

VocalBridge Ops – Product & System Report

Objective

VocalBridge Ops is a multi-tenant AI agent platform designed to enable hospitals and healthcare providers to deploy automated AI workflows for patient-facing and internal operations.

The system supports AI-driven interactions for:

- Customer support
- Sales and onboarding
- Billing and payments
- General medical queries related to diagnosis, treatment, and guidance (non-clinical decision support)

The platform abstracts AI vendor complexity, ensures reliability and cost tracking, and provides full observability into usage, sessions, and billing.

Actors

Tenants (Hospitals)

Hospitals act as clients of VocalBridge Ops. Each tenant represents an isolated organization with its own configuration, agents, usage, and billing.

Agents (AI Agents)

Agents are configurable AI entities created by tenants. Each agent is purpose-built for a specific workflow (e.g., support bot, billing assistant, onboarding guide) and encapsulates provider configuration, prompts, tools, and voice capabilities.

Customers (Patients)

Patients or hospital staff acting on behalf of patients interact with agents through chat or voice sessions. Customers are identified by an external customer identifier provided by the tenant.

Core Tenets

Multi-Tenant Isolation

- Each tenant has a unique account and API key.
- All data access is strictly scoped to the tenant.
- No tenant can access another tenant's agents, sessions, or usage.

Authentication & Roles

- API-key-based authentication.
- Two roles supported
 - **Admin:** Full access (configuration, sessions, messaging, analytics).
 - **Analyst:** Read-only access to usage, analytics, and session data.

Agent Lifecycle

- Tenants can create multiple agents for different use cases.
- Each agent has:
 - Provider configuration (primary and fallback).
 - Prompt and generation parameters.
 - Optional tool integrations.
 - Optional voice configuration.
- Agents can be updated or soft-deleted (deactivated while retaining historical data).

Sessions & Conversations

- Each interaction occurs within a **session**, tied to a specific agent and customer.
- Only one active session per agent–customer pair is allowed.
- Sessions support:
 - Chat mode
 - Voice mode
- Sessions must be explicitly ended before a new one is created for the same agent and customer.

Billing & Usage Transparency

- Every AI provider call is tracked.
- Token usage and cost are calculated per message.
- Session-level billing is visible inline within the conversation.
- Aggregate usage and cost analytics are available via dashboards.

Dashboards & Functional Modules

Usage Dashboard

The Usage Dashboard provides a comprehensive view of AI consumption and cost across the tenant.

Key Metrics

- Total agents created
- Total sessions initiated
- Total messages exchanged
- Tokens consumed (input, output, total)
- Total cost incurred

Cost & Usage Analytics

- Cost distribution by:
 - AI provider
 - Agent
 - Day / time range
- Top agents by cost
- Token usage trends over time

Reporting Controls

- Date range selection (custom range)
- Aggregation by provider, agent, or day
- Export-ready data model for reporting and billing reconciliation

Sessions Dashboard

The Sessions Dashboard focuses on operational visibility into ongoing and historical conversations.

Session Management

- View all sessions for the tenant.
- Create a new session for a selected agent and customer.
- Enforce session exclusivity:
 - If an active session exists for the same agent and customer, it must be ended before creating a new one.

Search & Filtering

- Search by:
 - Customer ID
 - Agent name
- Filter by:
 - Active vs ended sessions
 - Agent type
 - Channel (chat or voice)

Session Detail View

- Full message transcript
- Provider metadata (latency, tokens, fallback usage)
- Inline session-level cost summary

Agents Dashboard

The Agents Dashboard is the configuration and management interface for AI agents.

Agent Listing

- View all agents created by the tenant.
- Display status (active/inactive), provider configuration, and usage summary.

Agent Creation

- Define:
 - Name and description
 - System prompt
 - Primary and fallback providers
 - Generation parameters (temperature, max tokens)
 - Enabled tools
 - Voice configuration (optional)

Agent Updates

- Modify configuration at any time.
- Changes apply to new messages and sessions going forward.

Agent Deletion

- Soft delete only:
 - The agent is marked inactive.

- Existing sessions, messages, and usage data are preserved for audit and reporting.

Key Product Guarantees

Reliability

- Built-in retries with exponential backoff.
- Provider timeouts.
- Automatic fallback to secondary provider when configured.

Idempotency

- Message-level idempotency ensures duplicate requests do not cause duplicate charges or responses.
- Safe retries for network failures or client-side retries.

Observability

- Correlation IDs propagated across:
 - API requests
 - Provider calls
 - Tool executions
- Structured logs and metrics for debugging and performance analysis.

Compliance-Ready Design

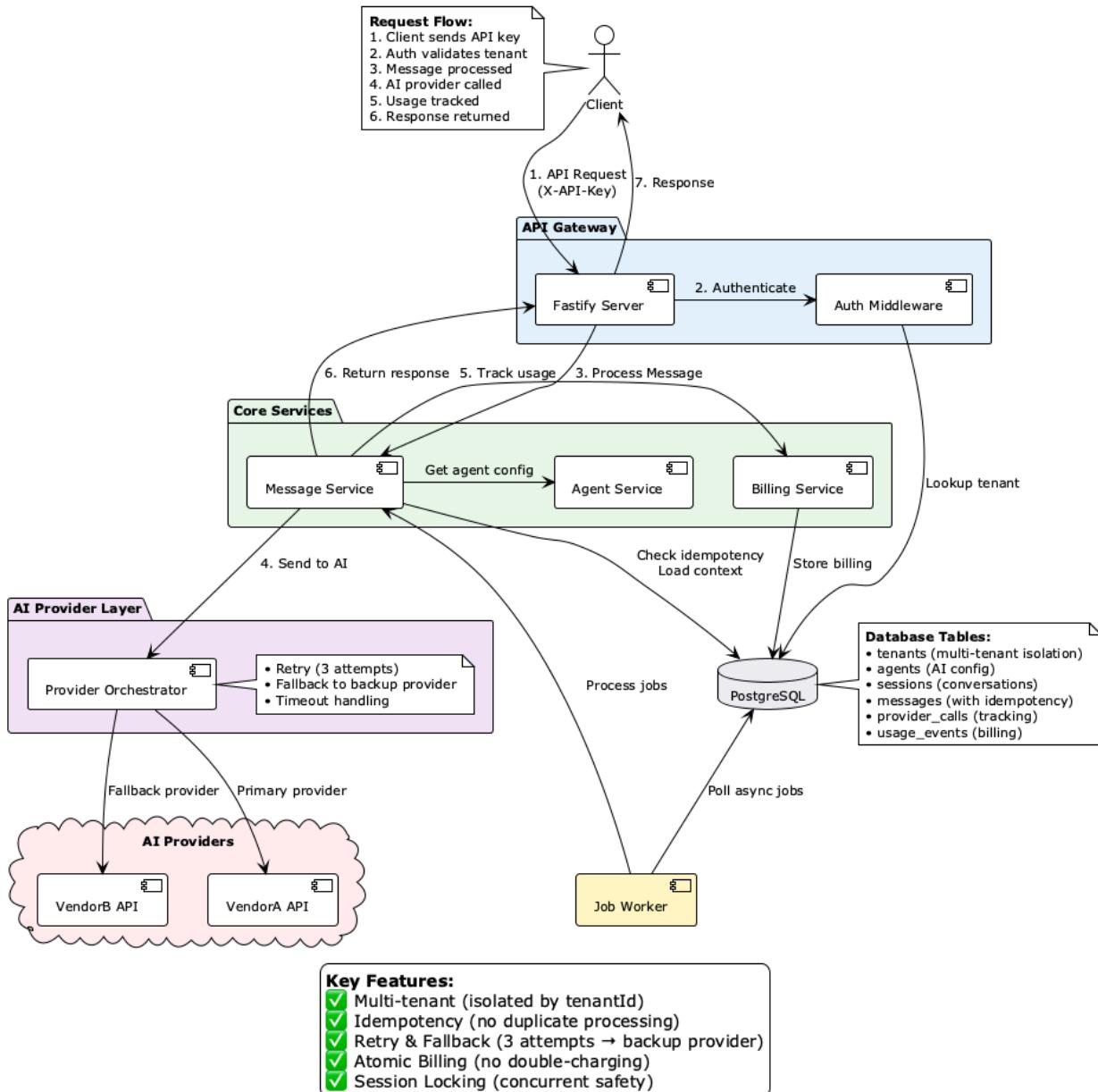
- Strong tenant isolation.
- Immutable usage and billing records.
- Audit-friendly session and provider call history.

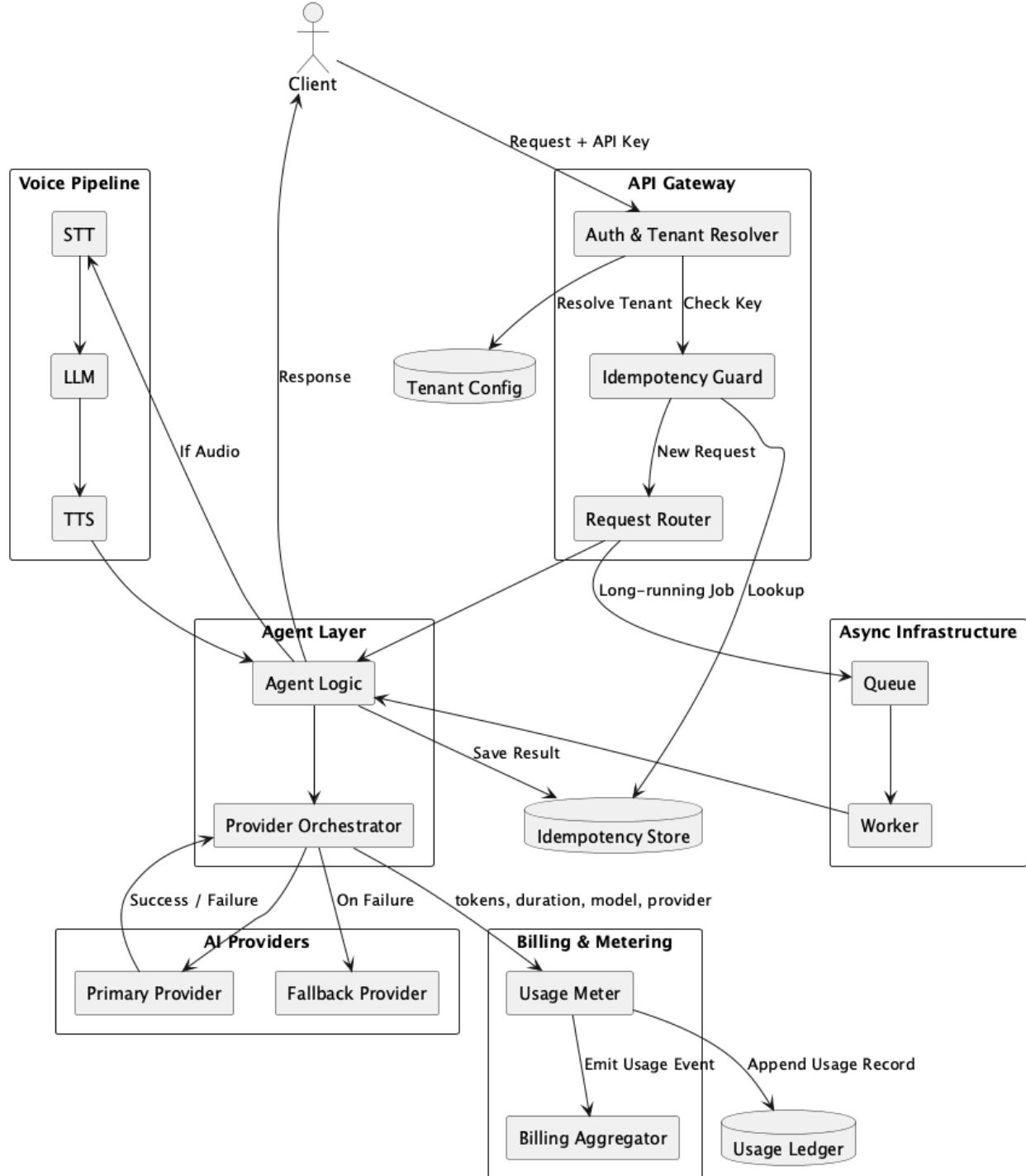
Summary

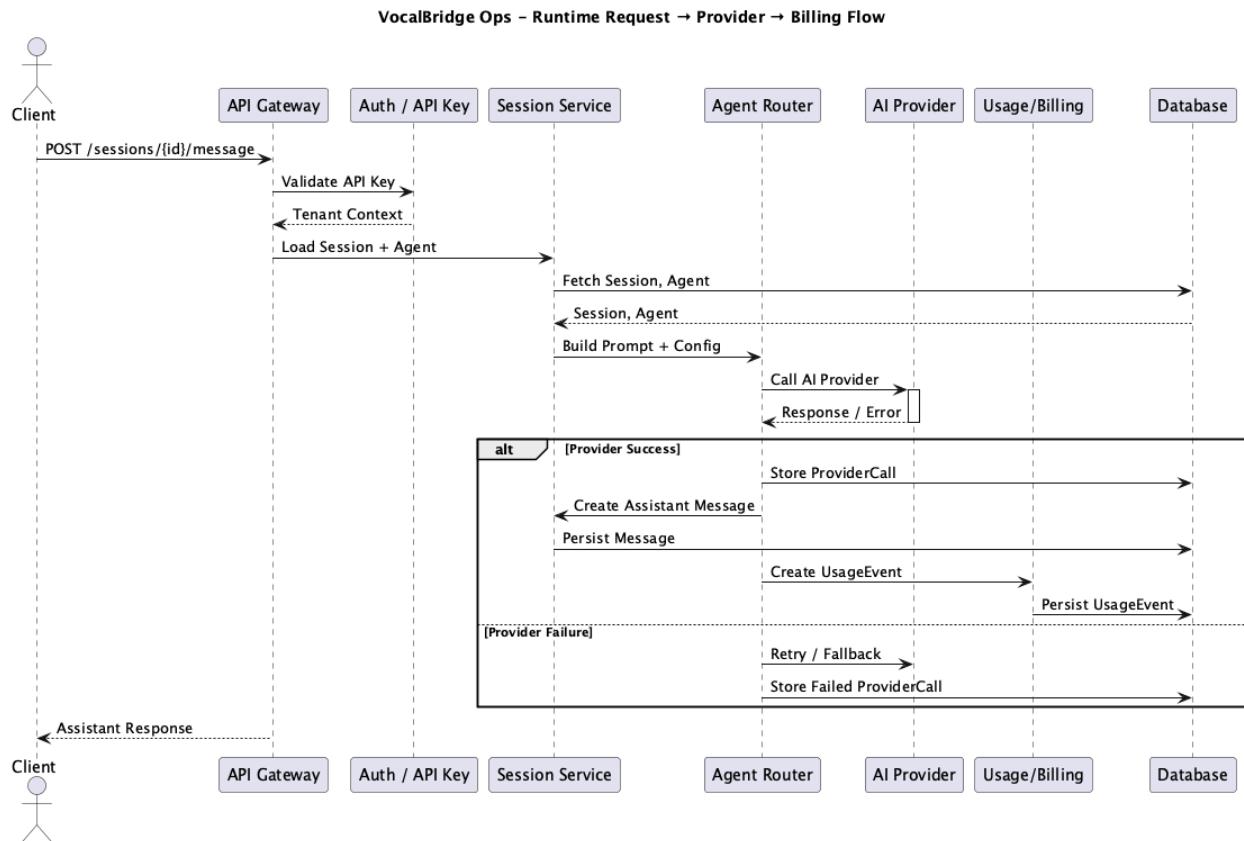
VocalBridge Ops delivers a production-grade, multi-tenant AI agent platform tailored for healthcare organizations. It enables hospitals to rapidly deploy AI-powered workflows while maintaining strict isolation, reliability, and cost transparency.

The system is designed to scale from MVP to enterprise deployment, with clear boundaries between tenants, agents, sessions, and billing—making it suitable for regulated, high-trust environments such as healthcare.

VocalBridge Ops - Simplified System Architecture







Dashboard

The screenshot shows the VocalBridge AI Agent gateway dashboard. At the top, there's a header bar with the title "VocalBridge Ops - AI Agent" and a URL "localhost:5173". On the right side of the header, there's a green button labeled "Verify that it's you". Below the header is a sidebar on the left with the "VocalBridge" logo and navigation links: "Dashboard" (which is selected and highlighted in blue), "Agents", "Sessions", and "Usage". To the right of the sidebar is the main content area.

The main content area has a title "Dashboard" and a subtitle "Overview of your AI agent gateway". It features four summary cards:

- Total Agents**: 3 (with a link to "View details →")
- Active Sessions**: 4 (with a link to "View details →")
- Total Messages**: 109
- Total Cost**: \$0.46 (with a link to "View details →")

Below these cards are two sections:

- Top Agents by Cost**:
 - Support Bot**: 43 sessions, 13,906 tokens, \$0.43
 - Sales Assistant**: 3 sessions, 427 tokens, \$0.03
- Active Sessions**:
 - Sales Assistant**: Customer: demo-1f0b1257-919d-4437-9327-4a9081d4ada1 - CHAT (ACTIVE)
 - Support Bot**: Customer: c1 - CHAT (ACTIVE)
 - Support Bot**: Customer: test_customer - CHAT (ACTIVE)
 - Support Bot**: Customer: customer_001 - CHAT (ACTIVE)

[View all active sessions →](#)

At the bottom of the dashboard, there's a note: "Data from 08/12/2025 to 07/01/2026".

Agents

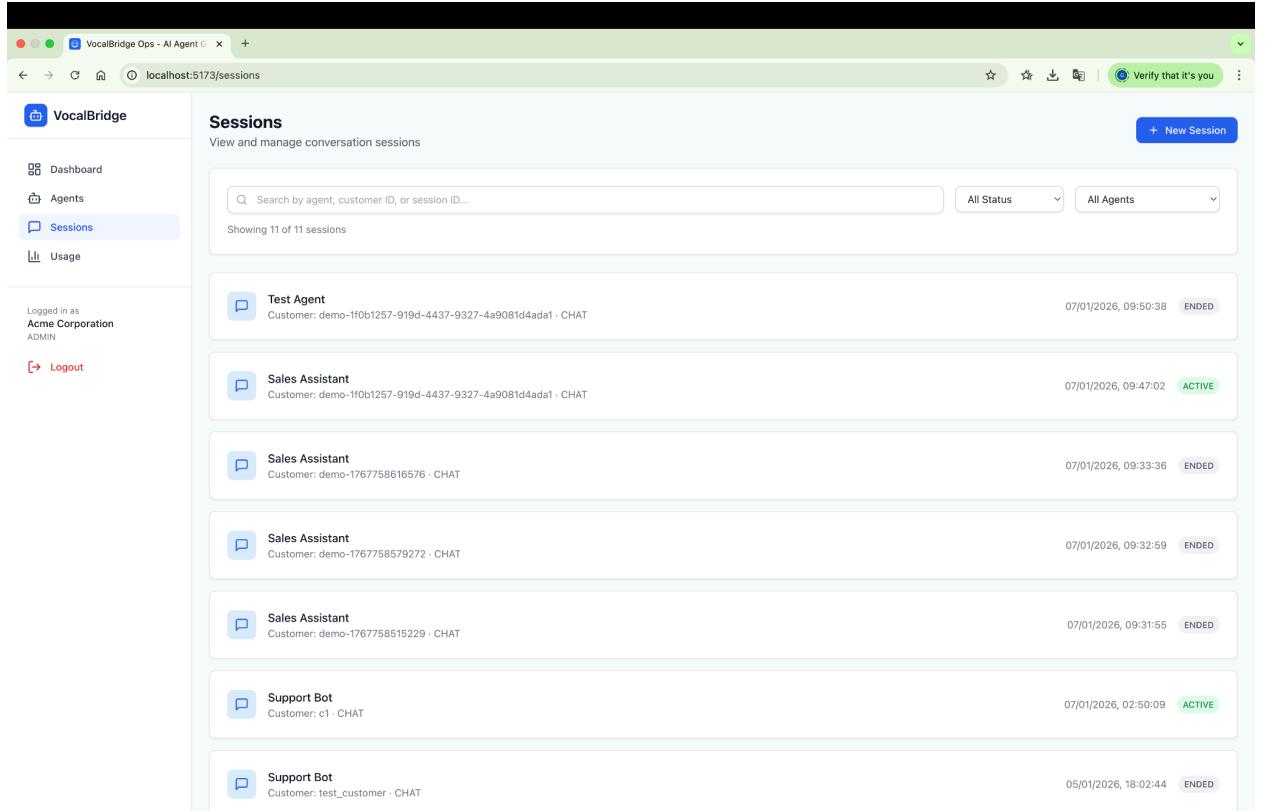
The screenshot shows the VocalBridge Ops - AI Agent interface on a web browser. The URL in the address bar is `localhost:5173/agents`. The page title is "Agents". On the left, there's a sidebar with "VocalBridge" branding and links for "Dashboard", "Agents" (which is selected and highlighted in blue), "Sessions", and "Usage". Below that, it says "Logged in as Acme Corporation ADMIN" and has a "Logout" button. The main content area is titled "Agents" with the subtitle "Manage your AI agents". It lists three AI agents:

- Test Agent**: VENDOR_B → VENDOR_A. Status: Inactive. Description: Testing agent. Capabilities: InvoiceLookup, Voice. Token limits: Temp: 0.5 - Max: 512 tokens. Actions: Try Chat, Edit, Delete.
- Sales Assistant**: VENDOR_A → VENDOR_B. Status: Active. Description: Sales assistant for product recommendations and purchase guidance. Capabilities: InvoiceLookup, Voice. Token limits: Temp: 0.8 - Max: 1024 tokens. Actions: Try Chat, Edit, Delete.
- Support Bot**: VENDOR_A. Status: Active. Description: Customer support assistant for handling inquiries and order lookups. Capabilities: InvoiceLookup, Voice. Token limits: Temp: 0.7 - Max: 1024 tokens. Actions: Try Chat, Edit, Delete.

A blue button at the top right says "+ Create Agent". At the bottom left of the main content area, there's a small footer bar with the text "localhost:5173/agents".

Sessions

1. Sessions List



The screenshot shows the VocalBridge Sessions List page. The left sidebar includes links for Dashboard, Agents, Sessions (which is selected), and Usage. It also shows the user is logged in as 'Acme Corporation ADMIN' and has the option to Logout. The main content area is titled 'Sessions' and displays a list of 11 sessions. Each session entry includes a small icon, the participant name, the customer ID, the session type (CHAT), and the timestamp. A search bar and filters for status and agents are at the top of the list.

Session Details	Date	Status
Test Agent Customer: demo-1f0b1257-919d-4437-9327-4a9081d4ada1 - CHAT	07/01/2026, 09:50:38	ENDED
Sales Assistant Customer: demo-1f0b1257-919d-4437-9327-4a9081d4ada1 - CHAT	07/01/2026, 09:47:02	ACTIVE
Sales Assistant Customer: demo-1767758616576 - CHAT	07/01/2026, 09:33:36	ENDED
Sales Assistant Customer: demo-1767758515229 - CHAT	07/01/2026, 09:32:59	ENDED
Support Bot Customer: c1 - CHAT	07/01/2026, 09:31:55	ACTIVE
Support Bot Customer: test_customer - CHAT	05/01/2026, 18:02:44	ENDED

2. Session Chat

VocalBridge Ops - AI Agent

localhost:5173/sessions/f7ab480-5d16-4eca-90ee-4f8a7bec1946

Support Bot
Customer: customer_001 · CHAT

ACTIVE End Session

my order 456 18:49:46

Dashboard Agents Sessions Usage

Logged in as Acme Corporation ADMIN Logout

Tool calls: InvoiceLookup

18:49:46 {"id": "call_1767791986432", "result": null, "error": "Order not found: 456"}

18:49:46 I couldn't find that order in our system. Please double-check the order number and try again, or contact support if you need assistance.

18:49:48 my order 12345 18:49:53

Tool calls: InvoiceLookup

18:49:53 {"id": "call_1767791993480", "result": {"orderId": "12345", "invoiceNumber": "INV-2024-12345", "status": "shipped", "statusDescription": "Order has been shipped and is on its way.", "amount": 99.99, "currency": "USD", "customerName": "John Doe", "createdAt": "2024-01-10T10:00:00Z", "updatedAt": "2024-01-12T14:30:00Z", "trackingNumber": "1Z999AA10123456784", "estimatedDelivery": "2024-01-18", "itemCount": 2, "items": [{"name": "Wireless Headphones", "quantity": 1, "price": 79.99}, {"name": "USB-C Cable", "quantity": 2, "price": 10}]}}

18:49:53 I found your order #12345!

Status: Order has been shipped and is on its way
Invoice: INV-2024-12345
Amount: USD 99.99
Tracking Number: 1Z999AA10123456784
Estimated Delivery: 2024-01-18

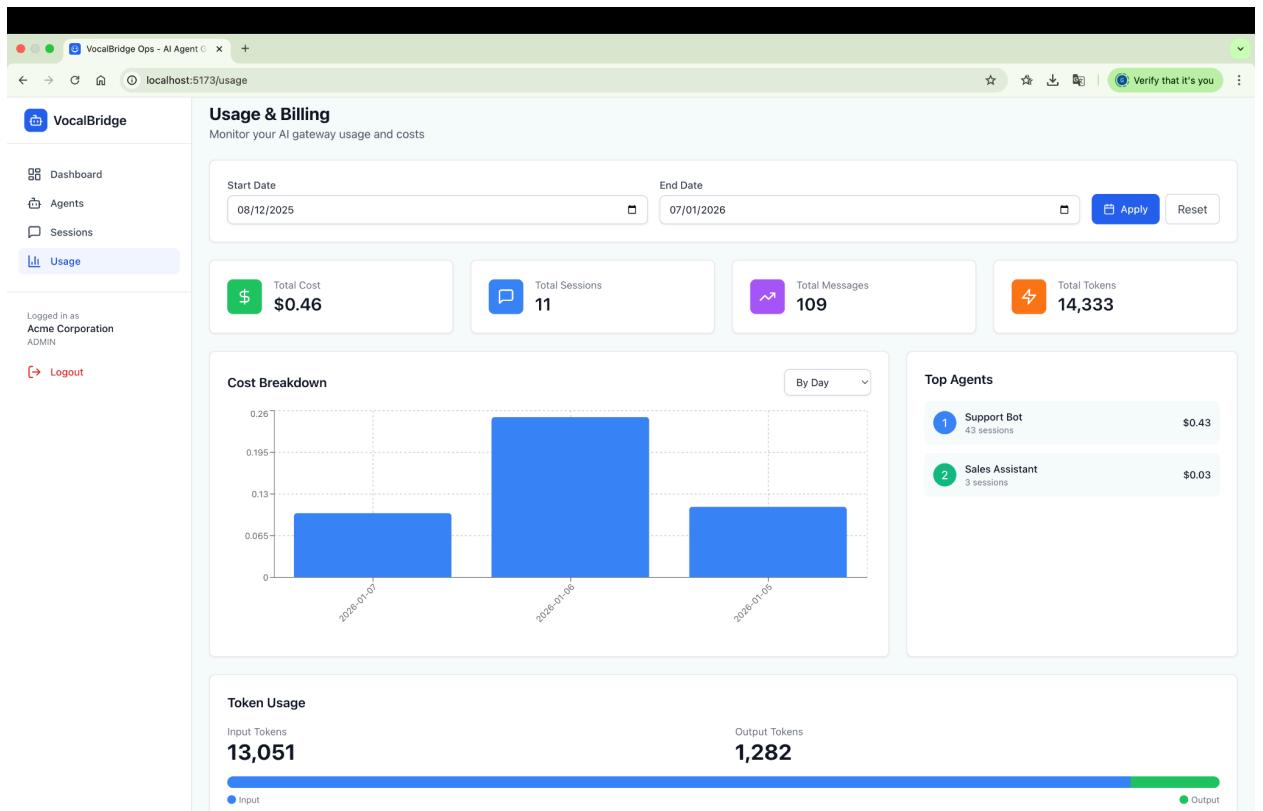
Type a message... Text Voice

26 messages · 6,624 tokens · \$0.12 cost

The screenshot shows a web-based AI agent interface for VocalBridge. At the top, it displays the title 'VocalBridge Ops - AI Agent' and the URL 'localhost:5173/sessions/f7ab480-5d16-4eca-90ee-4f8a7bec1946'. The main area is a chat window titled 'Support Bot' with the subtitle 'Customer: customer_001 · CHAT'. The status bar at the top right indicates 'ACTIVE' and 'End Session'. A blue button labeled 'my order 456' is visible. On the left, there's a sidebar with navigation links: Dashboard, Agents, Sessions, and Usage. Below the sidebar, it says 'Logged in as Acme Corporation ADMIN' and includes a 'Logout' link. The main chat area shows a series of messages. One message from the bot asks for an order lookup and returns an error: 'Order not found: 456'. The next message from the bot provides order details for order #12345, including tracking information and item descriptions. The bottom of the screen shows a message input field with placeholder 'Type a message...', a 'Text' button, a 'Voice' button, and a send icon. At the very bottom, a footer displays statistics: '26 messages · 6,624 tokens · \$0.12 cost'.

Usage

1. Day-Wise



2. Provider Wise

