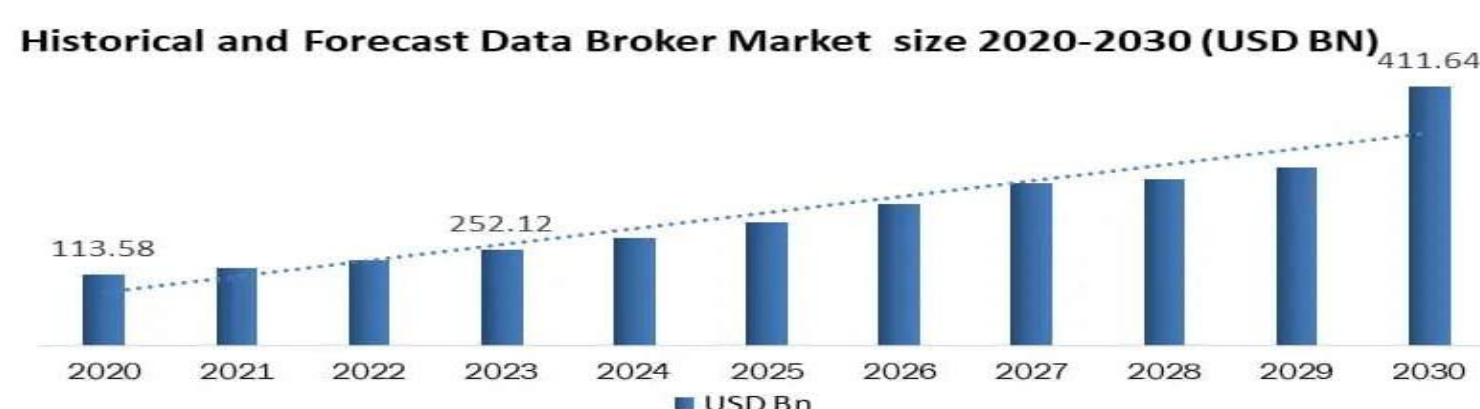


# Opt-Out Request Broker (O.R.B)

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## The Problem

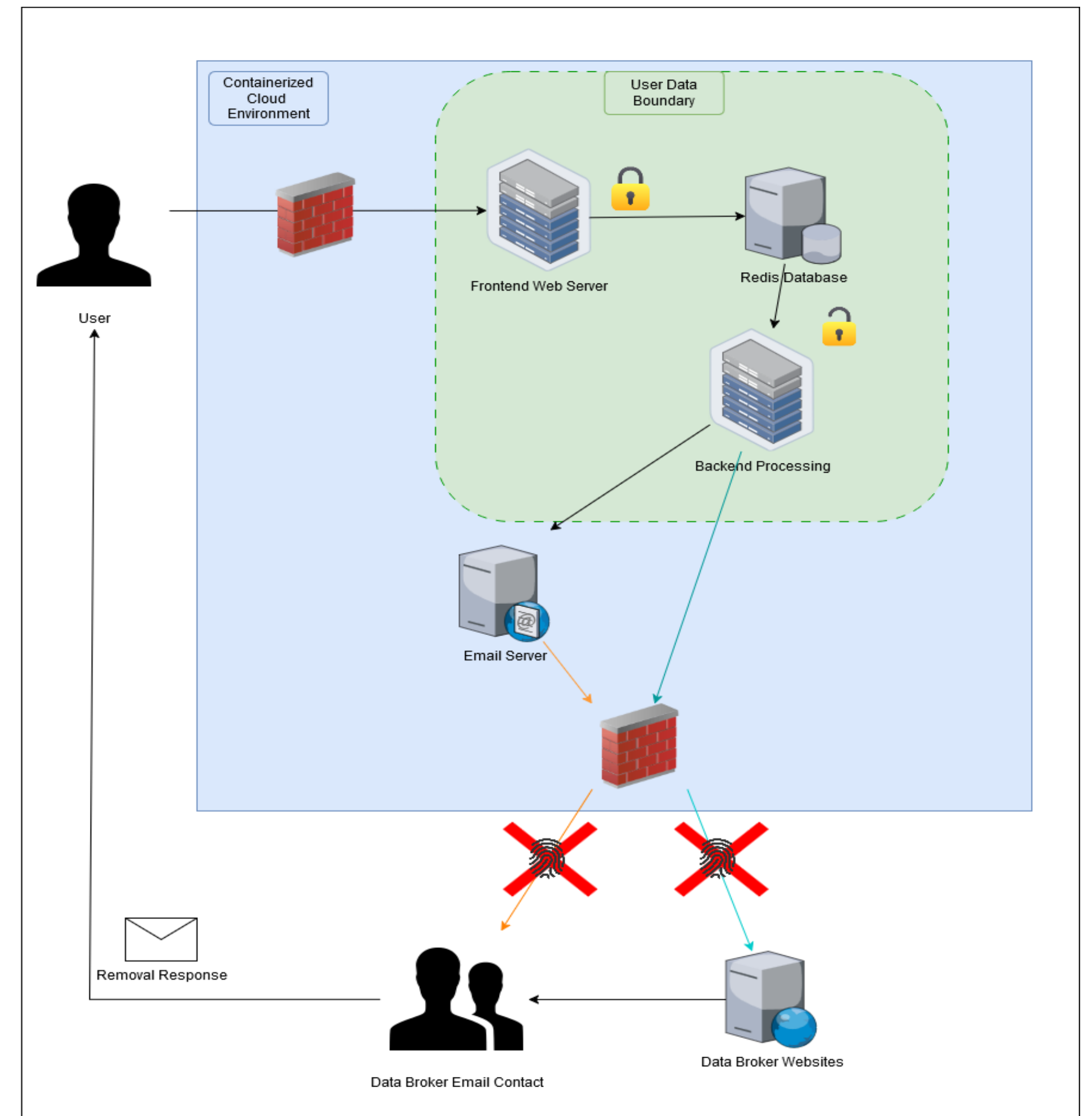
The rise of data brokers in the United States has resulted in the widespread collection, aggregation, and sale of personal information from millions of Americans, often with minimal oversight. Data brokers are legally obligated to provide methods in which they can opt out of sharing their personal information, but the process to do so is intended to be tedious and time consuming.



## The Solution

- ❖ This project aims to streamline and secure the opt-out process, empowering users to protect their online privacy with ease.
- ❖ Web Application
  - Docker Bridge Network
    - ◆ Frontend Containerized Server
      - Python Streamlit Webpage
      - Publishes encrypted user inputted data to Redis database
    - ◆ Backend Containerized Server
      - Subscribes to Redis database to pull user inputted data
      - Decrypts using private keys and signature validation
      - Automates opt-out requests to data brokers
      - Creates and provides session log to user
    - ◆ Redis Database Containerized Cluster
      - Operates entirely in RAM, providing ephemeral storage
      - Native support for real-time messaging
      - High availability, fault tolerance, and rapid data handling

## System Design



## Requirements

- Marketing Requirements
  - O.R.B. automates opt-out requests from data brokers
  - Users can submit opt-out requests with minimal effort through the web interface.
  - The system logs and reports all opt-out request statuses for transparency.
- Engineering Requirements
  - Security & Compliance: Encrypts user data, follows OWASP Top Ten security standards, and purges data after seven days.
  - Performance & Reliability: Supports cloud deployment, processes opt-out requests within 10 minutes, and achieves at least 75% success.
  - Logging & Transparency: Provides detailed reports and allows users to download opt-out history.

## Conclusion

The O.R.B project is a transformative solution that addresses the pressing issue of data privacy in a world where personal information is increasingly commercialized. By automating the opt-out process for data brokers, O.R.B empowers individuals to take control of their digital identities in a secure, efficient, and user-friendly manner. The platform's innovative approach not only simplifies the complex process of managing personal information, but also raises awareness about the importance of data ownership in the digital age.



## Acknowledgements and References

Data Broker Market: Global Industry Analysis and Forecast (2021-2027). (n.d.). MAXIMIZE MARKET RESEARCH. <https://www.maximizemarketresearch.com/market-report/global-data-broker-market/55670/>

