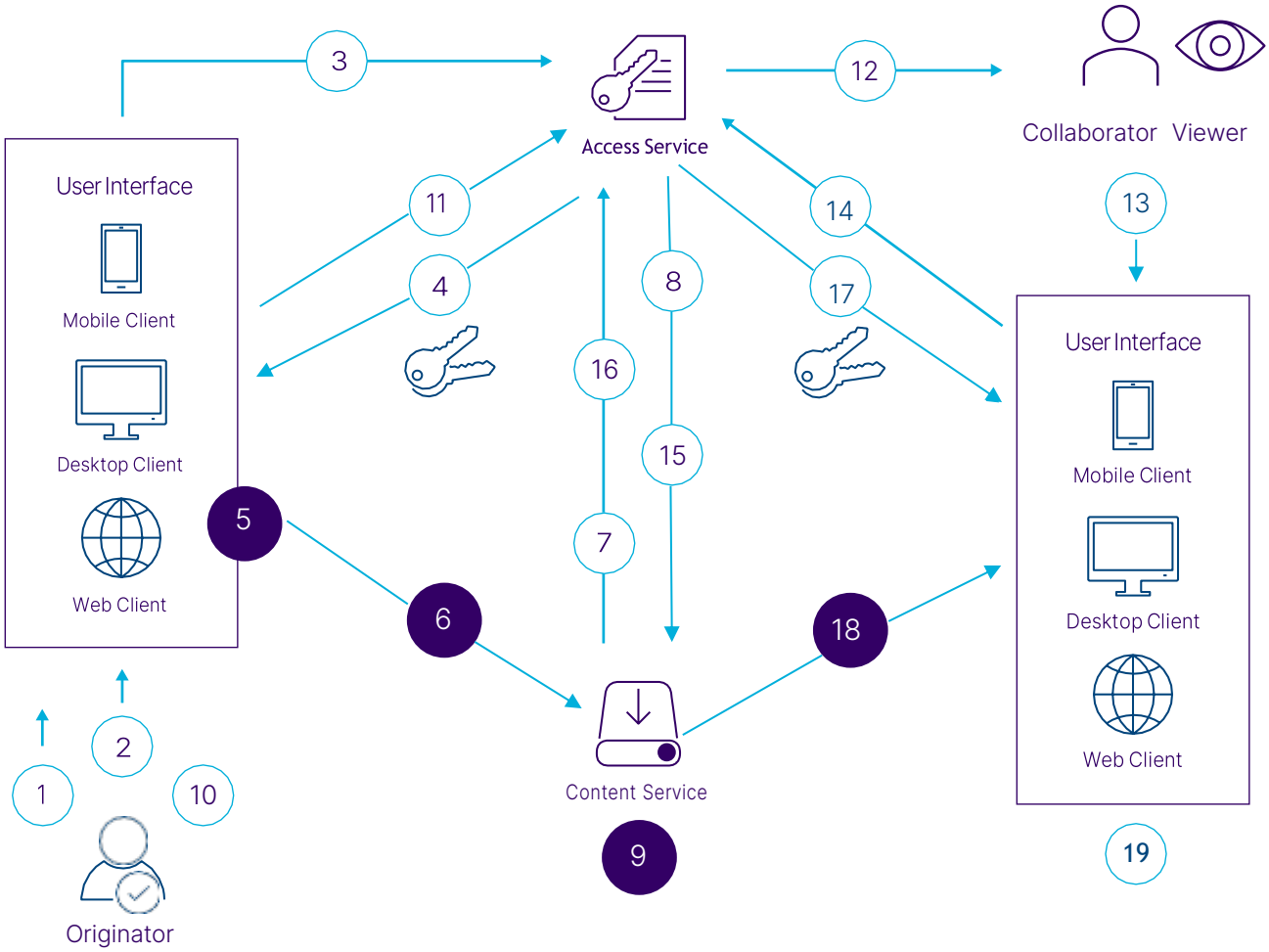
Cocoon Data is a highly secure file sharing application. It is part of Cocoon Data's data security platform (dsp) that enables enterprise and government to discover, protect and control sensitive information, whilst transferring and sharing it safely with both internal and external stakeholders.

Cocoon Data enables any file to be uploaded, encrypted, stored and securely shared by internal and external users. Before sharing,the owner of the data (the 'originator') can apply sophisticated access controls over who has access, when they have access and how they can consume the data. Cocoon Data provides detailed audit tracking into who, when and how all information has been accessed (by 'collaborators' and 'viewers').

Cocoon Data Components



Cocoon Data Example Process Flow



Originator

Uploads a file (which is secured through encryption) and sets access controls so file can be safely shared both internally and externally.

Collaborator

Accesses content to comment, edit and share.

Viewer

Accesses content but is restricted to view only.

KEY: X Encrypted file

Originator: Document Upload

1. User (Originator) is authenticated
2. Upload file to Cocoon Data
3. User Interface requests keys from Access Service
4. Keys sent to User Interface
5. File encrypted at User Interface
6. Encrypted file and file token sent to Content Service
7. Content Service requests file token validation with Access Service
8. Access Service acknowledges file token validity
9. Content Service securely stores document

Originator: Document Upload

10. User (Originator) shares file with other user(s)
11. User Interface sends share request to Access Service
12. Access Service notifies user(s) by email that a file has been shared
13. User (Collaborator) clicks on the link in the email and authenticates with User Interface
14. User Interface sends file token and requests keys from Access Service
15. Access Service requests file token validation with Content Service
16. Content Service acknowledges file token validity
17. Keys sent to User Interface
18. Encrypted file sent to User Interface
19. File downloaded and decrypted at User Interface

Technical Synopsis

Authentication and authorization

- Cocoon Data is OAuth2.0 compliant
- Username and password authentication
- Two-factor authentication

Cryptography

- Advanced Encryption Standard with 256-bit key sizes(AES-256) for encryption and decryption
- Protection to the endpoint via browser-based encryption
- Large data set encryption quality assured via Cipher Block Chaining (CBC) and incorporating Public-Key Cryptography Standards (PKCS) #7 padding
- Content verification by hashing with SHA-512 whichhas equivalent security to AES-256

Multi-tenancy

- Multiple organizations hosted within the same deployment and on the same infrastructure
- User can only access data within the organizations to which they have been granted access

Access controls

- Fine gradient access controls for view, in line edit, download, create, manage and co-own
- Fail-safe security principles incorporated throughout the system – permission is denied unless explicitly granted

Key management

- AES-256 keys and initialization vectors used for cryptography
- Cryptographic keys are generated by secure pseudo random number generator algorithm, SHA1-PRNG, from the IEEE P1363 standard
- New key for every document and every version of a new document

Support and deployment

File types

Any file types for upload, including:

- Microsoft Office / Adobe / Multimedia, including video and MPX
- 35+ types of file for viewing
- Any file size

Devices

- Web client available on popular browsers (up-to-date versions of Chrome, Firefox, Edge and Safari)
- Desktop client applications
- Android and iOS mobile devices

Infrastructure

- Public
- Private
- On-premises
- SaaS via Open stack
- AWS
- Azure

Platform

- Kubernetes
- Hardened Linux App Servers
- PostgreSQL Database

About Cocoon Data

Cocoon Data is an ultra-secure, ultra-simple file sharing and collaboration platform. Our intention is to make data security and compliance so simple, everyone can be part of it.

We are ISO 27001 certified and utilize patented technology to deliver the most powerful solution for secure file sharing and collaboration.

Contact us at info@cocoondata.com for more information.

Development of the Cocoon Data platform was driven by mission-critical work for the intelligence and Defense Communities. Today, Cocoon Data is a preferred provider in the United States for ITAR compliant and CMMC ready file sharing for the defense industry. Our solution also provides globally compliant, secure file sharing and collaboration for business, government, education and healthcare organizations.