CAAS Platform - Complete Visual Guide

> **Chat-As-A-Service: The Complete Picture for Everyone**
>
> This document explains EVERY feature of the CAAS platform using visual diagrams that anyone can understand!

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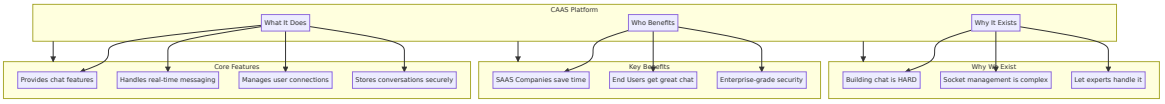
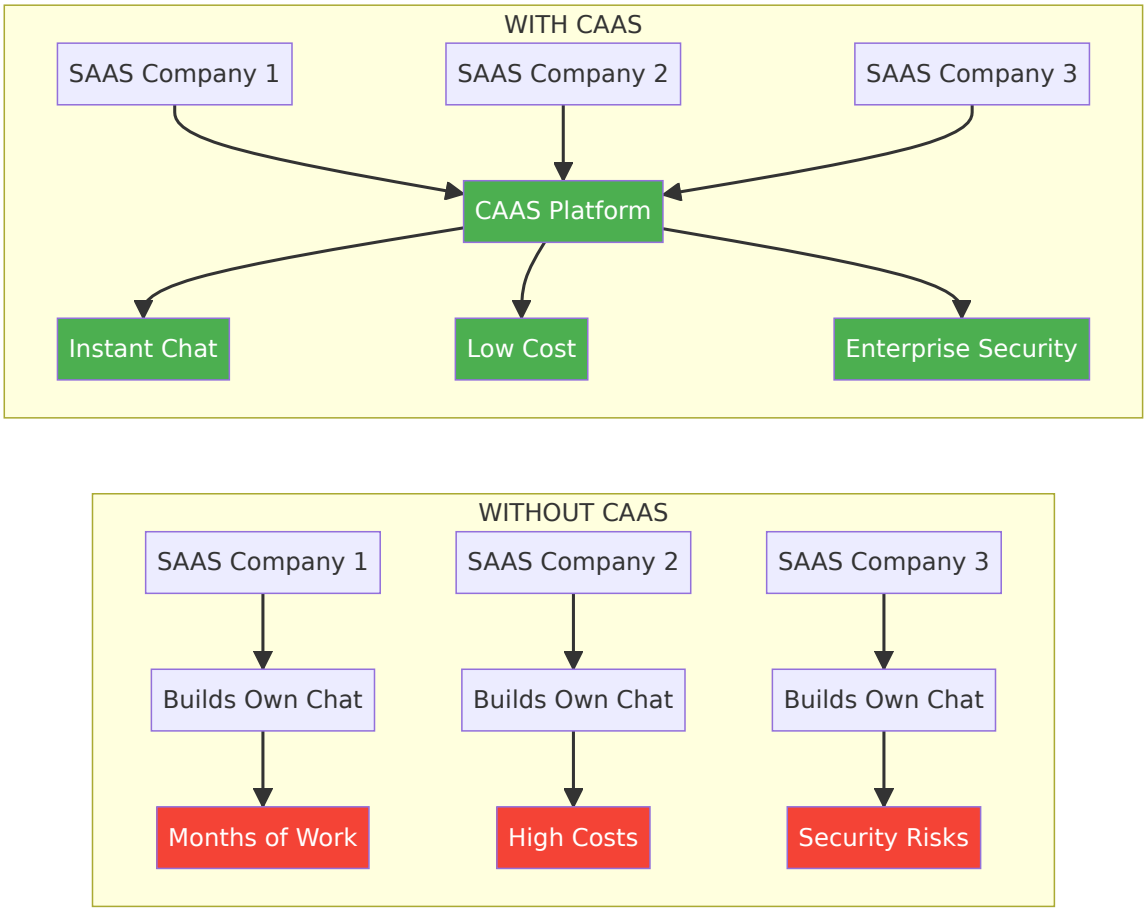
9. Developer Tools
10. Billing and Pricing
11. Monitoring and Analytics
12. Complete Data Flow

1. What is CAAS?

The Simple Explanation

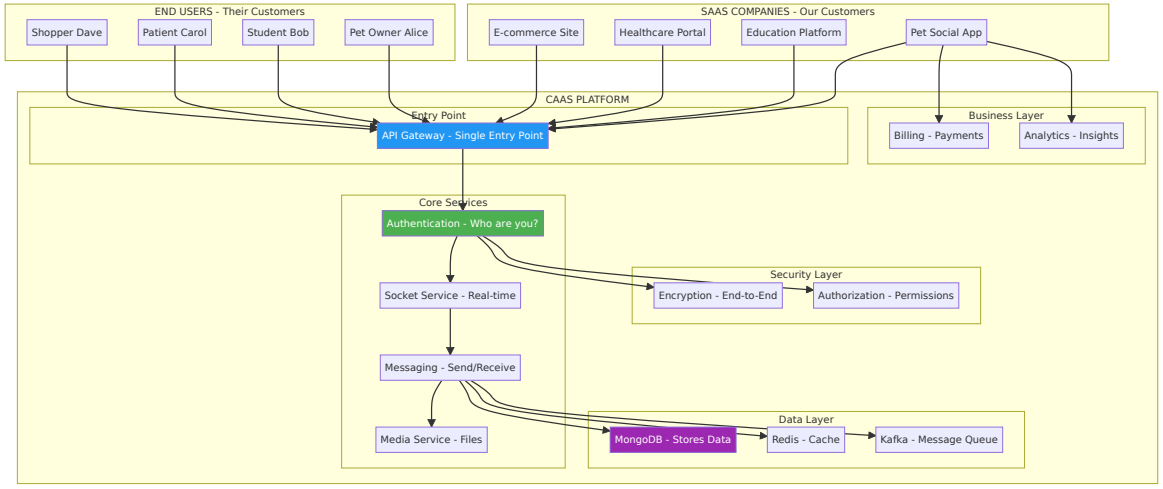


The Problem We Solve



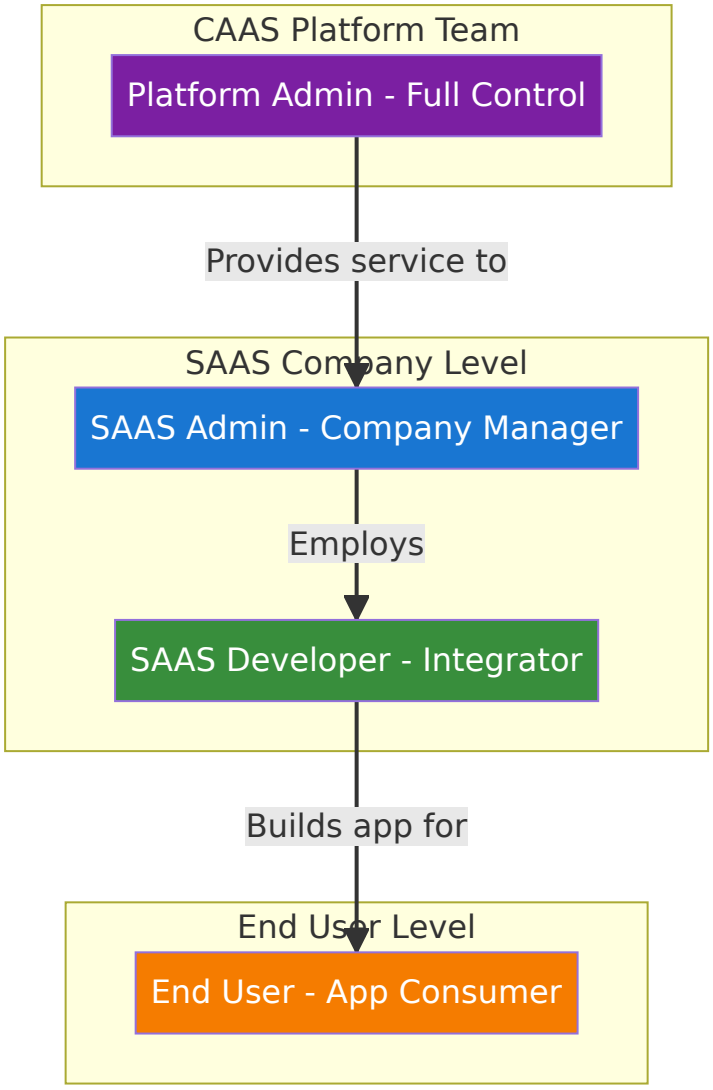
2. The Big Picture

Complete Platform Overview

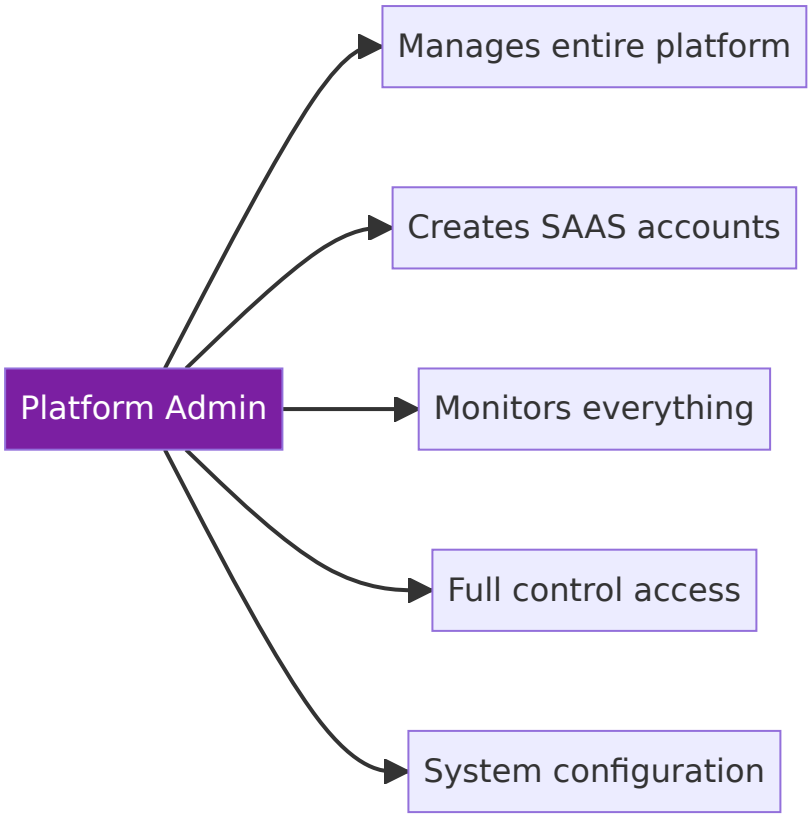


3. Who Uses CAAS?

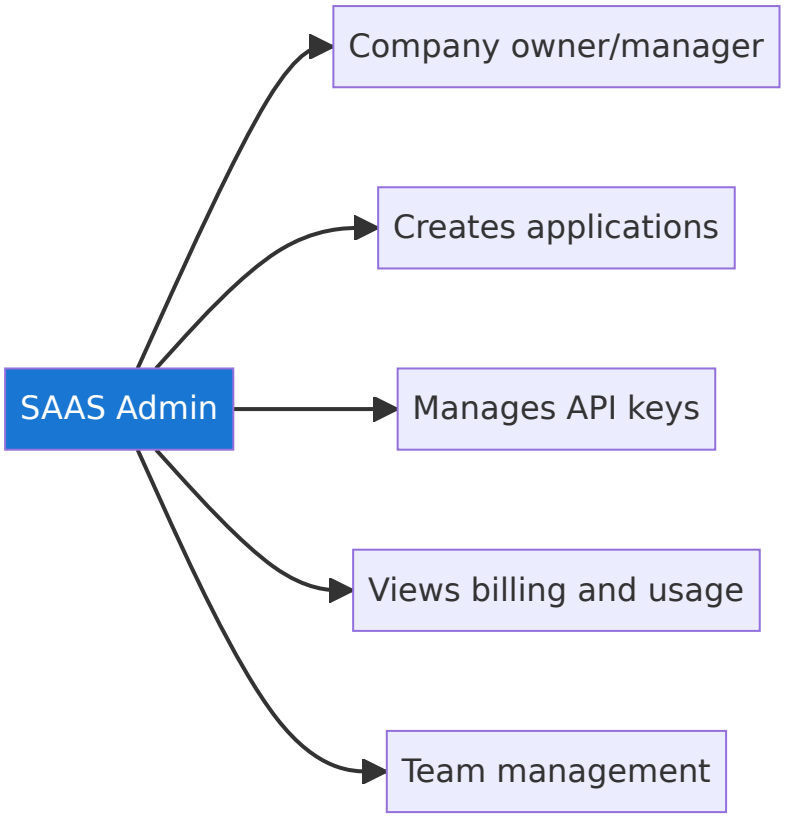
User Types Explained



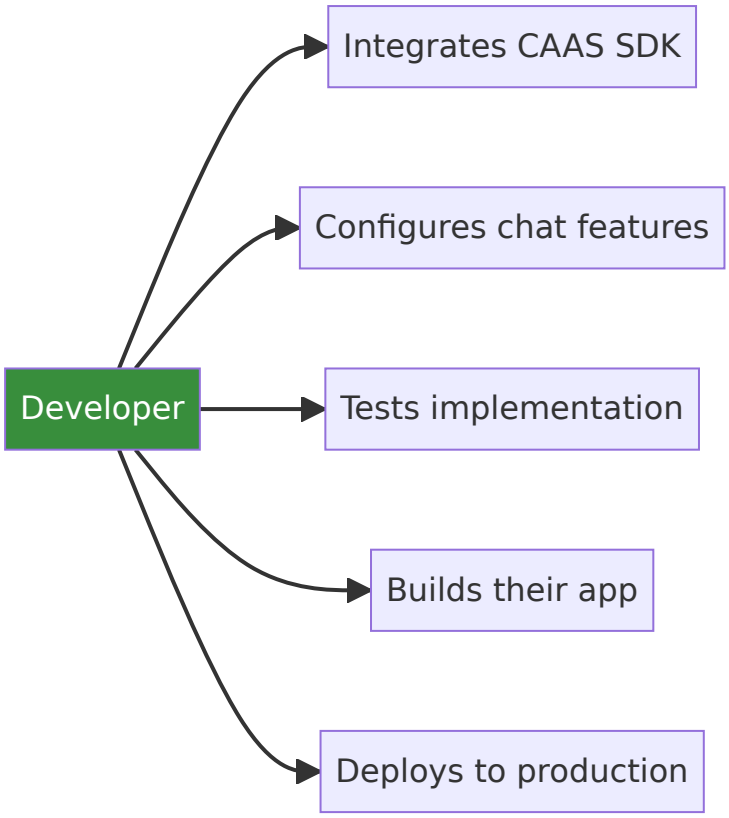
Platform Admin Responsibilities



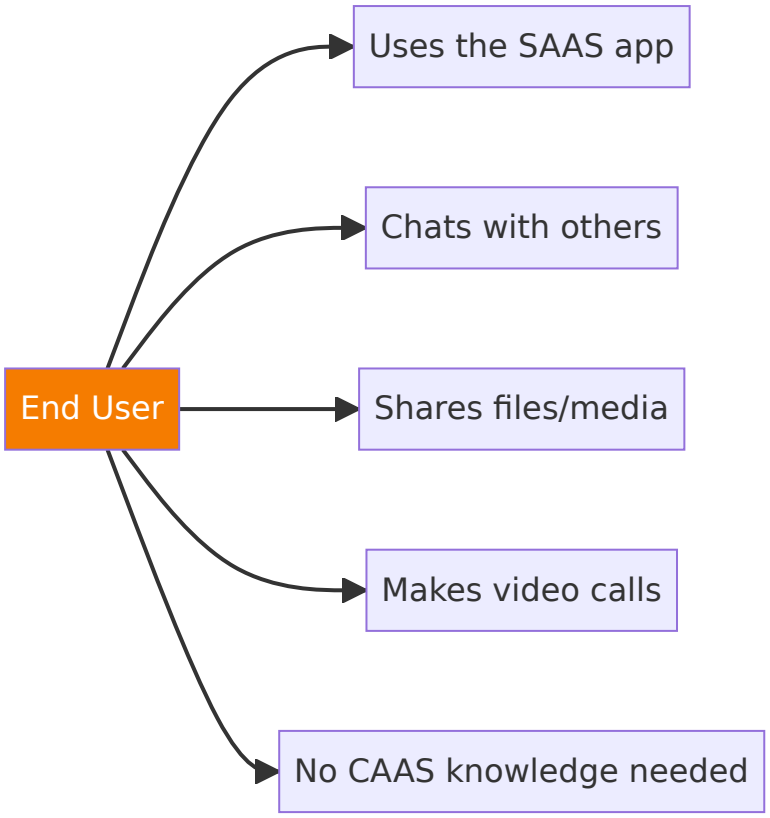
SAAS Admin Responsibilities



Developer Responsibilities



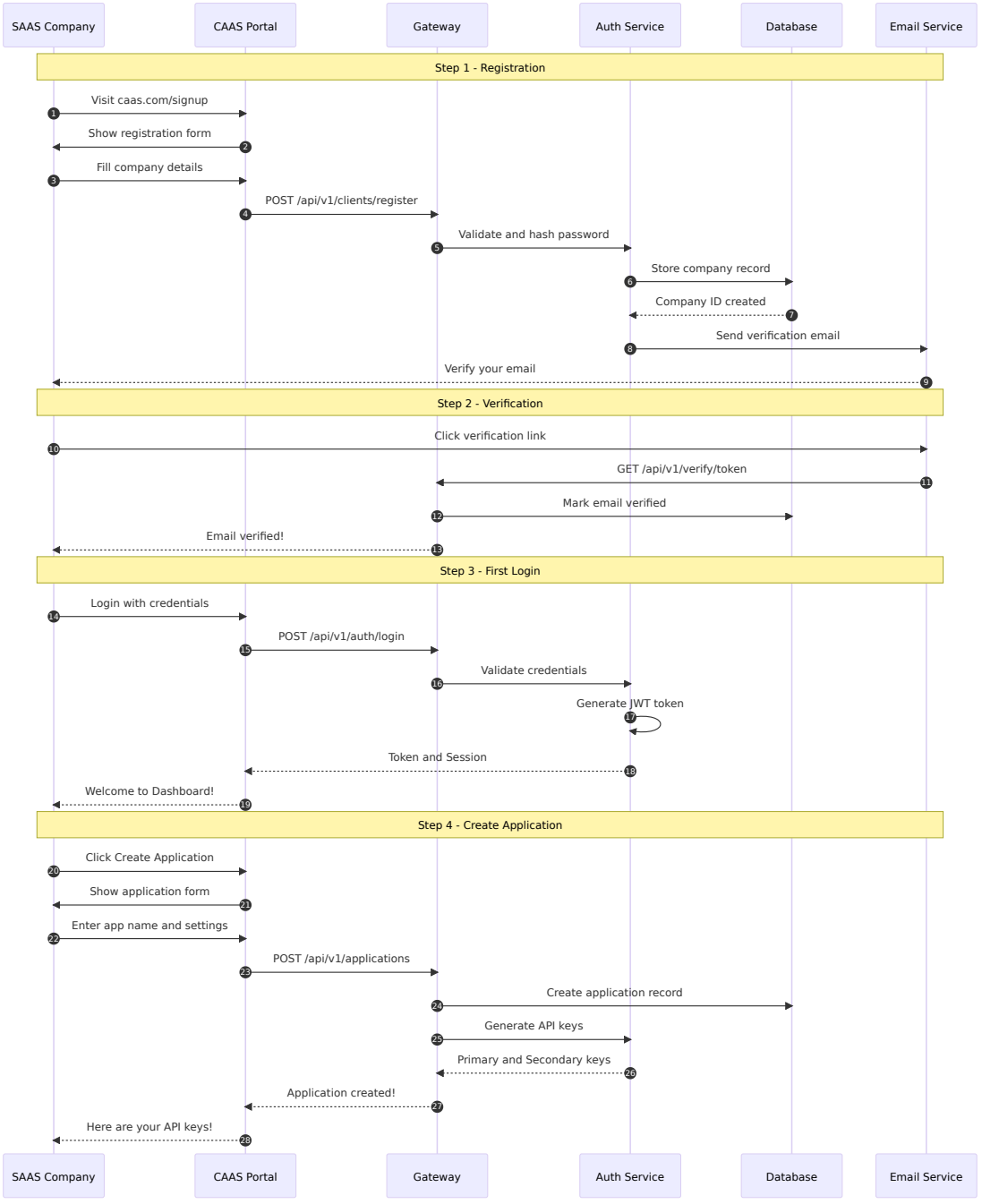
End User Experience



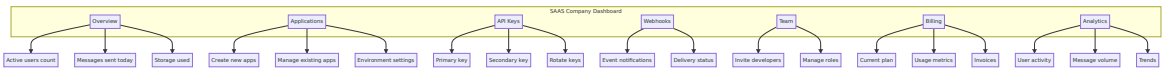
4. How SAAS Companies Join

CAAS

Complete Onboarding Flow

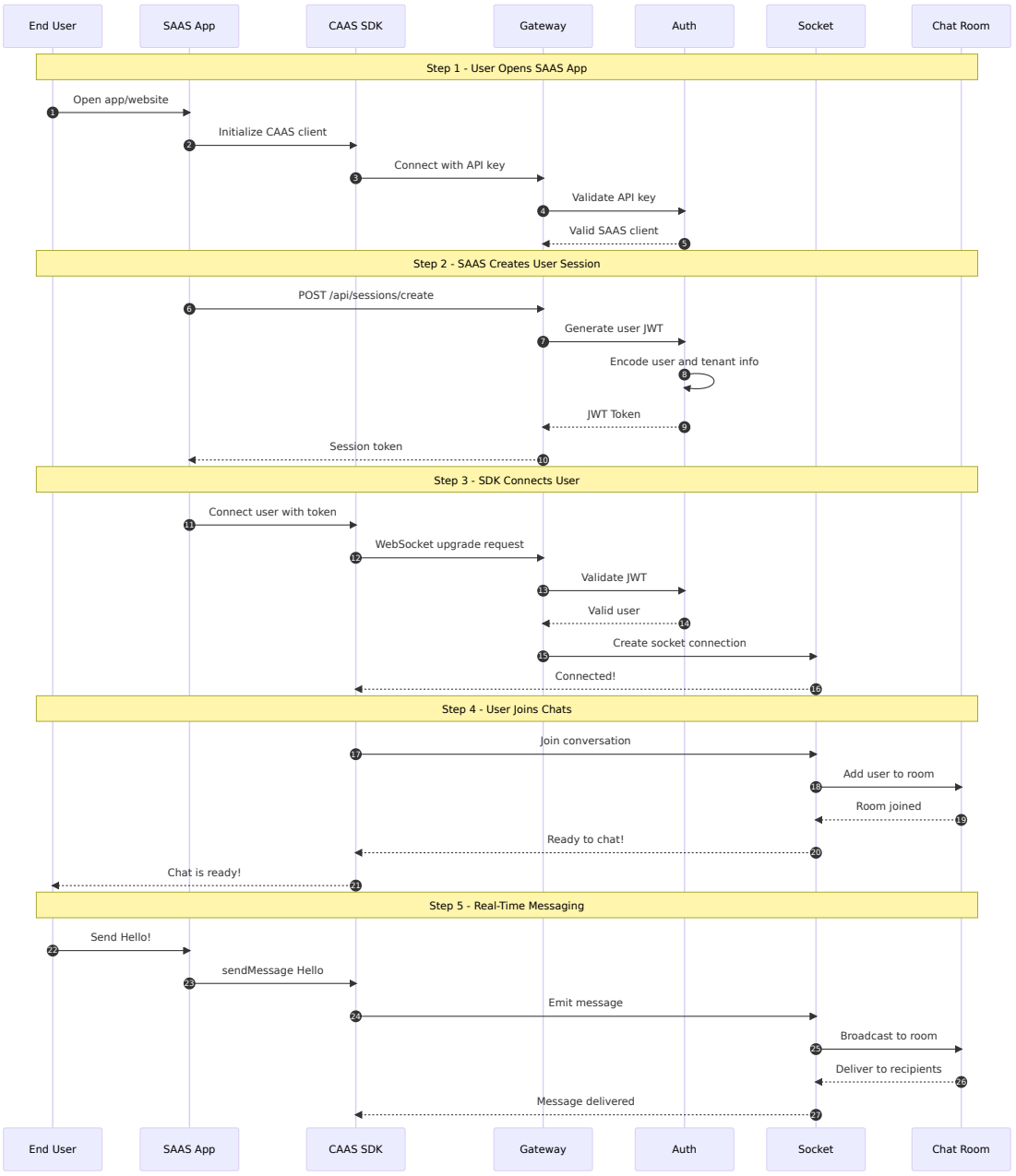


What SAAS Companies Get - Dashboard

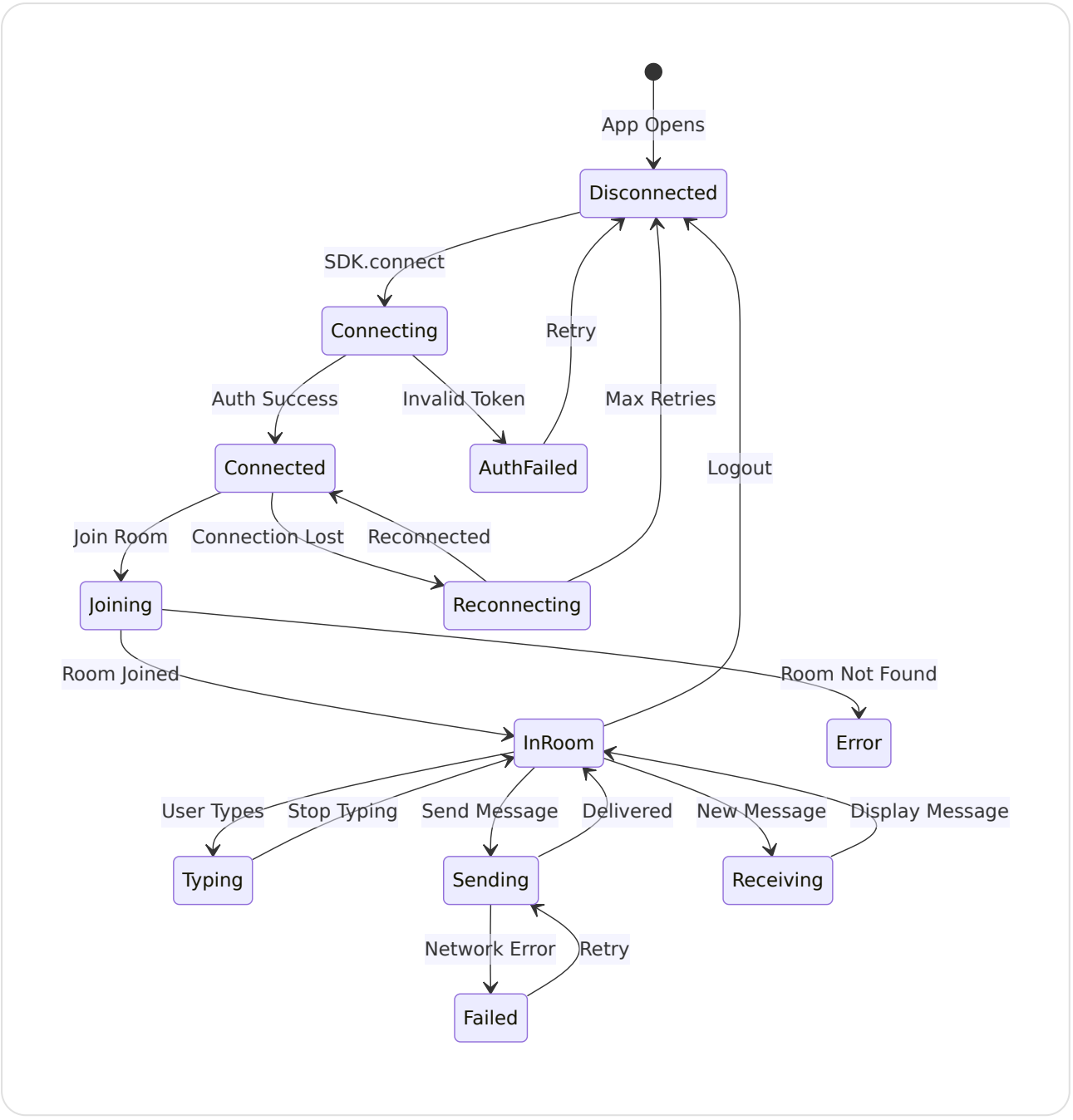


5. How End Users Connect

The Connection Flow

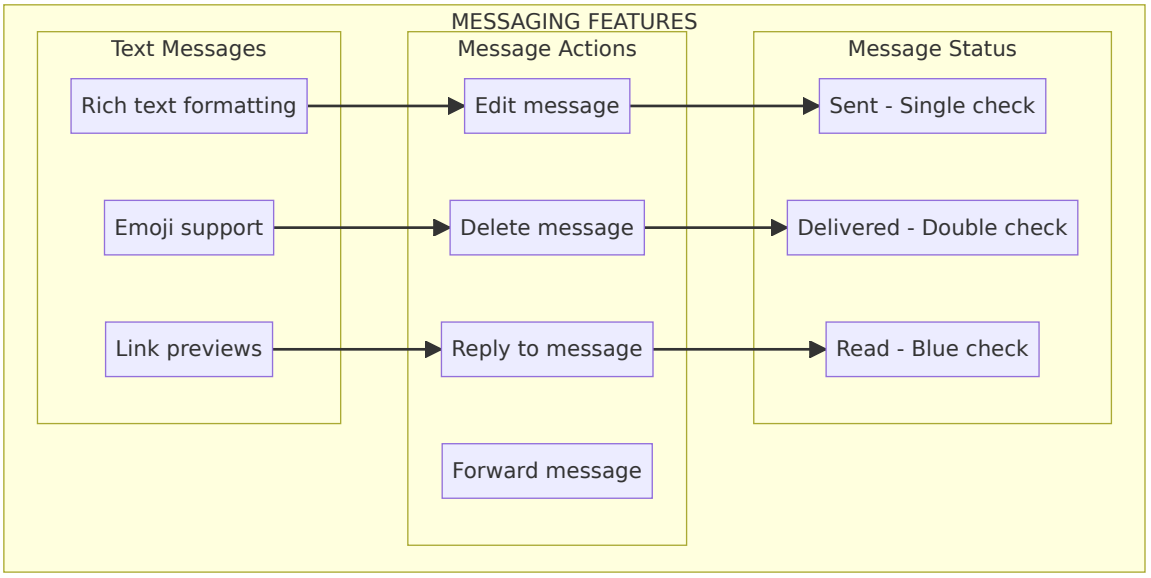


Connection States

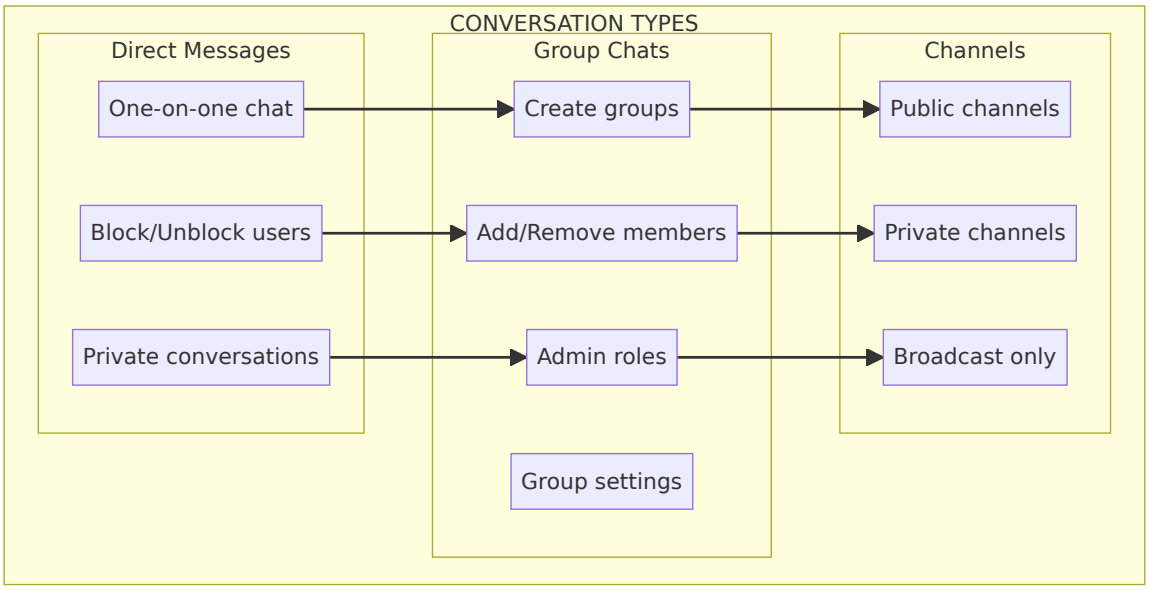


6. All Chat Features

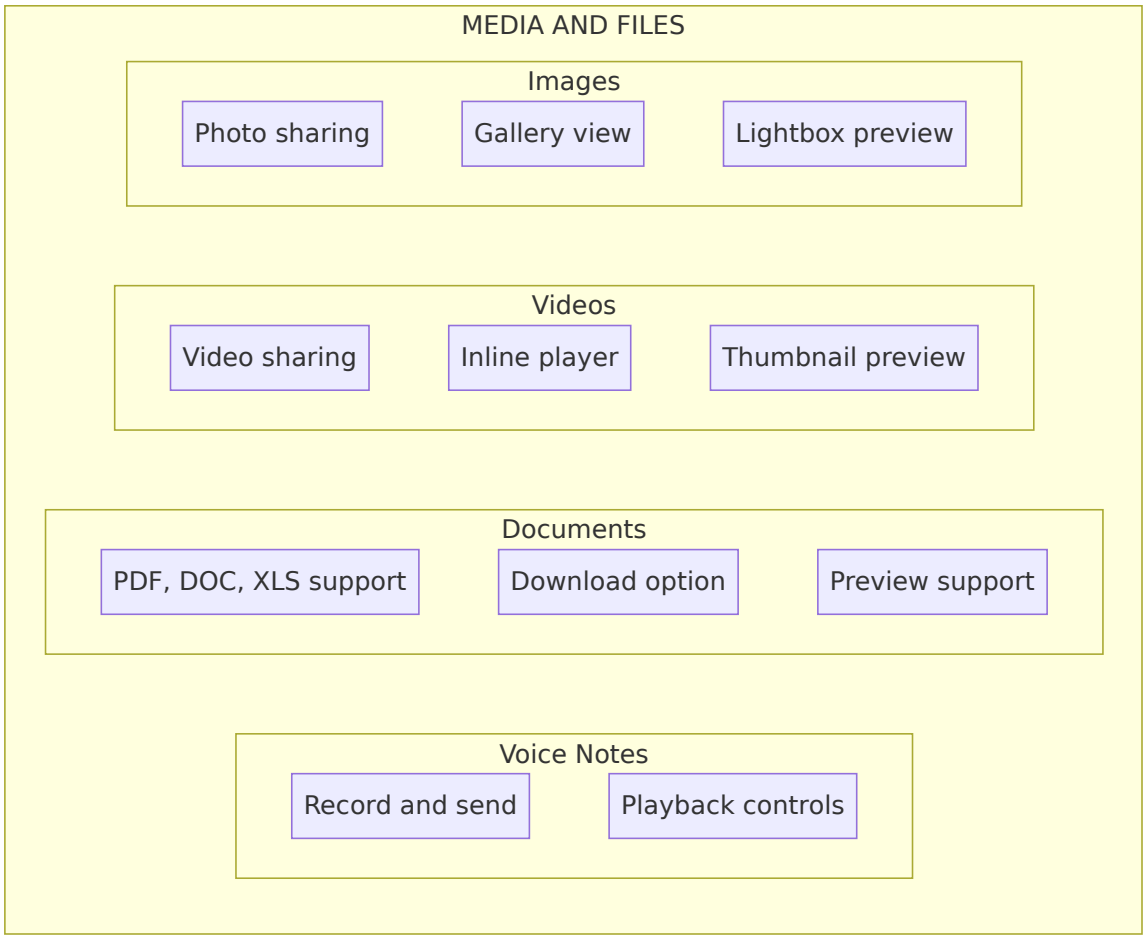
Complete Feature Map - Messaging



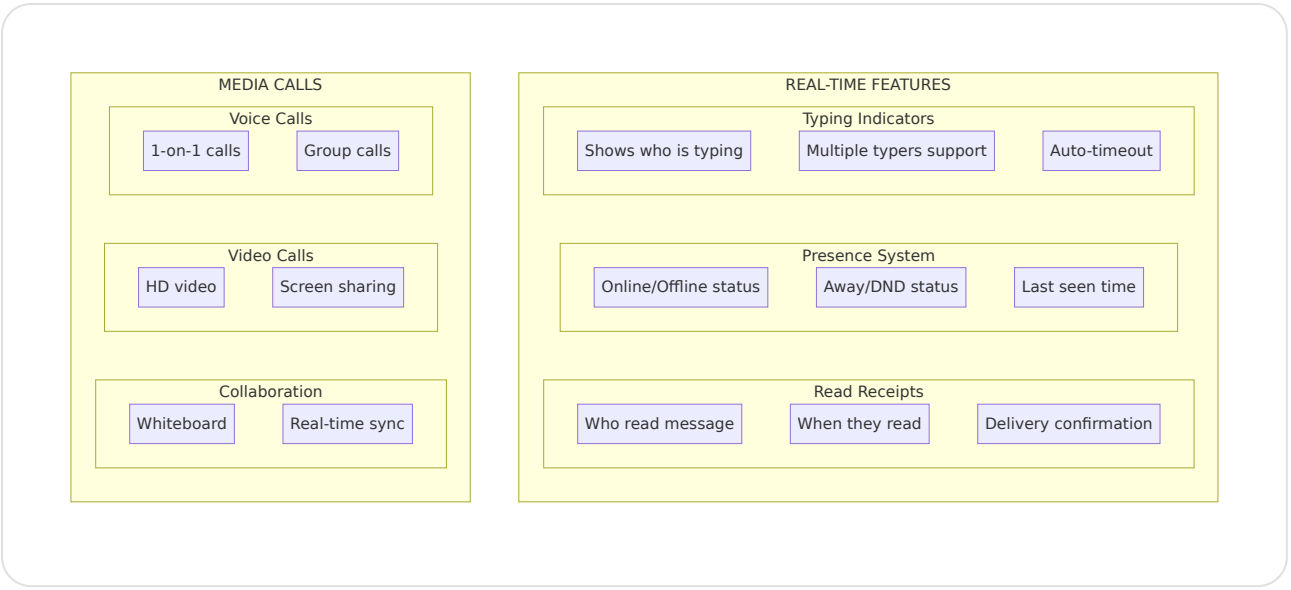
Complete Feature Map - Conversations



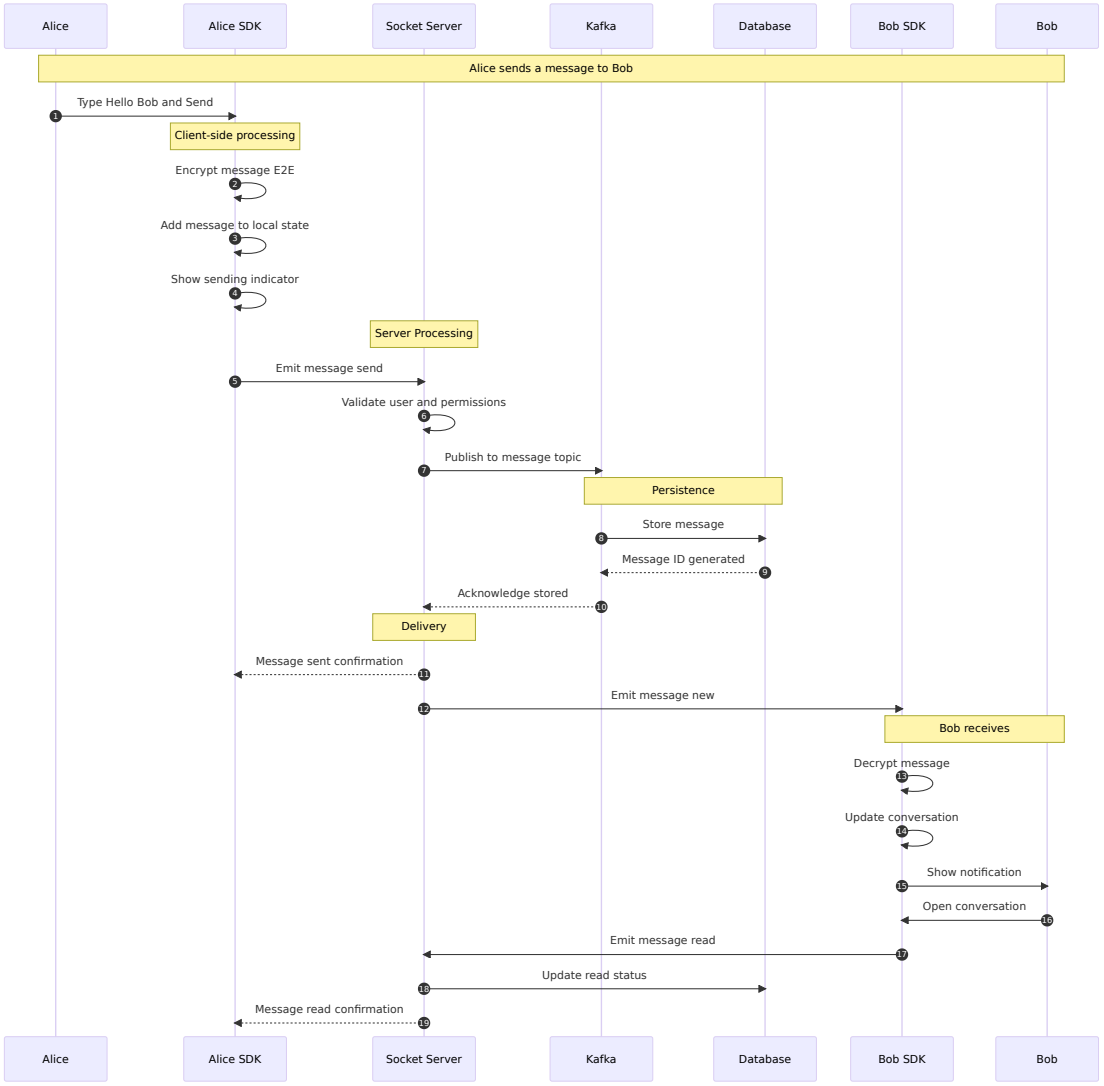
Complete Feature Map - Media



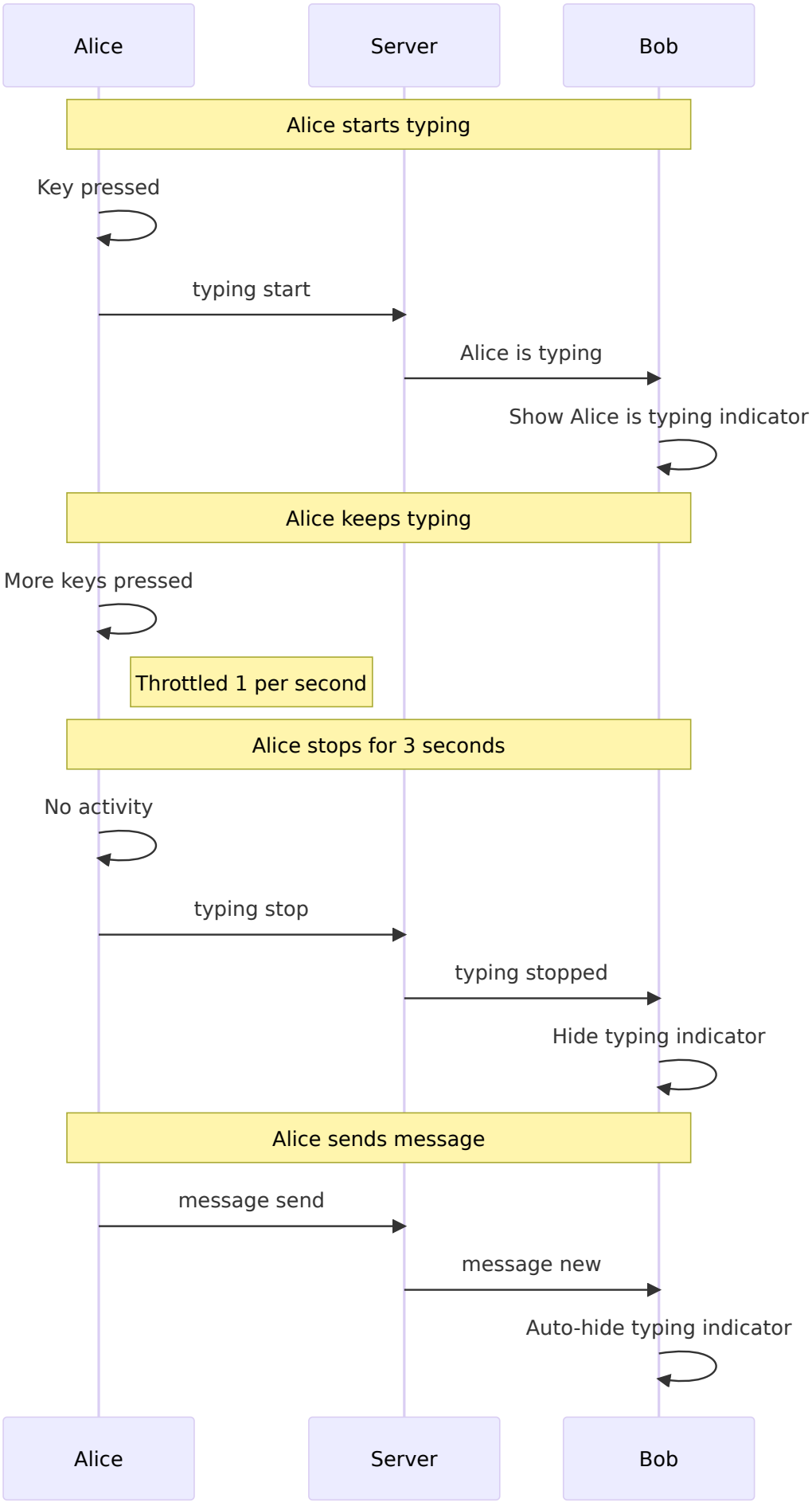
Complete Feature Map - Real-Time



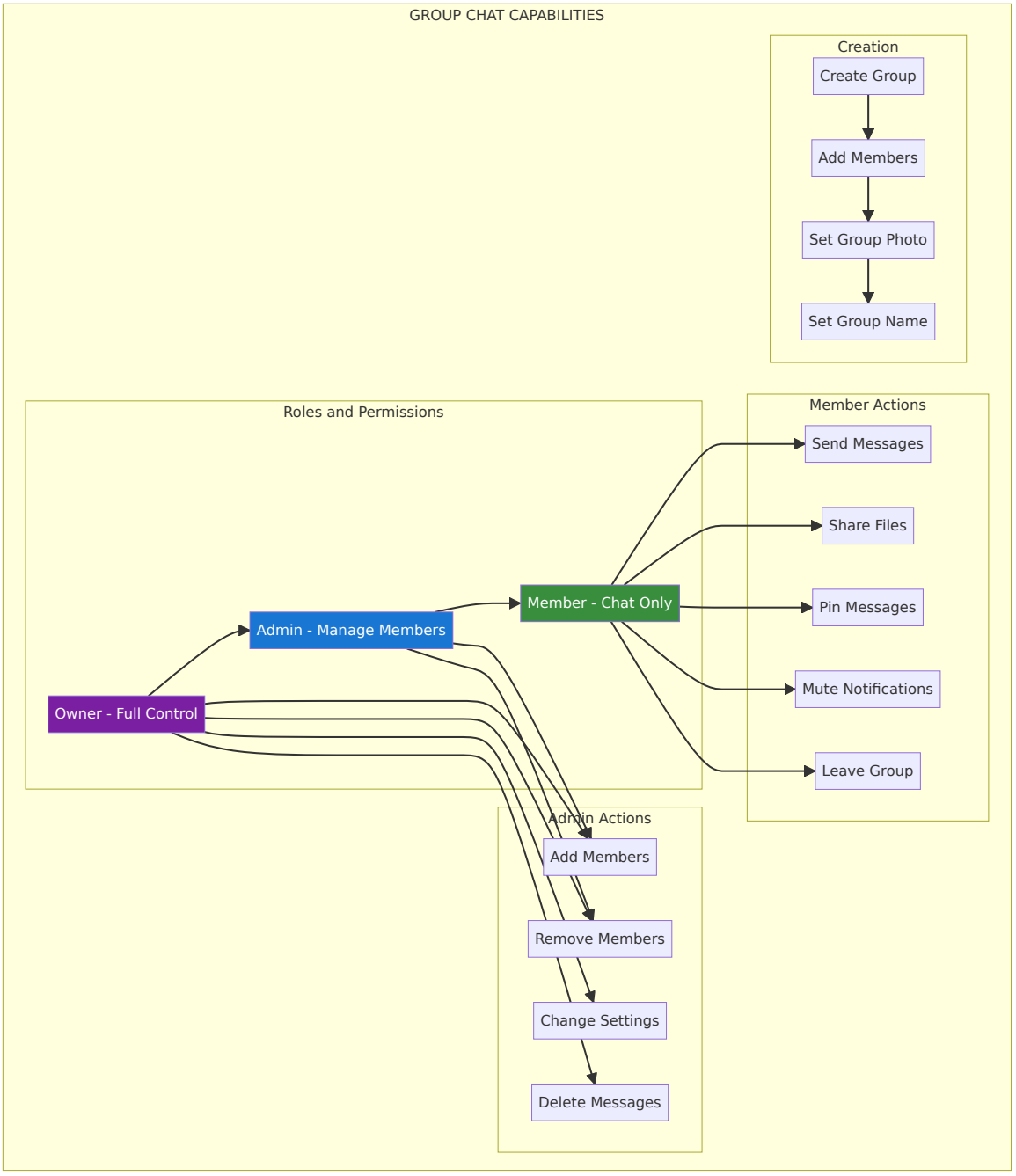
How Messages Flow



Typing Indicators Flow

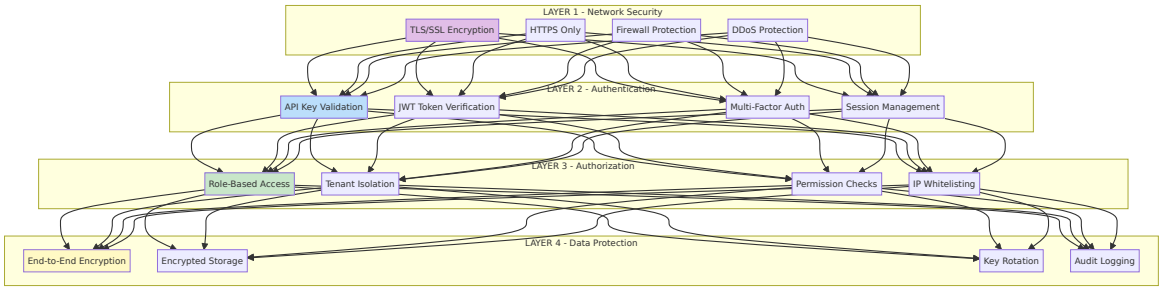

Alice
Server
Bob
Alice starts typing
Key pressed
typing start
Alice is typing
Show Alice is typing indicator
Alice keeps typing
More keys pressed
Throttled 1 per second
Alice stops for 3 seconds
No activity
typing stop
typing stopped
Hide typing indicator
Alice sends message
message send
message new
Auto-hide typing indicator
Alice
Server
Bob

Group Chat Features

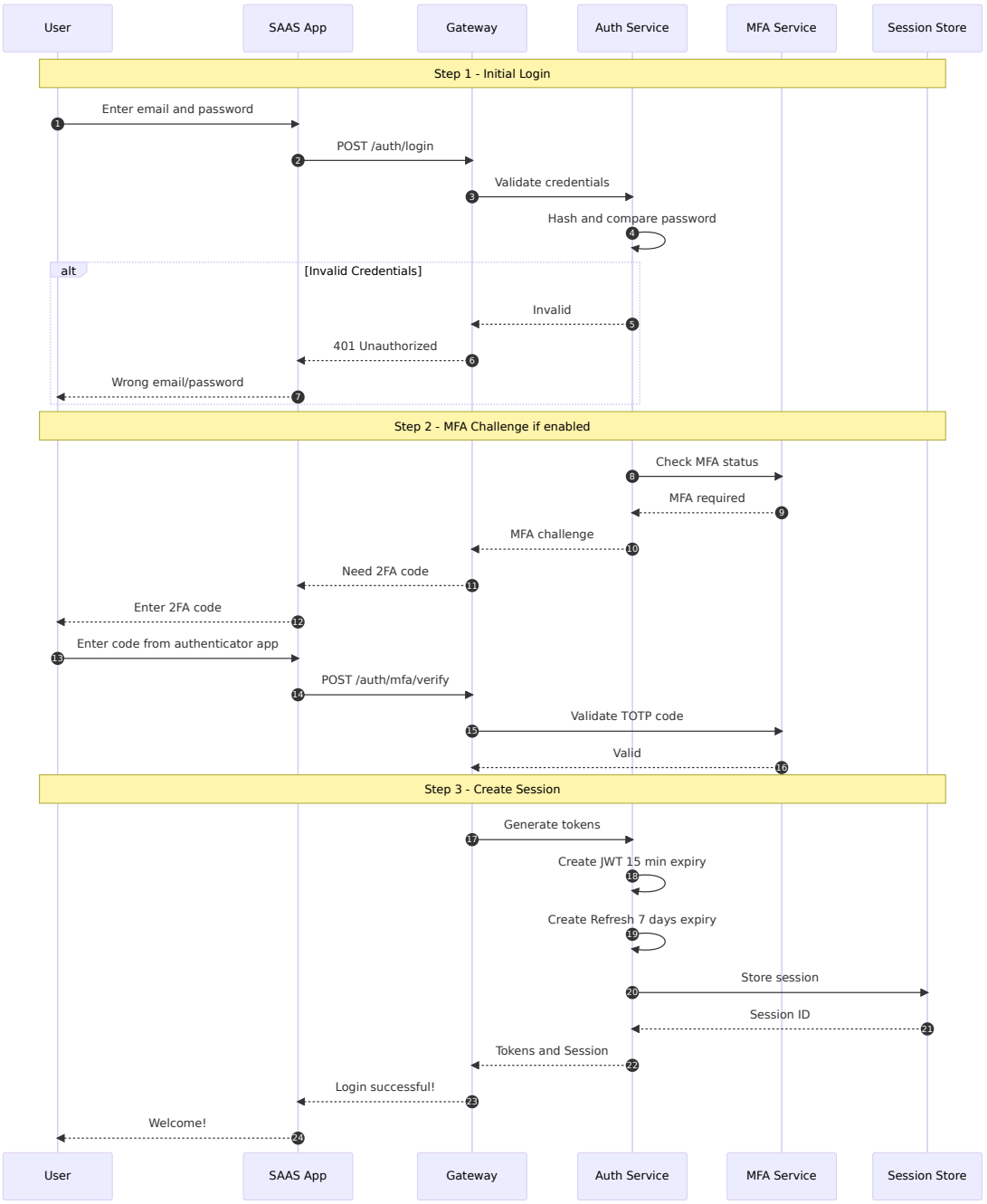


7. Security and Protection

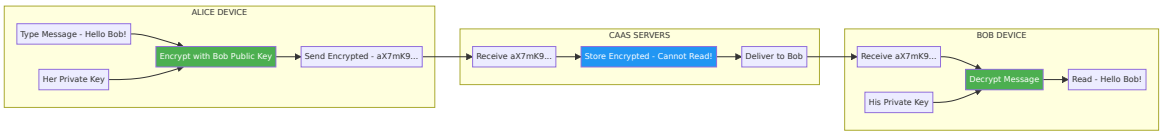
Security Layers



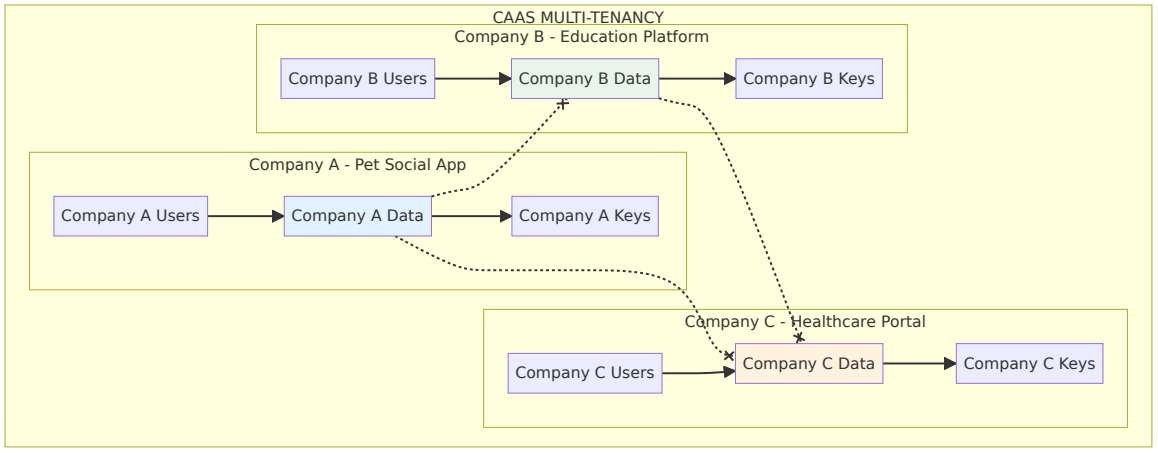
Authentication Flow



End-to-End Encryption Explained

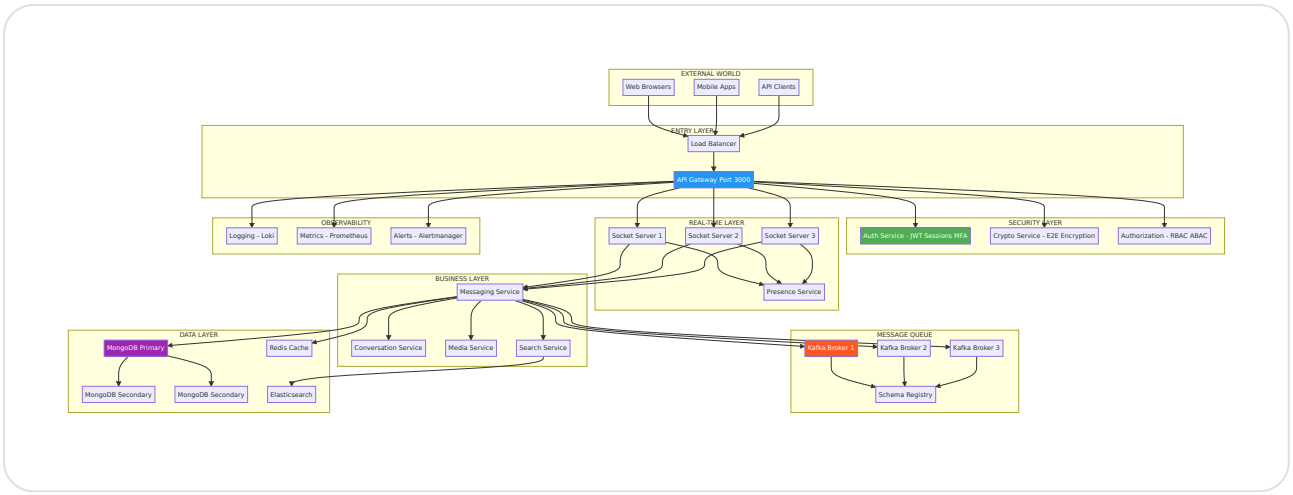


Multi-Tenant Isolation

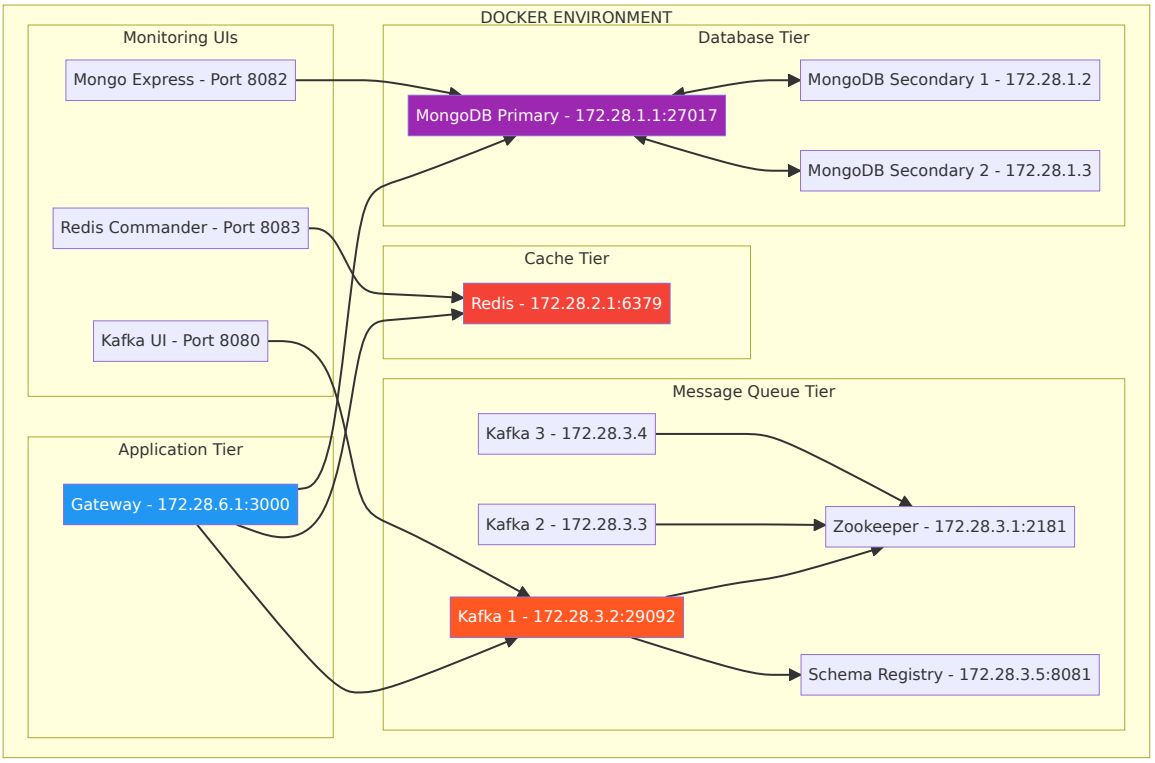


8. Behind the Scenes - Technical Infrastructure

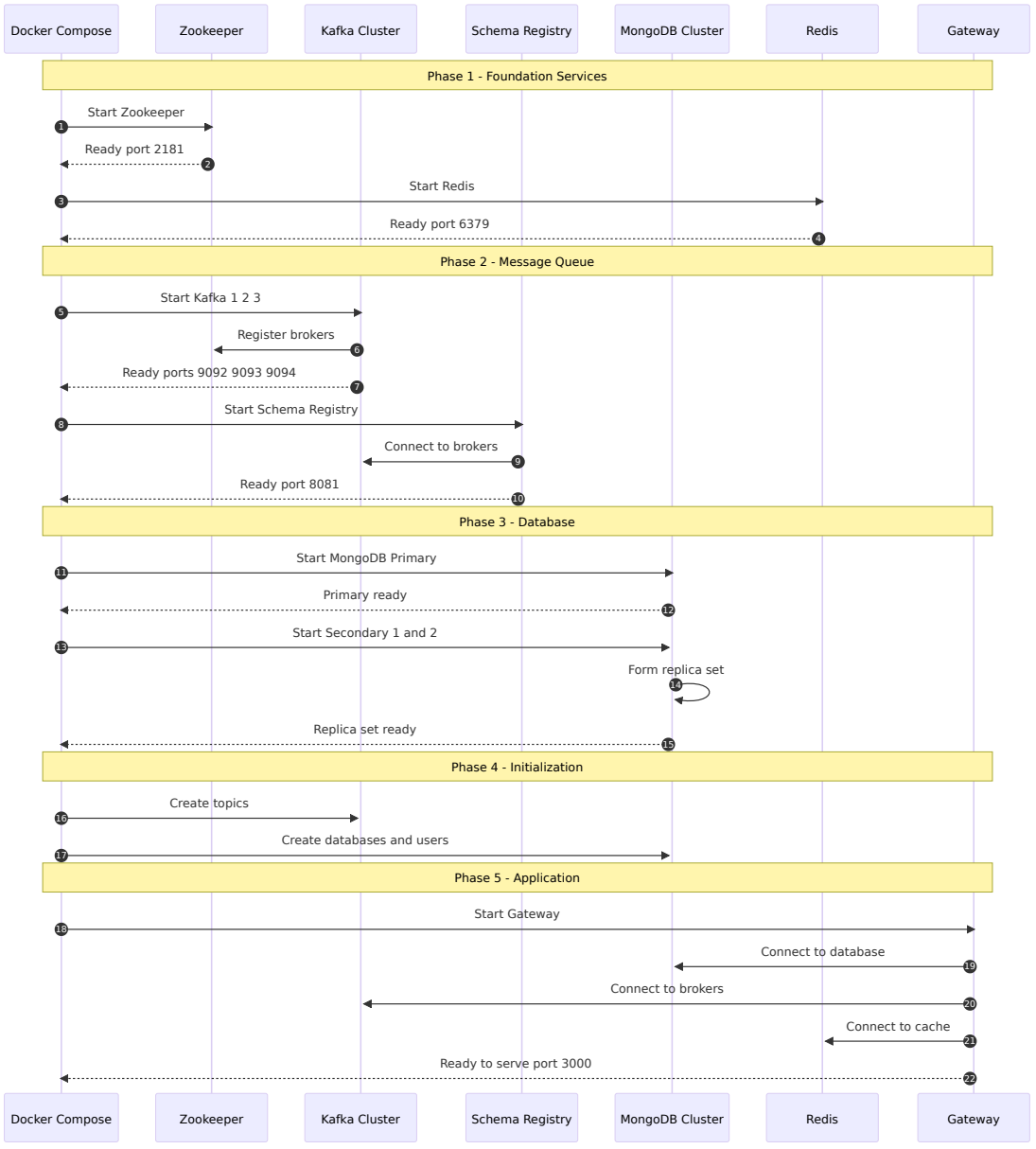
Complete System Architecture



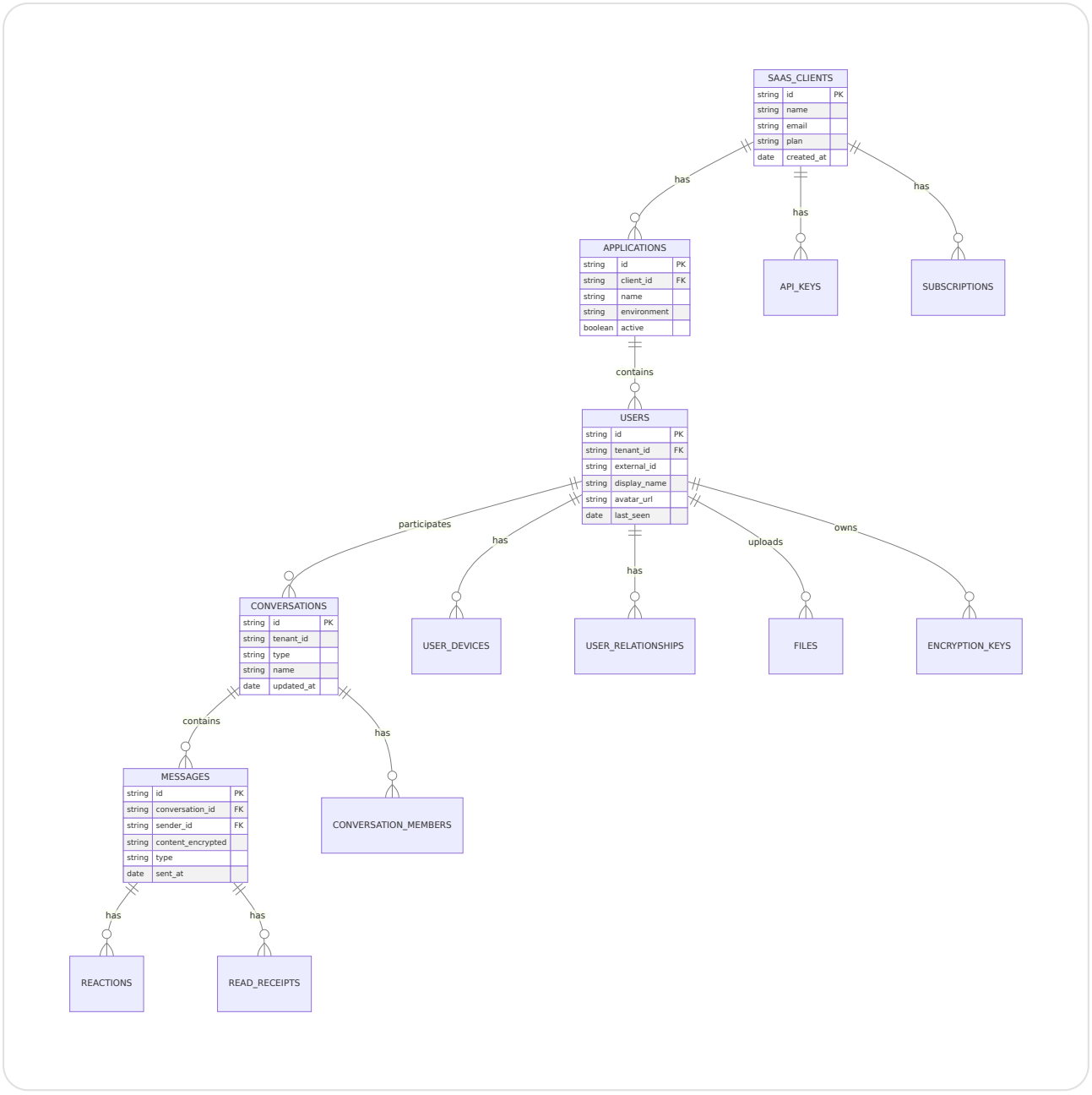
Docker Container Map



Service Startup Order

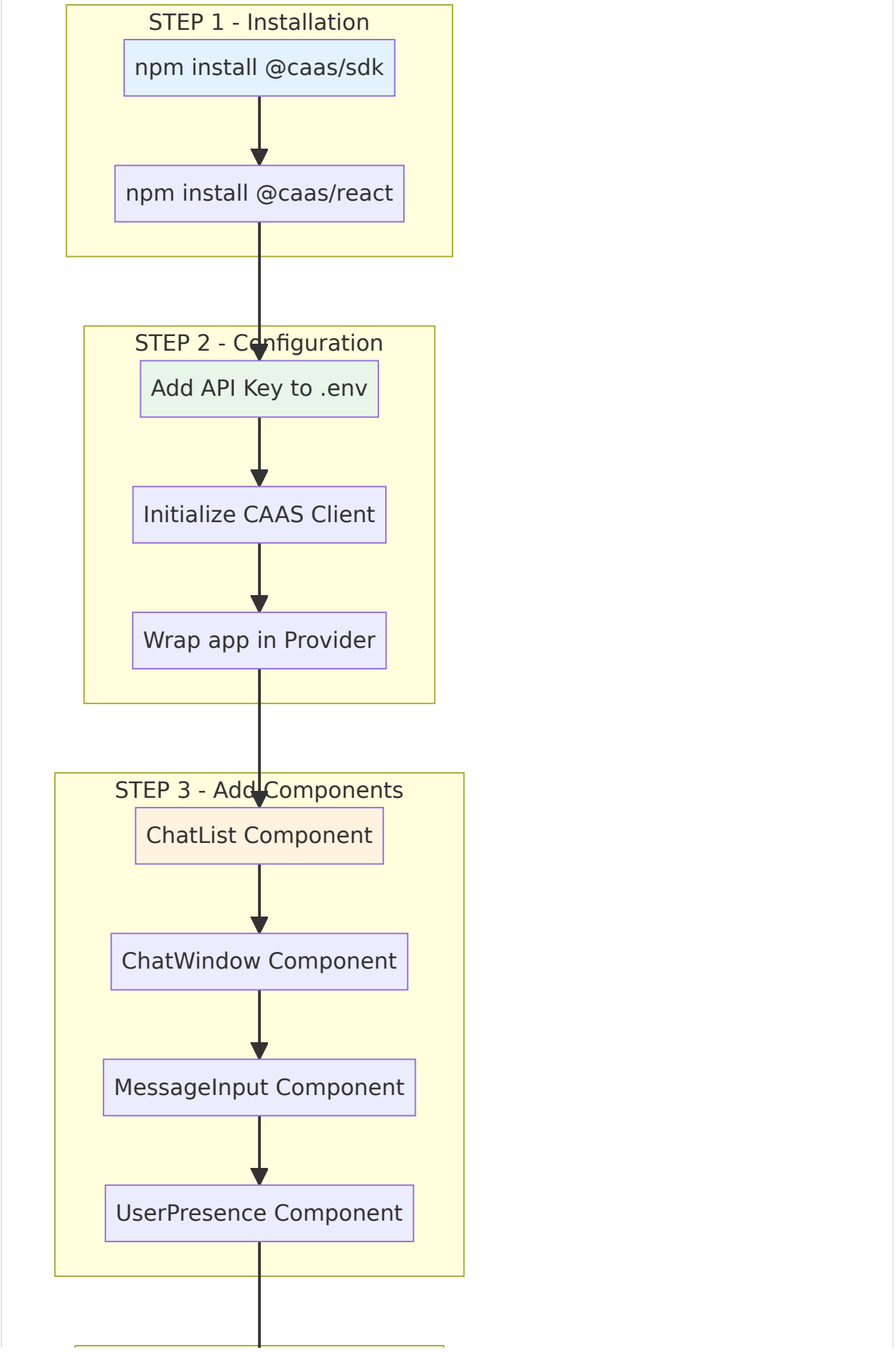


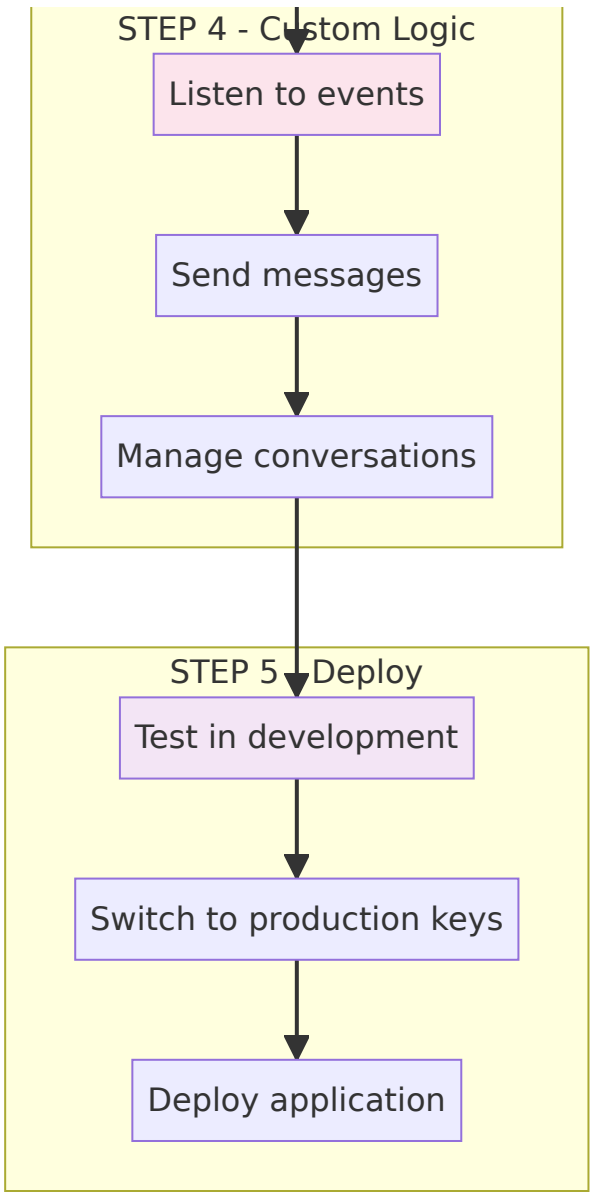
How Data is Stored



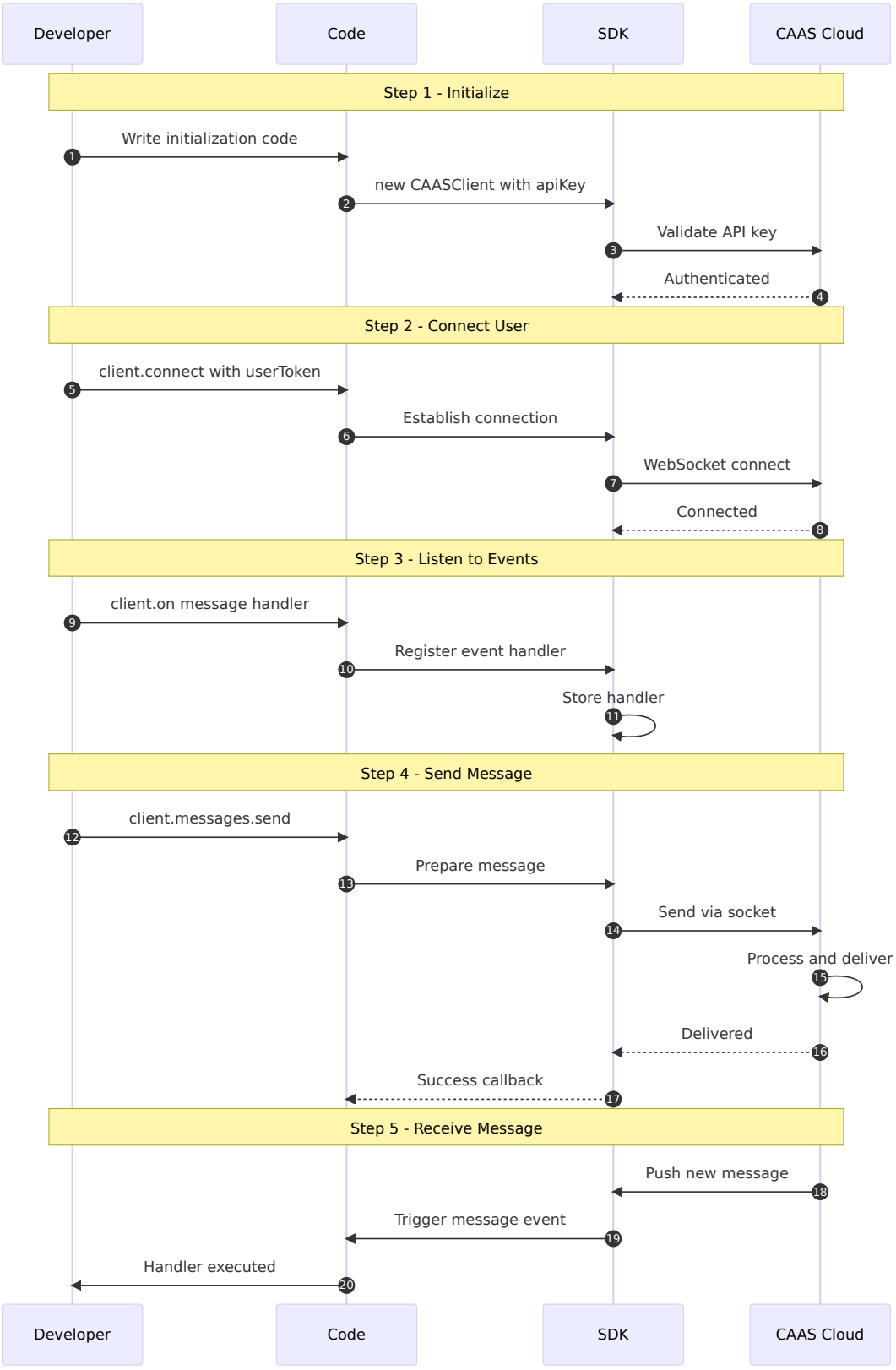
9. Developer Tools

SDK Integration Flow

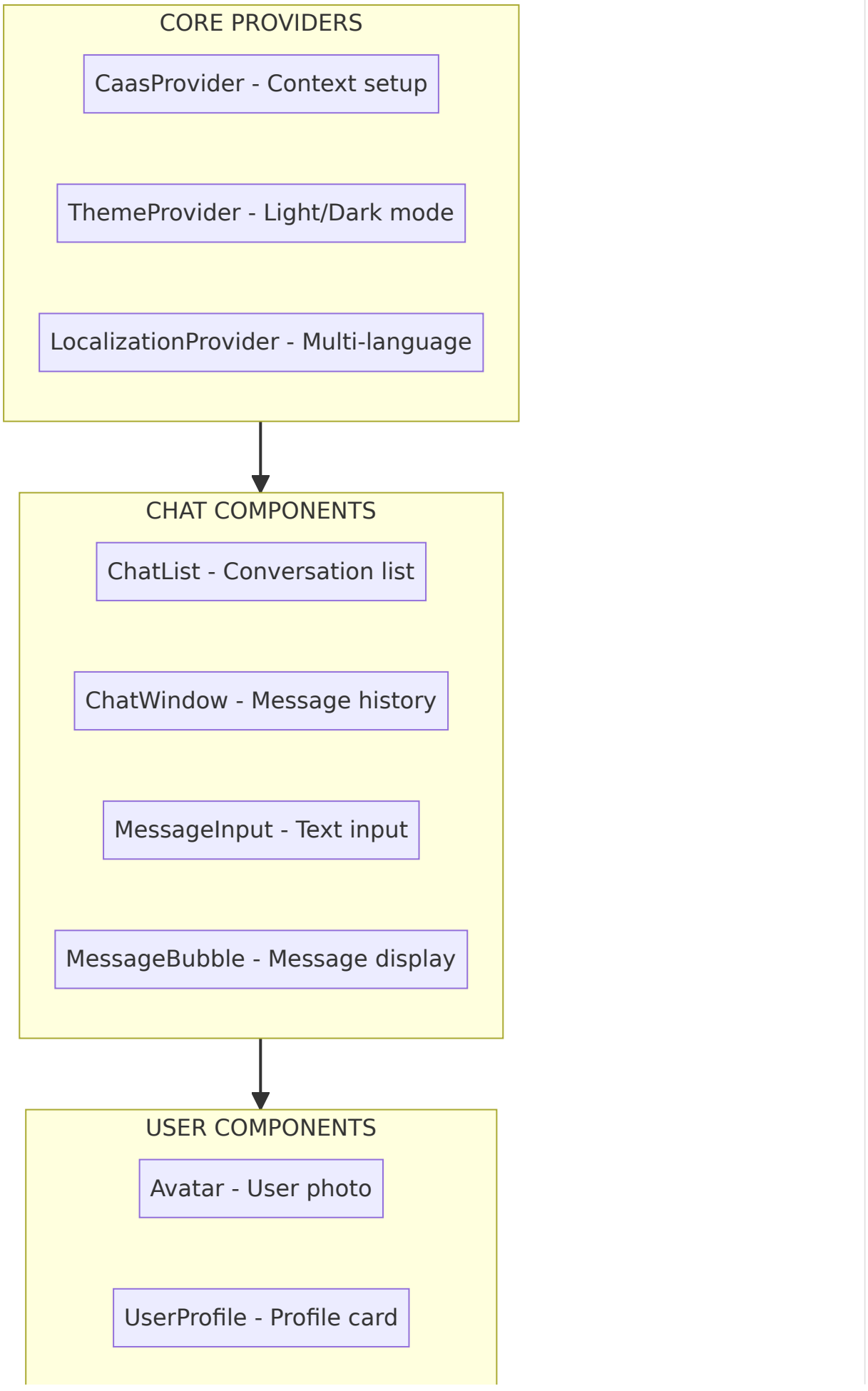

STEP 1 - Installation
npm install @caas/sdk
npm install @caas/react
STEP 2 - Configuration
Add API Key to .env
Initialize CAAS Client
Wrap app in Provider
STEP 3 - Add Components
ChatList Component
ChatWindow Component
MessageInput Component
UserPresence Component

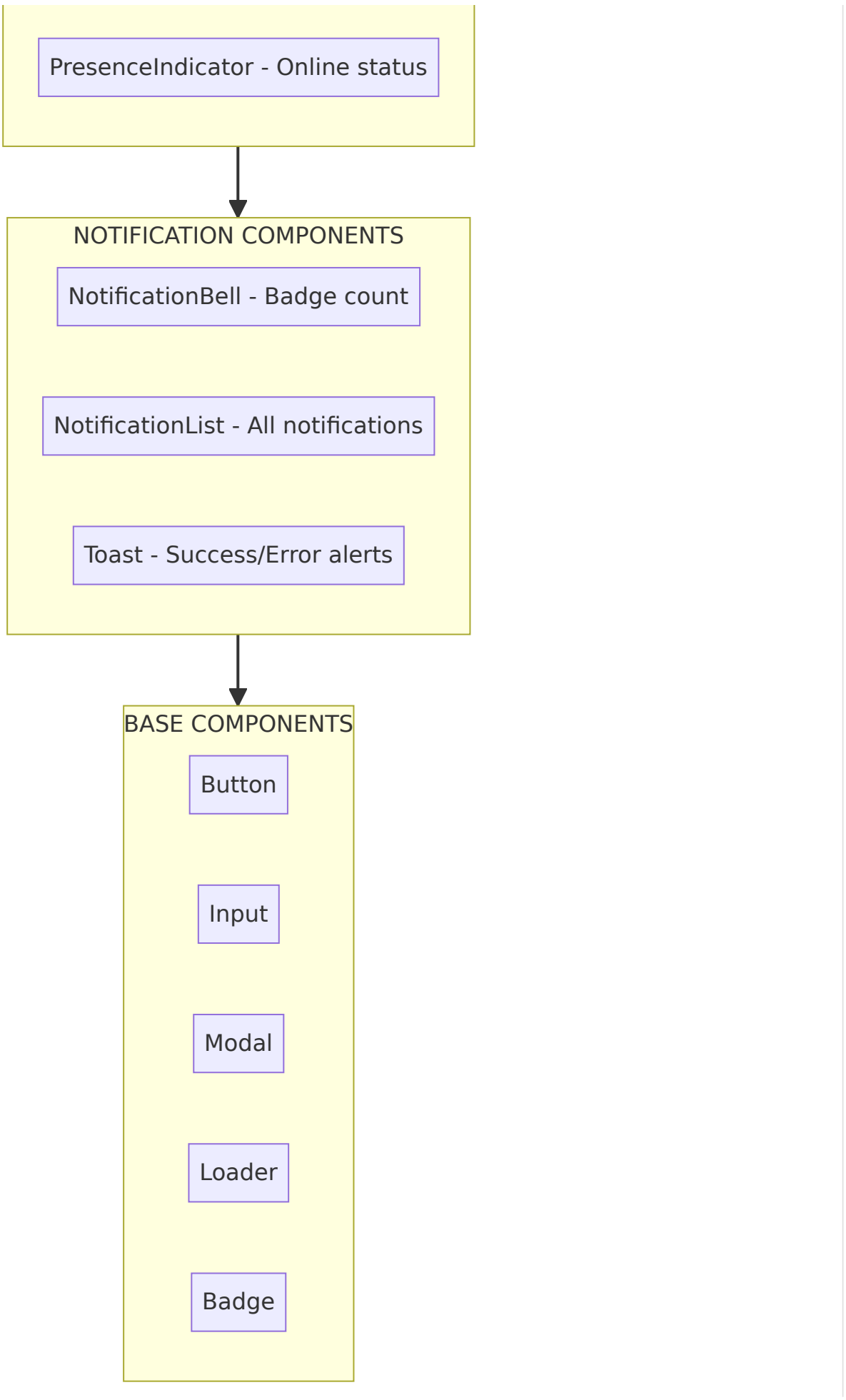

STEP 4 - Custom Logic
Listen to events
Send messages
Manage conversations
STEP 5 - Deploy
Test in development
Switch to production keys
Deploy application

SDK Code Example Flow



UI Components Available

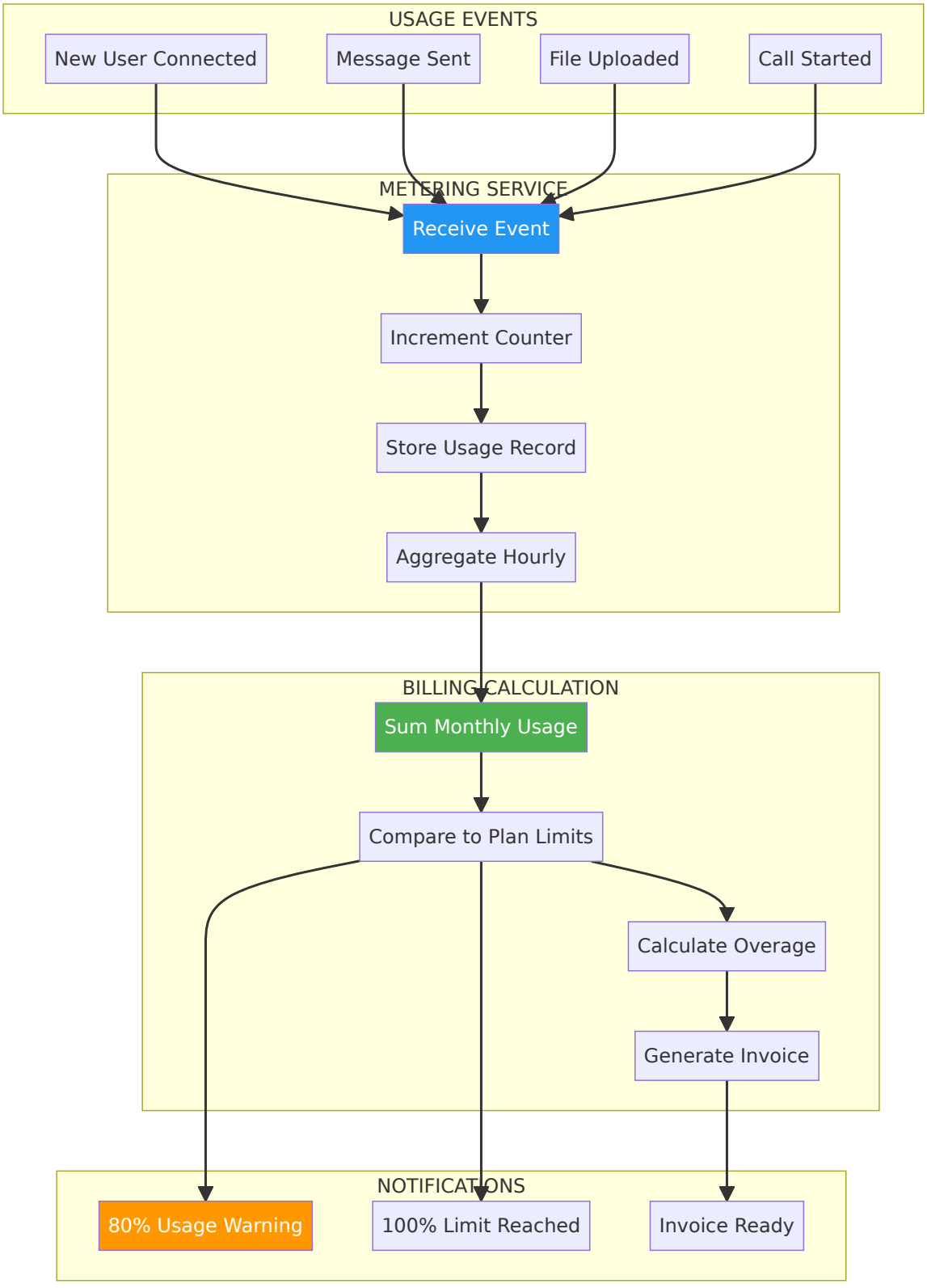

CORE PROVIDERS
CaasProvider - Context setup
ThemeProvider - Light/Dark mode
LocalizationProvider - Multi-language
CHAT COMPONENTS
ChatList - Conversation list
ChatWindow - Message history
MessageInput - Text input
MessageBubble - Message display
USER COMPONENTS
Avatar - User photo
UserProfile - Profile card


PresenceIndicator - Online status
NOTIFICATION COMPONENTS
NotificationBell - Badge count
NotificationList - All notifications
Toast - Success/Error alerts
BASE COMPONENTS
Button
Input
Modal
Loader
Badge

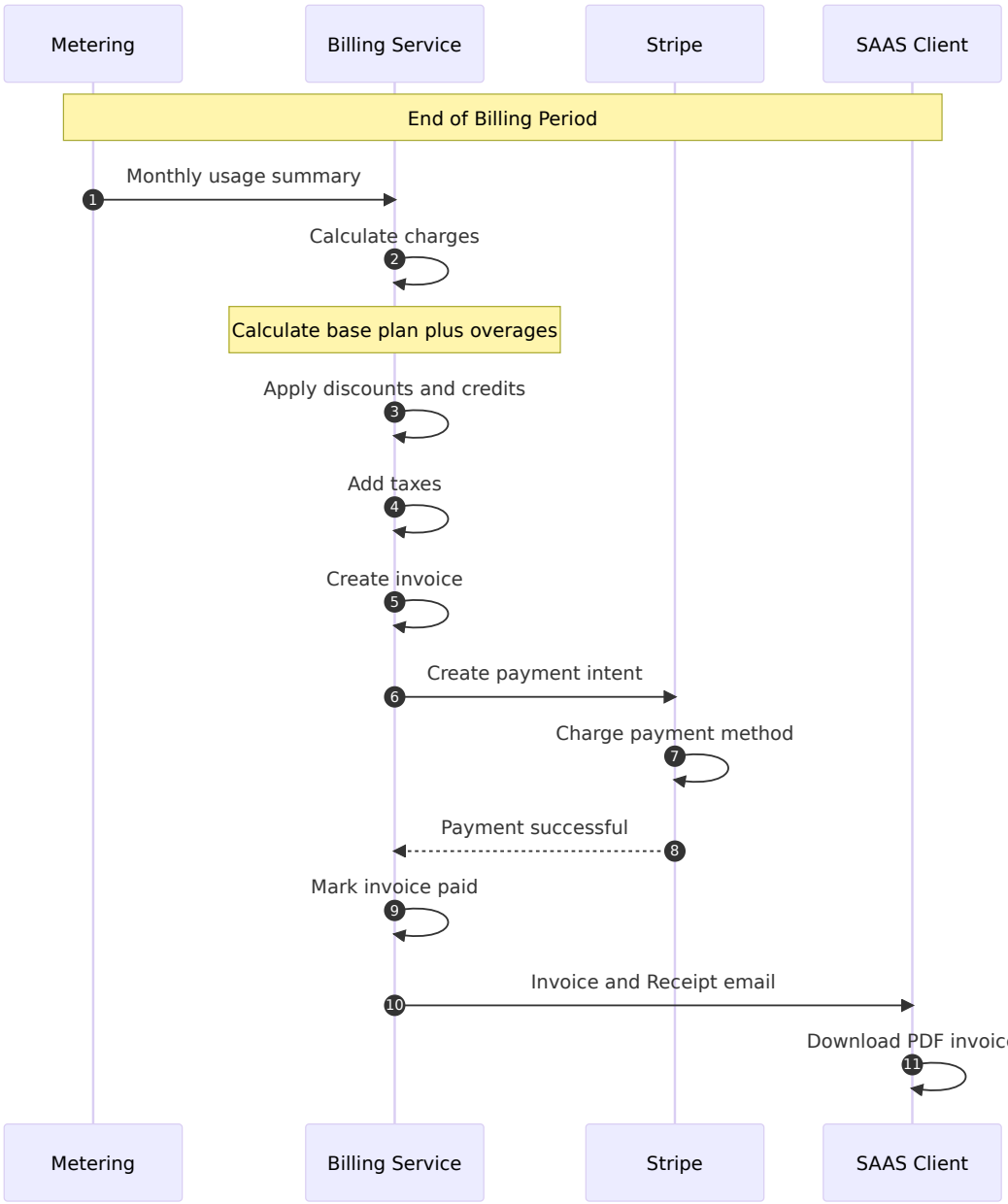
10. Billing and Pricing

Pricing Tiers

Usage Metering Flow

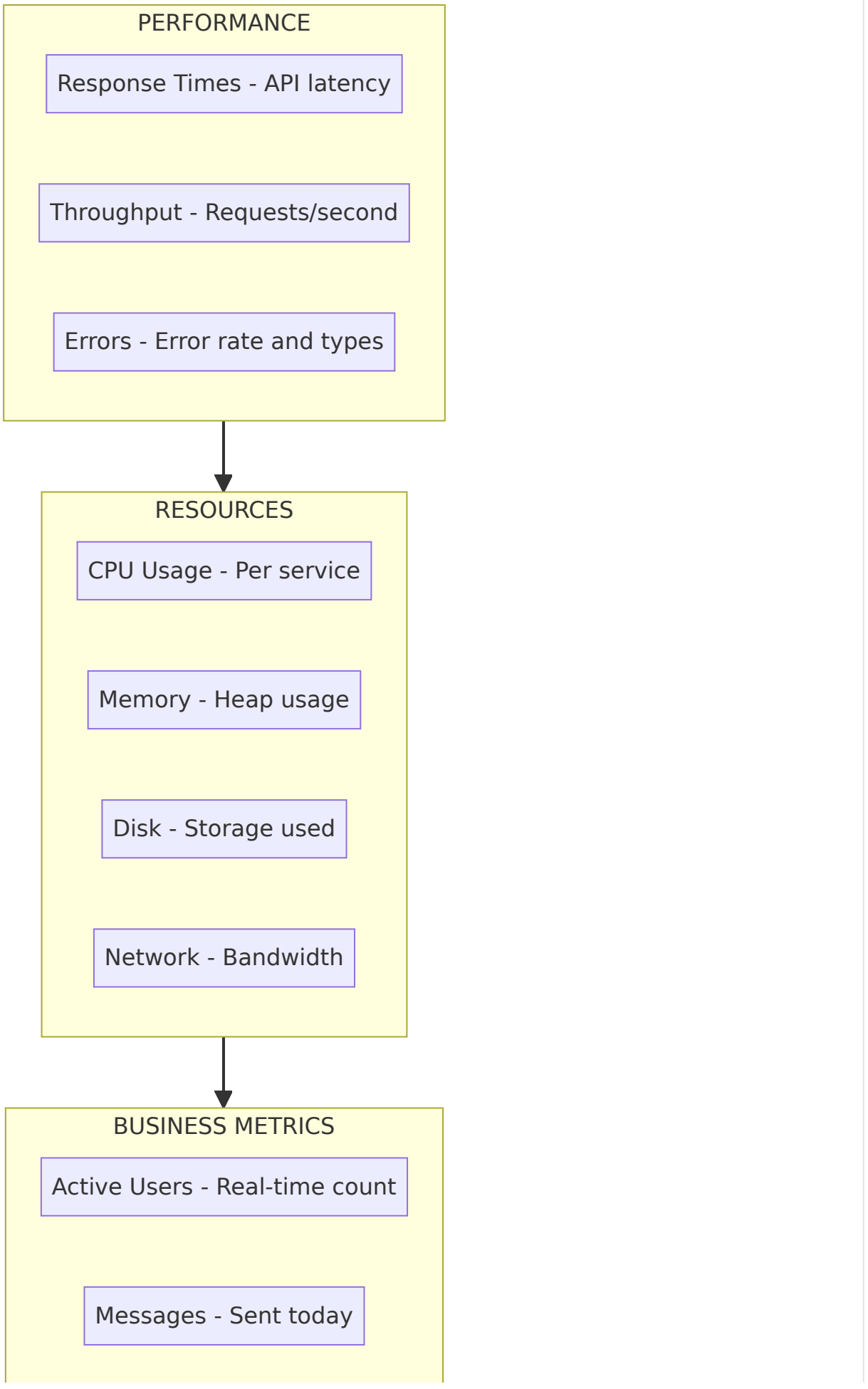


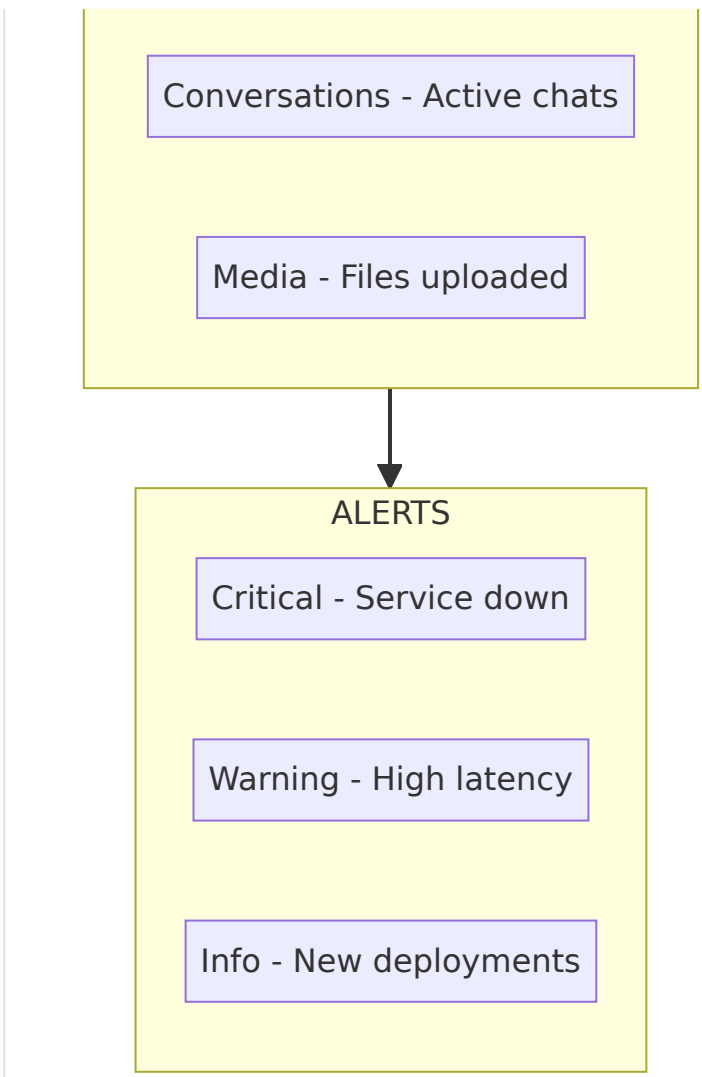
Invoice Generation



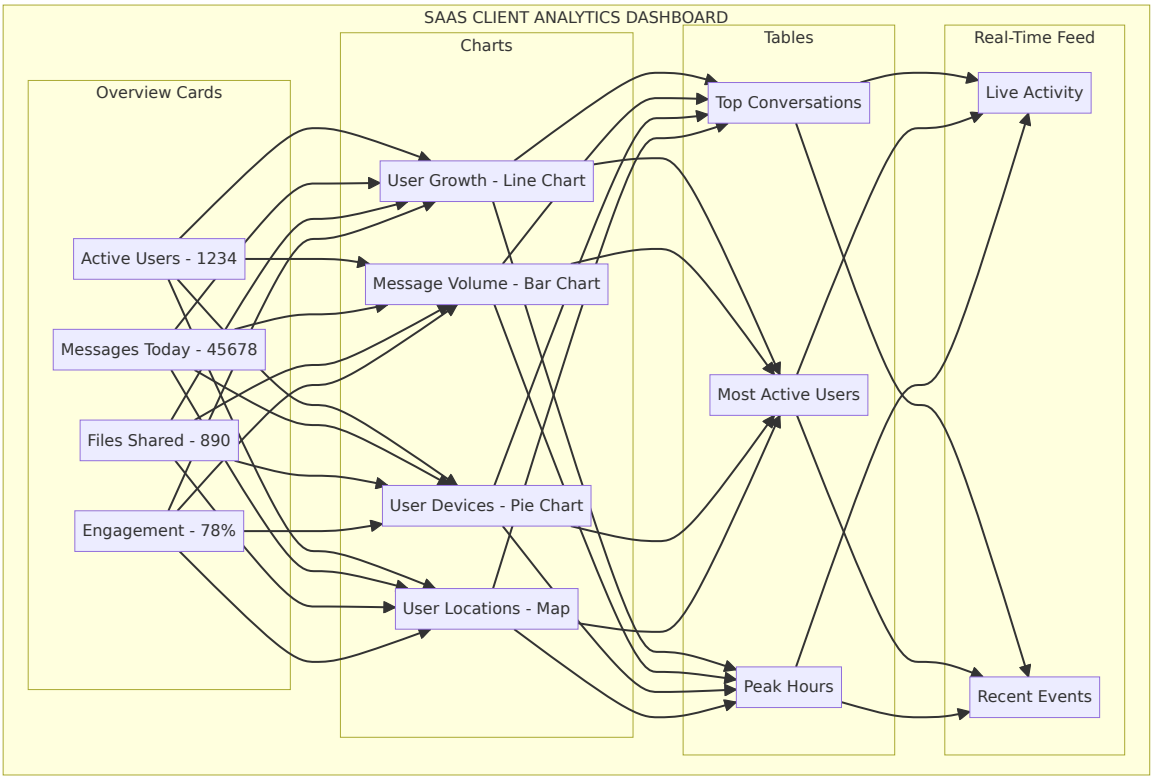
11. Monitoring and Analytics

What We Monitor

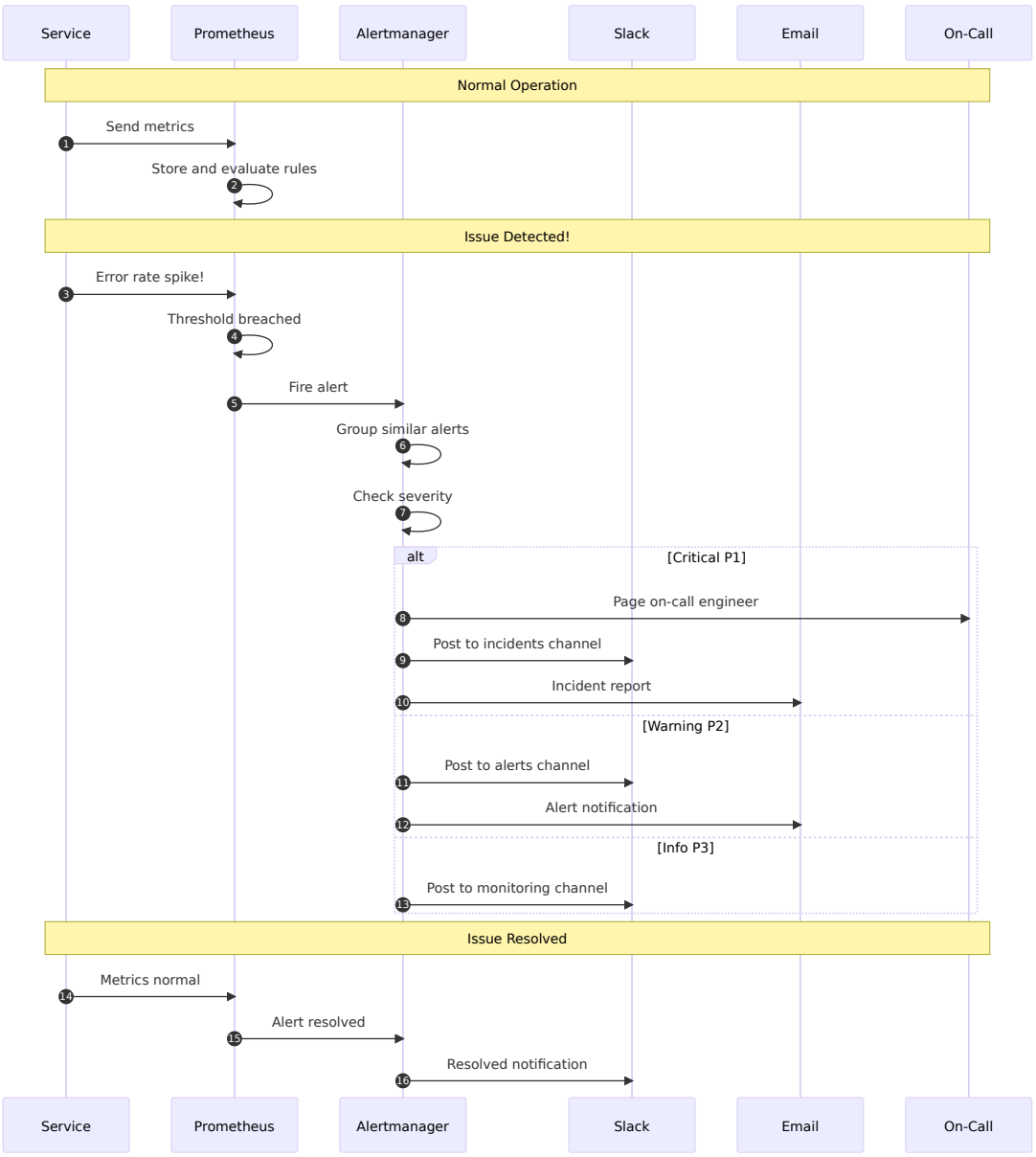

PERFORMANCE
Response Times - API latency
Throughput - Requests/second
Errors - Error rate and types
RESOURCES
CPU Usage - Per service
Memory - Heap usage
Disk - Storage used
Network - Bandwidth
BUSINESS METRICS
Active Users - Real-time count
Messages - Sent today


Conversations - Active chats
Media - Files uploaded
ALERTS
Critical - Service down
Warning - High latency
Info - New deployments

Analytics Dashboard

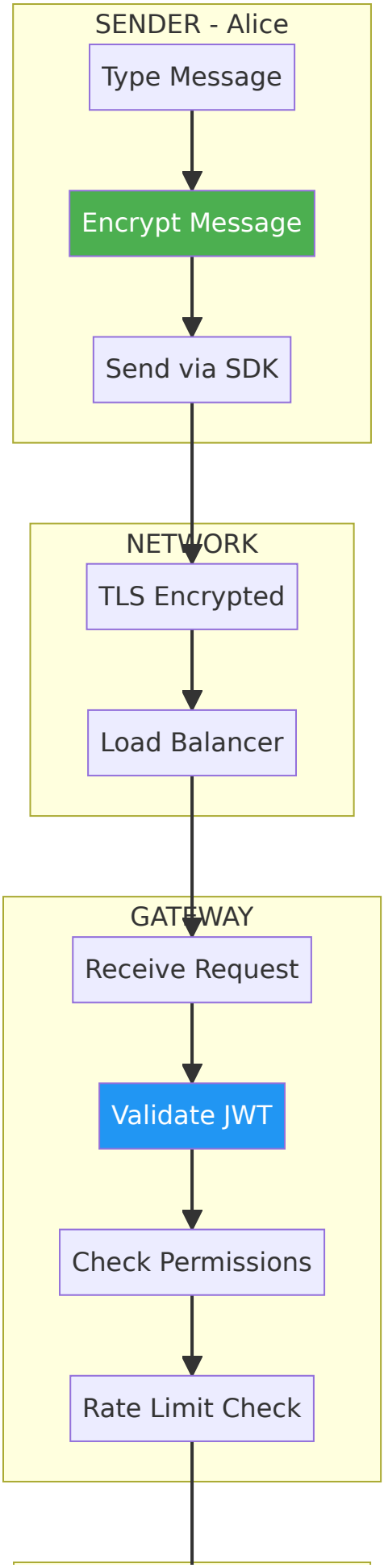


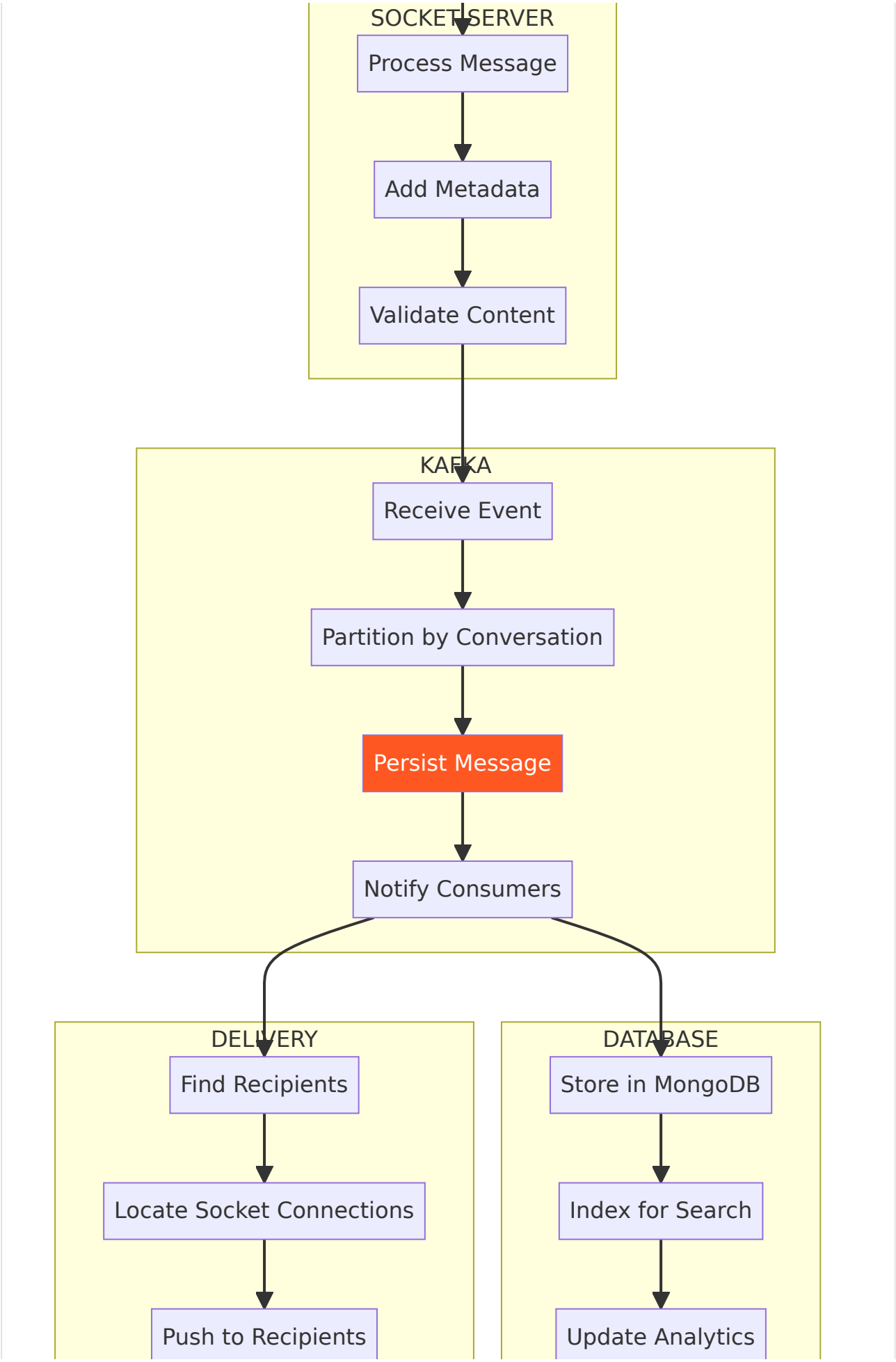
Alert Flow

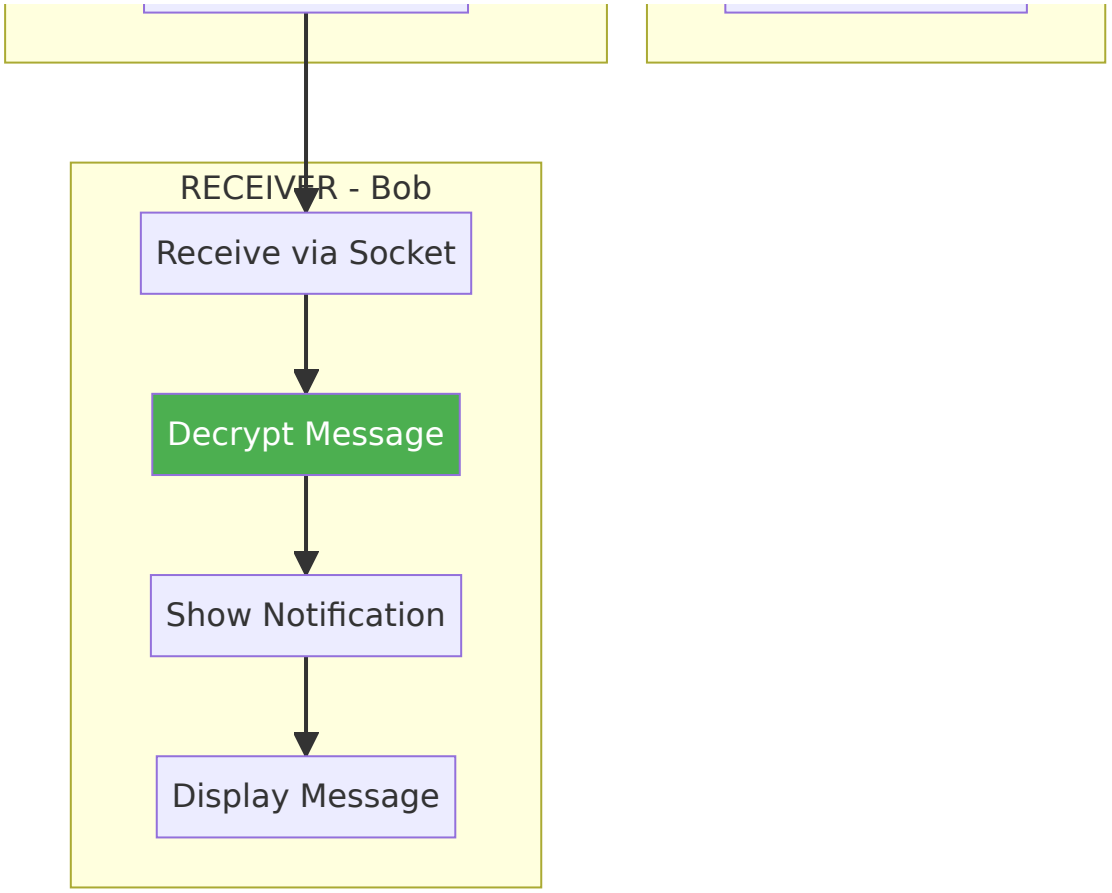

Service
Prometheus
Alertmanager
Slack
Email
On-Call
Normal Operation
Send metrics
Store and evaluate rules
Issue Detected!
Error rate spike!
Threshold breached
Fire alert
Group similar alerts
Check severity
alt
[Critical P1]
Page on-call engineer
Post to incidents channel
Incident report
[Warning P2]
Post to alerts channel
Alert notification
[Info P3]
Post to monitoring channel
Issue Resolved
Metrics normal
Alert resolved
Resolved notification
Service
Prometheus
Alertmanager
Slack
Email
On-Call

12. Complete Data Flow

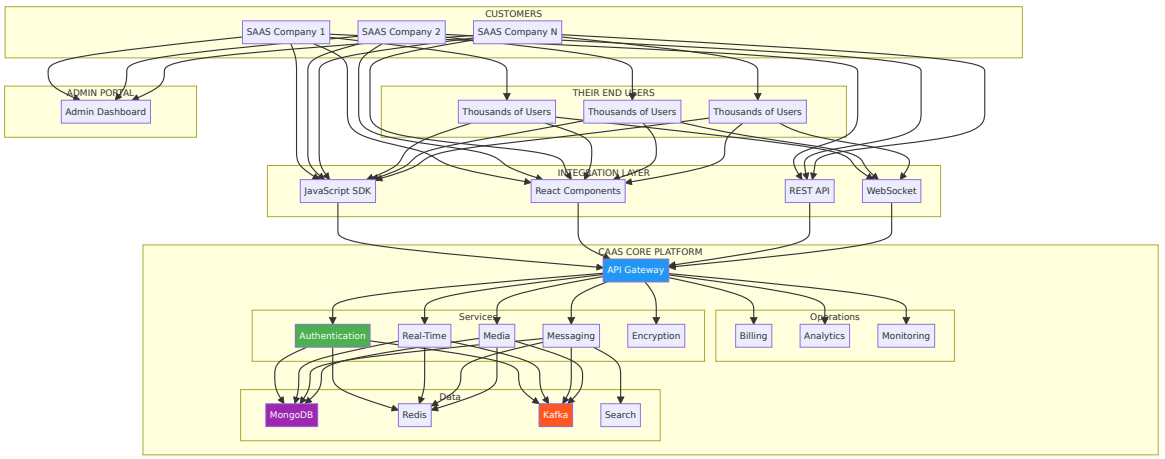
End-to-End Message Journey


SENDER - Alice
Type Message
Encrypt Message
Send via SDK
NETWORK
TLS Encrypted
Load Balancer
GATEWAY
Receive Request
Validate JWT
Check Permissions
Rate Limit Check


SOCKET SERVER
Process Message
Add Metadata
Validate Content
KAFKA
Receive Event
Partition by Conversation
Persist Message
Notify Consumers
DELIVERY
Find Recipients
Locate Socket Connections
Push to Recipients
DATABASE
Store in MongoDB
Index for Search
Update Analytics

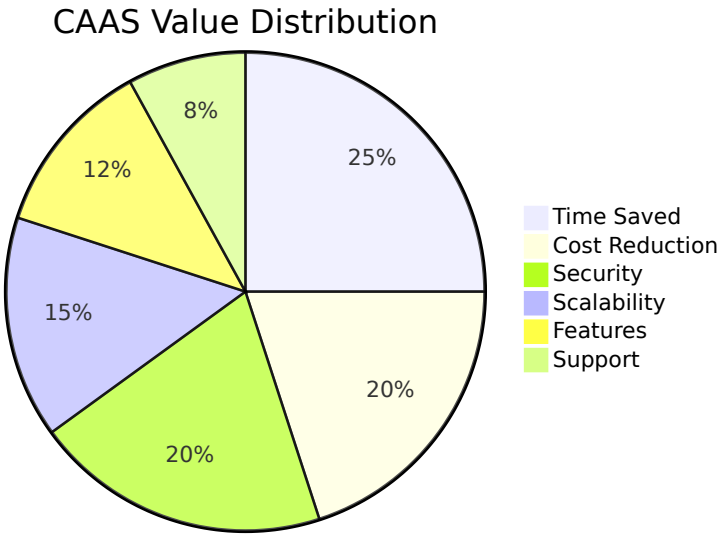


Complete Platform Ecosystem

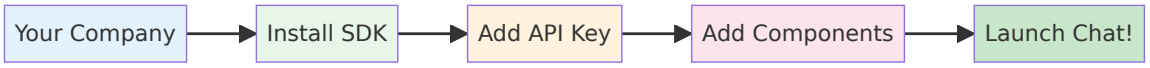


Summary

What CAAS Provides



Key Takeaways



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Generated for: Non-Technical Stakeholders, Business Users, and Everyone Curious About CAAS!