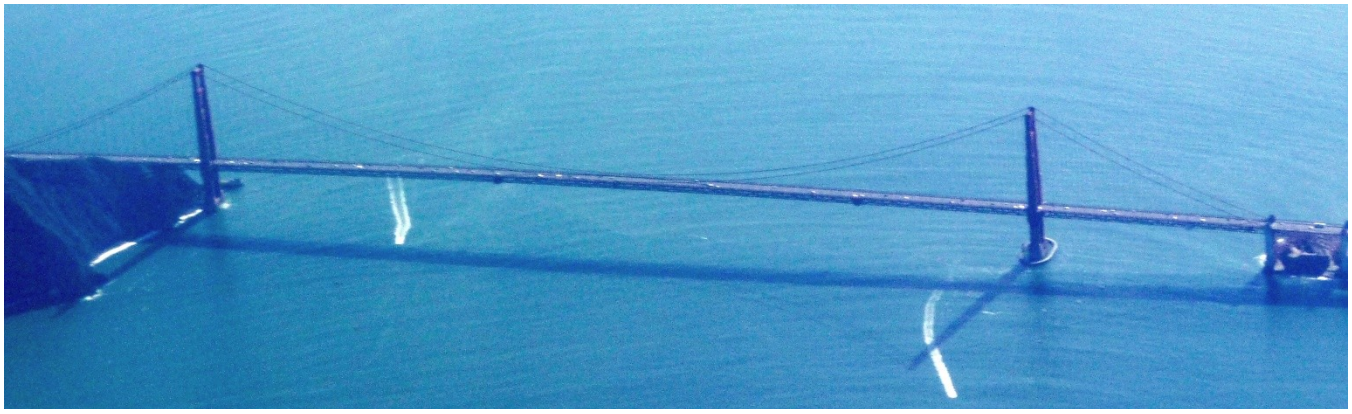
Federizer

Electronic (Health) Records Storage, Exchange and Retrieval System



Abstract

Federizer is a digital media exchange and storage system analogous to cargo services. People can use Federizer if they need to transfer and store something that is either bulky or large in numbers. This includes documents, images, audios and videos. From a users point of view, Federizer is used in a similar way as the email system.

Introduction

The main components of the email system have been designed between 1971 and 1992 by many inventors. In the course of time, email has become the most commonly used application of the Internet. Nowadays the email infrastructure forms the backbone of the worldwide digital identity, and email is the only truly decentralized communication system of the Internet.

Problem

Despite the rising importance of email infrastructure, the whole ecosystem still relies on over 40 year-old architecture and protocol design. There are spam and attachment issues from the very beginning. Even though the main email service providers claim email accounts to be safe, the fact remains that major security and functional flaws are not fixed. The email system, while conceptually sound as a communication means, is structurally obsolete and functionally deficient.

Solution

This solution adopts the Digital Services approach that aligns with emerging and future business needs. The design model incorporates Privacy by Design principles to maintain the appropriate level of regulatory compliance. The system concept is built on top of globally distributed Domain Name System, Web technologies and loosely coupled Domain Authentication Layer. The Domain Authentication Layer is built around User-Managed Access and OpenID Connect specifications and includes Resource Protection Gateway in order to control information exchange between security domains. The messages and attachments are stored separately in the content repository and likewise, the content is transferred separately. Documents are stored on disk or S3 compatible object storage and transferred using HTTP/2 protocol. The email system fallback is used if the recipient's system is not available.

Digital Services

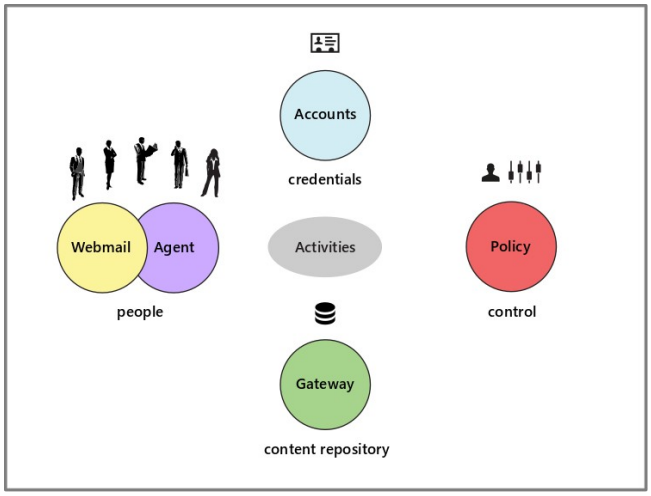
Federizer's Digital Services are set of system services that fits into the communication and collaboration software definition. The services will be introduced gradually according to market requirements.

1. Cargo service
    a. No spam – user invitation/subscription system guaranties no spam in the Inbox
    b. Mail tracking & proof of delivery – similar to registered/certified mail with revocable consent
    c. Reference numbers – channels, threaded conversations
    d. Time management – calendaring, events, to-do, reminders, etc.
    e. No attachments size limit – attachments are transferred separately without size limit
    f. Attachments versioning – attachments with the same content are versioned
    g. Attachment properties – e.g. invoice due date, total due, variable symbol, status
    h. Public/Private Tags – linking/grouping across the business
    i. Linked content using a clickable hyperlinks.
    j. Instant messages – deliver messages within seconds
    k. Instant attachments – download attachments even before they are actually delivered
    l. Security – easy integration with antivirus and antimalware protection systems
    m. Privacy – decentralized architecture of Federizer has intrinsic privacy-preserving properties
2. Identity and Access Management service
    a. OpenID Connect
    b. User-Managed Access
3. Full-Text Search service
4. Publish-Subscribe service

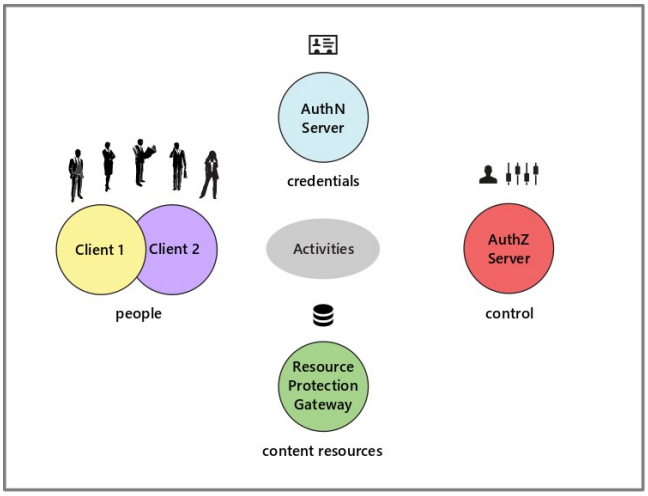
Architecture

OpenID Connect standard was designed to cover B2B, as well as B2C scenarios. It combines the simplicity of OAuth_2.0 standard and the decentralized design of OpenID protocol. Federizer incorporates a new decentralized trusted model built around UMA 2.0 and OpenID Connect standards.

Generic Model



OAuth2 Model



Apps

The Progressive Web Application (PWA) technology is recommended for front-end client development. PWAs are easy to install and allow users to utilize the Federizer system to its full potential.

New Features

1. Bulky or large in numbers attachments
2. Tagging system
3. Groups/Channels (mailing lists)
4. No email spoofing
5. Integrations with external systems (API)
6. Cloud-native architecture
7. Digital archive

Drawback

~~Incompatibility with the email system~~.

Tagline

Digital Media Cargo.

Numeronym

f7r

Use Cases

1. Basic use case – centralized content repository, store and exchange digital assets; plan, execute and track (business) activities.
2. Manufacturing/Engineering – product design and development, store and exchange product specifications.
3. Legal – contracts and proposals creation, store and exchange contracts.
4. Digital Media – store and exchange rich media.
5. Sales & Marketing – track sales and marketing activities, store and exchange digital assets.

Target Market

According to the 2017 study from the Radicati Group, the number of worldwide email users, including both business and consumer users, will grow from over 3.7 billion in 2017 to over 4.1 billion by 2021. Email use continues to grow in the business world where it is often used not only simply as an interpersonal communication tool, but also as the default choice to send files. That is a lot of B2B and B2C relationships to generate leads to grow the business.

Competitive Trends

Although instant messaging, social networking, chat, and enterprise file sharing and synchronization systems are seeing strong adoption, centralized systems are not very acceptable solutions for B2B and B2C communication. Missing Identity and Access Management integration on both communication sides can lead to potential privacy issues such as leakage of intellectual property or loss of confidential content and makes these systems incompatible with enterprise security policies.

Competitive Advantage

Transparency and unambiguous data ownership - data are transferred not shared. Ease of use - everyone who uses a computer knows how to use email client, there is no need for Federizer users to take a training course.

Unfair Advantage

Intellectual property rights of the Specification Lead / Working Group.

Business Model

Federizer is an open source software:

1. Offer a range of support plans to help organizations to use Federizer as a secure and reliable communication platform.
2. Offer custom integrations and consultations for a fee.
3. There is an opportunity to build a business model on global and/or regional Federizer services à la Gmail.
4. Cloud provider partnerships.

Promotion

To highlight the underlying difference between email and Federizer use the Cargo Services analogy. Endorse the Federizer term.

Marketing and Sales

Partners, Network effect / Word of mouth.

Market Opportunities

1. Enterprises
2. Associations
3. Providers
4. Universities

Project Status

Major idea iterations completed, software architecture within several prototypes has been internally tested.

Strategic Partnership

Build a strategic relationship with the open minded digital media company to ensure alignment of visions, goals and objectives, and to drive product adoption.

Exit

Linux Foundation, Kantara Initiative

Conclusion

Federizer can play an important role in communication across various industries in the public and private sectors. The combination of repository, communication and identity represents a single point of information throughout any organization, and symbolizes a gold mine of information for any individual. The Cargo Services analogy predestine Federizer to become more than an email system alternative.