Redaction: A cornerstone of our privacy-by-design approach

At ASAPP, privacy is an integral part of our platform, ensuring that sensitive information is protected at every stage of data processing. **Redaction** plays a critical role in this privacy-by-design approach, systematically removing or masking personally identifiable information (PII), payment card information (PCI) and other custom data elements considered sensitive by our customers before data is stored, processed, or shared.

By embedding **real-time, configurable, and AI-powered redaction** into our AI-driven solutions, ASAPP safeguards **our customers, their customers, and our own infrastructure** from unnecessary data exposure in alignment with global regulations like **CCPA, GDPR, and PCI-DSS**.

ASAPP's redaction architecture

Our redaction solution is **a high-performance, scalable system** that operates across multiple data processing pipelines. It functions as an **HTTP-based service**, providing secure API endpoints that downstream services call to redact PII from text and voice data.

Key components of the redaction system

Our **multi-layered redaction model** ensures a balance between **accuracy, efficiency, and flexibility**:

1. **Edge service**
   - Acts as the primary **entry point** for all redaction requests.
   - Handles **I/O operations, authentication, and request routing** to upstream redaction inference services.

2. **Inference service**
   - Processes data using a combination of **AI-based and deterministic redaction techniques**:
     - **Pattern-based redaction (regex & rule-based matching)** – Effective for structured data like credit card numbers and SSNs.
     - **keyword-aware redaction** – Uses keyword detection to enhance rule-based redaction accuracy.
     - **Stochastic AI-driven redaction** – Leverages **ASAPP-trained models** to detect and mask unstructured PII (e.g., names, locations) in free-text conversations.

3. **Redaction configuration service**
   - **Stores customer-specific redaction rules**, allowing clients to configure and fine-tune redaction logic for their unique needs.
   - Supports real-time rule updates for dynamic adaptation to evolving privacy requirements.

4. **Cryptographic secrets manager**
   - **Securely manages authentication tokens** for redaction endpoints, ensuring **only authorized services** can request redaction.

Redaction service flow overview

To provide a clear understanding of how ASAPP's redaction system functions within our platform, the following flowchart illustrates the high–level architecture and interactions between key components.

The flowchart visually represents how incoming data flows through ASAPP's redaction pipeline, highlighting the role of each component in ensuring that sensitive information is identified and redacted before reaching downstream services. This structured approach ensures high accuracy, efficiency, and compliance with privacy regulations.
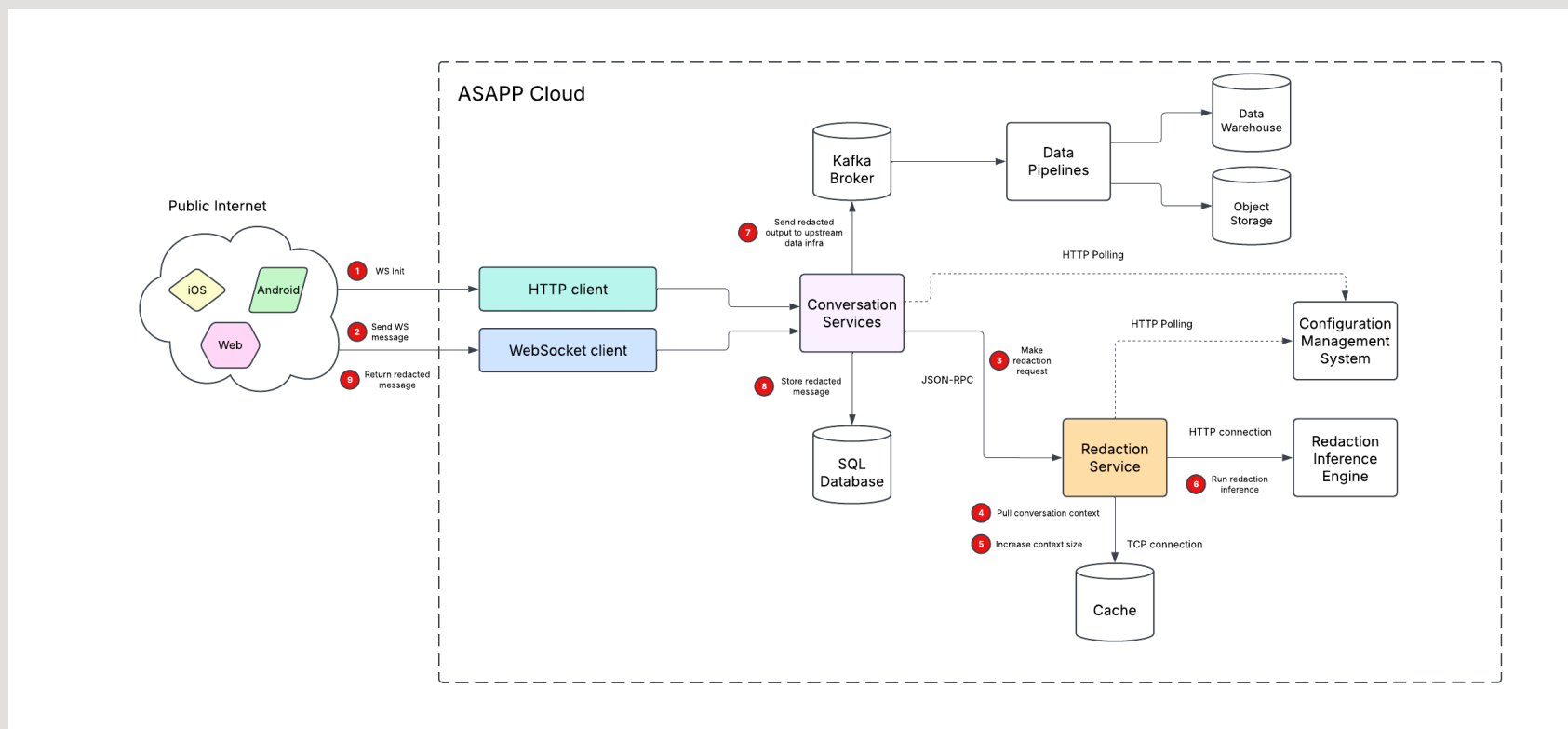
How ASAPP redaction works in practice

ASAPP's redaction system **automatically detects and removes sensitive information** from real-time conversations and stored transcripts, ensuring privacy compliance **without disrupting workflows.**

Example: ASAPP redaction in action

Consider the following real-world example of a **customer-agent interaction** in a contact center:

Original Customer Message:
"Hi, my name is John Doe. My credit card number is 4111-1111-1111-1111, and my billing address is 1234 Elm Street, New York."

Redacted Output:
"Hi, my name is [*********]. My credit card number is [********], and my billing address is [********]."

How ASAPP's redaction service processes this data

1. **Tokenization & data ingestion**
   o The incoming message is **split into tokens**, allowing the system to analyze individual words and patterns.
2. **Pattern-based detection (Regex & Static Rules)**
   o The system matches known formats (e.g., **16-digit credit card numbers, 9-digit SSNs**).
3. **Context-aware redaction**
   o If the phrase "**credit card number**" is detected before a sequence of digits, the system **increases sensitivity**, ensuring all related data is redacted.
4. **AI-powered redaction**
   o The **ASAPP-trained model detects** "John Doe" as a name and "1234 Elm Street" as an address, even though these **don't follow a strict pattern**.
5. **Final redacted output returned**
   o The redacted message is sent back to the ASAPP platform for secure processing and use in downstream AI services.

Real-time & post-processing redaction

ASAPP's system can ensure privacy compliance at **multiple points** in the data lifecycle:

o **Live redaction** – Redacts PII in real-time during live customer interactions
o **Voice redaction** – Applies the same redaction logic to **speech-to-text transcripts** from **AutoTranscribe**

Customizable redaction for every business

Unlike rigid one-size-fits-all privacy solutions, ASAPP's redaction system **can be configured per customer or use case.**

Dynamic redaction rules
o Each ASAPP customer can define **custom regex patterns and AI model preferences.**
o Configuration settings are stored and allow for real-time adjustments.
o Customers can choose to **redact additional data types** based on industry-specific compliance needs.

A seamless privacy layer across ASAPP services

Redaction is embedded into all ASAPP AI-powered solutions, ensuring:
o **AutoSummary, AutoCompose, and ASAPP Messaging platform** processes only privacy-compliant chat data.
o **AutoTranscribe** redacts speech-to-text transcripts before they are stored or shared.
o **GenerativeAgent** securely generates AI responses without exposing sensitive customer information.

Continuous evolution of ASAPP's redaction system

Privacy risks evolve, and ASAPP continuously enhances its redaction capabilities to **stay ahead of regulatory changes and business needs.**

Key advancements in our redaction model:
o **Multi-language support** – Expanding beyond **English and Spanish to global language models**
o **Improved AI accuracy** – Higher precision in detecting **complex & unstructured PII**
o **Flexible API & SDK integration** – Making redaction easy to deploy across **multiple customer environments**

ASAPP's commitment to privacy

Redaction is not just a compliance requirement—it is a fundamental part of our **privacy-first AI strategy**. By embedding **real-time, AI-driven, and customer-configurable redaction** into our platform, ASAPP ensures that businesses can leverage AI **without compromising customer trust and data security.**

About ASAPP
ASAPP is an artificial intelligence solution provider committed to solving the toughest problems in customer service. Because we automate what was previously impossible to automate, our AI-native® solutions deliver more than efficiency gains. They redefine the role of AI in the contact center and lay the groundwork for businesses to reimagine their customer experience delivery for the age of AI. Leading enterprises rely on ASAPP's generative and agentic AI solutions to dramatically expand contact center capacity and transform their contact centers from cost centers into value drivers. To learn more about ASAPP, visit www.asapp.com.