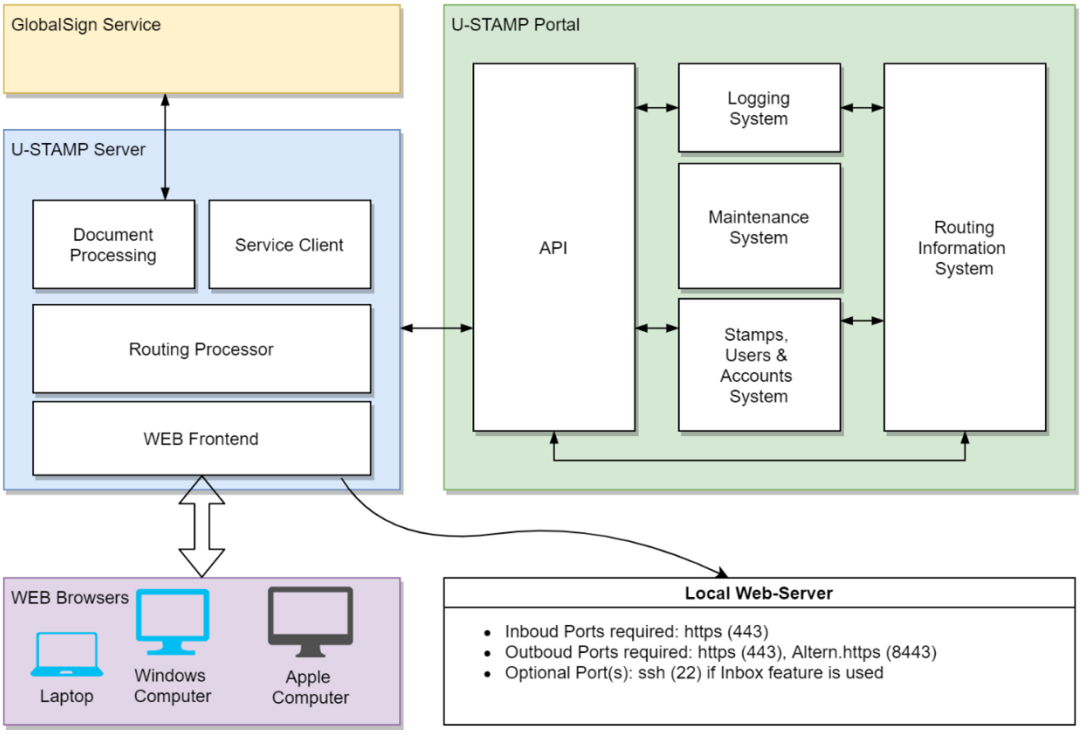
Local Web Server (LWS) Overview

Abstract

The Universal STAMP Local Web Server ("LWS") provides the core functionality of the Universal STAMP Windows App through a browser-based interface. This solution is specifically designed for clients who are unable to install native Windows applications due to platform restrictions, Microsoft Store blocks, or internal IT security policies. Also, clients using **Apple computers** and other non-Windows systems will benefit from access to document stamping functionality regardless of their operating system.

Architecture

As with the Windows App method, the processing of a document will remain in the client environment, and the document never reaches any of Kemark's or Hampton's systems. The client operates the new component (LWS).



- **LWS:** A lightweight web application hosted directly by the client.
- **Database Isolation:** LWS is a stateless service and **will never connect** to the back-end database or any other internal/external database.
- **Local Processing:** Processing remains in the client's environment and never touches Kemark's or Hampton's systems.
- **Key Components:** The server includes a WEB Frontend, Routing Processor, Service Client, and Document Processing module.
- **External Integrations:** LWS communicates with the GlobalSign service for digital signatures and the U-STAMP Web-Hub for routing and logging.

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OS and Virtualization Considerations

LWS is built for modern containerized deployment to ensure high compatibility and security.

- **Framework**: Developed as a fresh **Microsoft .NET 8.0** ASP.NET Core MVC application.
- **Base Image**: The container is built on a **Debian Linux** distribution, providing a stable and minimal footprint.
- **Security & Privileges**: To adhere to security best practices, the application is supposed to run as a **non-root user** within the container.
- **Virtualization**: Delivered as a **Docker Container**, allowing it to run on any host OS supported by .NET Core, including Linux and macOS.
- **Internal Web Server**: Utilizes the built-in **Kestrel** web server for optimized performance within the container.

Scope and Constraints

To ensure a stable and focused initial release, Version 1.0 includes the following limitations:

- **No SSO:** Support for Single Sign-On (SSO) is not included in the initial roadmap.
- **No Public API:** While the LWS uses internal APIs to talk to the backend, it will not offer its own API for third-party integrations.
- **Core Focus:** The priority is providing a functional Web Frontend for manual user interaction.

Network & Security Requirements

The client's IT department must configure the following firewall rules for the LWS to function:

Direction	Port	Protocol	Purpose
Inbound	443	HTTPS	User access to the Web Frontend
Outbound	443	HTTPS	Communication with U-STAMP Portal / GlobalSign
Outbound	8443	Alt-HTTPS	Alternative secure communication port
Optional	22	SSH	Only required if the "Inbox" feature is enabled

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