

Sabre Connect v2.0: Comprehensive Platform Briefing

Executive Summary

Sabre Connect v2.0 is a multi-tenant unified communications platform designed to consolidate disparate communication channels—specifically WhatsApp, Email, and Live Chat—into a single, centralized inbox. Developed by 247 Technologies for Sabre Products, the platform is built on a Node.js architecture and features a robust multi-tenant framework that supports hierarchical organization structures, from root owners to end clients. Key takeaways include:

- **Centralized Communication:** A React-based unified inbox facilitates real-time messaging, file sharing up to 50MB, and conversation management across multiple channels.
- **Scalable Multi-Tenancy:** Data is strictly isolated per company, supporting parent-child relationships and sophisticated role-based access control (RBAC).
- **Security-First Design:** Leveraging Sabre Identity for SSO and OTP authentication, the platform ensures no passwords are stored locally and provides comprehensive audit trails.
- **White-Labeling and Partnerships:** The system includes extensive branding capabilities for partners, including custom domains, colors, and logos, supplemented by an "Impersonation Mode" for client support.
- **Automated Governance:** Plan tier enforcement is handled via Sabre Accounts, automatically limiting resources like team members and channel counts based on subscription levels.

Platform Architecture and Interfaces

Sabre Connect operates as a unified Node.js server on port 4003, delivering five distinct interfaces through specific URL paths:

Path	Interface	Description
/	Marketing Site	Public-facing product information and features.
/connect	Unified Inbox	The primary workspace for agents, built as a React application.
/dashboard	Admin Dashboard	Management interface for companies, channels, staff, and templates.
/chat	Guest Widget	An embeddable chat tool for external websites.
/api	REST API	The backend foundation for all platform operations.

Core Functional Modules

Unified Inbox (/connect)

The agent workspace is designed for high-volume, multi-channel interaction. Features include:

- **Multi-Channel View:** Displays WhatsApp, Email, and Chat conversations in a single list with visual badges for channel identification.
- **Real-Time Interaction:** Utilizes Socket.IO for instantaneous messaging and staff presence tracking (online/offline).
- **Management Tools:** Supports conversation assignment to specific staff, status toggling (open/resolved), and automatic contact creation from incoming messages.

- **Media Handling:** Supports images (JPG, PNG, GIF) and documents (PDF, DOCX, ZIP, etc.) with a 50MB size limit and in-app previews.

Admin Dashboard (/dashboard)

The dashboard serves as the administrative hub for company-wide configuration:

- **Live Statistics:** Real-time overviews of conversations, staff activity, and channel health.
- **Template Management:** Creation of "Canned Responses" categorized by type and accessible via keyboard shortcuts.
- **Client Management:** A hierarchical tree view allowing for the management of complex organizational structures.
- **Operational Settings:** Configuration for after-hours auto-responders and business hour definitions.

Guest Chat Widget (/chat)

An embeddable iframe or JS-based widget that allows website visitors to initiate contact.

- **Data Collection:** Captures visitor name, company, email, WhatsApp, and subject (Sales, Support, Billing, or General).
- **Seamless Integration:** Automatically creates a contact and a conversation thread in the Unified Inbox upon submission.

Multi-Tenant Framework and Hierarchy

The platform is built to support a complex ecosystem of users and organizations with absolute data isolation.

Company and Role Hierarchy

Access and visibility are gated by a tiered hierarchy:

- **Entities:** Root > Owner > Partner > Reseller > Client.
- **Isolation:** All queries are scoped by `company_id` to ensure that contacts, conversations, and staff data remain private to each tenant.
- **Automation:** New organizations are automatically created when users log in via Sabre Identity.

White-Labeling and Support

For Partner-tier organizations, the platform offers extensive rebranding:

- **Visual Branding:** Custom logos, favicons, and primary/accent colors with live previews.
- **Domain Support:** CNAME mapping to allow the platform to run on a partner's custom domain.
- **Impersonation Mode:** High-level users (Owners/Partners) can "impersonate" a client organization to provide direct support. This mode is highlighted by a clear UI banner and is recorded in the audit logs for security.

Communication Channel Integration

Sabre Connect bridges three primary communication methods:

- **WhatsApp:** Two methods of connection are available:
- **Direct:** QR code pairing via `whatsapp-web.js`.

- **Gateway:** Integration via Sabre Gateway API using webhooks for incoming and APIs for outgoing traffic.
- **Email:** Full SMTP and IMAP integration for sending, receiving, and connection testing.
- **Live Chat:** Built-in proprietary widget utilizing WebSockets for real-time guest interaction.

Technical Infrastructure

Backend Stack

- **Runtime:** Node.js with Express.js.
- **Database:** SQLite (via sql.js) for lightweight deployment, designed for easy migration to PostgreSQL.
- **Communication:** Socket.IO for WebSockets and Nodemailer for SMTP/IMAP polling.
- **File Storage:** Managed via Multer.

Frontend Stack

- **Inbox:** React with Vite.
- **Dashboard/Widget:** Vanilla HTML/JavaScript for maximum compatibility and performance.

Security Protocols

- **Authentication:** Managed via external Sabre Identity SSO. Supports passwordless OTP login via WhatsApp or Email.
- **Data Protection:** Parameterized queries to prevent SQL injection and React auto-escaping for XSS protection.
- **Session Management:** httpOnly and sameSite cookie-based sessions with Bearer token fallback.
- **Audit Logging:** Detailed tracking of IP addresses, user agents, impersonation sessions, and fraud pattern detection hooks.

Subscription Models and Resource Enforcement

The platform enforces resource limits by querying Sabre Accounts (/api/account/status). If the accounting server is unreachable, the system defaults to "Starter" limits. | Resource | Starter (R 299/mo) | Professional (R 599/mo) | Enterprise (Custom) || ----- | ----- | ----- | ----- || Team Members | 3 | 10 | Unlimited || WhatsApp Numbers | 1 | 1 | Unlimited || Email Inboxes | 2 | 3 | Unlimited || Chat Widgets | 1 | 1 | Unlimited || **Additional Features** | Templates, Chat Widget | + After-Hours Auto-Responder | + White-Label, Custom Domain |

Note: South African pricing includes 15% VAT.

Future Enhancements Roadmap

Planned features for subsequent updates include:

- **Advanced Analytics:** Dashboards for response times and volume performance.
- **Expanded Channels:** Support for Facebook Messenger, Instagram DM, and SMS.
- **Communication Tools:** Voice/video calling and screen sharing capabilities.
- **Automation:** AI-powered auto-responses and global message search.

- **Utility:** Push notifications (web/mobile), dedicated iOS/Android apps, and conversation exports (PDF/CSV).
- **Integrations:** Webhook support for third-party platforms.