

Comparison Matrix: RadiusX Light Chat Client V1 vs V4

This document provides a comprehensive comparison between the two versions of the RadiusX Light Chat Client, highlighting their key differences, advantages, and use cases.

Feature Comparison

Feature	RadiusX Light Chat Client - V1	RadiusX Light Chat Client - V4
Architecture	Full-stack application with separate client and server components	Lightweight client-side only application with optional proxy server
Tech Stack (Frontend)	React, TypeScript, TailwindCSS, shadcn/ui	TypeScript, CSS (vanilla)
Tech Stack (Backend)	Express.js, TypeScript, TanStack Query	Optional Express.js proxy (not required for core functionality)
UI Components	Rich component library with shadcn/ui	Custom lightweight components
State Management	React Hooks	Vanilla TypeScript
Routing	Wouter	N/A - Single page application
Build System	Vite	Webpack
Development Server Port	5000	8080
Deployment Complexity	Higher (requires server setup)	Lower (can be deployed as static files)
Security	More secure with server-side proxy for API calls	Less secure with client-side API calls (can be mitigated with the included proxy server)

Feature	RadiusX Light Chat Client - V1	RadiusX Light Chat Client - V4
API Integration	Server-side API calls with key protection	Browser-side API calls (or optional server proxy)
Model Support	Multiple Claude models (Haiku, Sonnet, Opus, 3.5)	AMultiple Claude models (Haiku, Sonnet, Opus, 3.5)
UI/UX	Full-page application	Popup chatbot interface
File Size	Larger (includes React and UI libraries)	Smaller (minimal dependencies)
Dark/Light Mode	Supported with system detection	Supported with system detection
Conversation Management	Full featured	Basic functionality

Security Considerations

Aspect	RadiusX Light Chat Client - V1	RadiusX Light Chat Client - V4
API Key Protection	Server-side: API keys never exposed to client	Client-side: Requires proxy server to protect API keys
Request Authentication	Handled securely on server	Can be exposed if not using proxy
Data Processing	Can perform server-side processing before/after API calls	Limited to client-side processing
Compliance	Better suited for enterprise security requirements	Better suited for simple deployments with lower security requirements

Performance Comparison

Metric	RadiusX Light Chat Client - V1	RadiusX Light Chat Client - V4
Initial Load Time	Longer (React + UI libraries)	Faster (minimal dependencies)
Memory Usage	Higher	Lower
Bundle Size	Larger	Smaller
Server Requirements	Requires Node.js server	Optional Node.js server
Scaling	Requires both frontend and backend scaling	Primarily frontend scaling

Use Cases

RadiusX Light Chat Client - V1

- Enterprise applications requiring high security standards
- Applications with complex UI requirements
- Projects needing extensive conversation management features
- Teams familiar with React ecosystem
- Applications integrating with multiple backend services

RadiusX Light Chat Client - V4

- Embedded chat widgets for existing websites
- Simple standalone deployments
- Resource-constrained environments
- Applications prioritizing speed and minimalism
- Quick prototyping and demonstrations
- Static hosting environments (when using API key via environment variables)

Implementation Differences

Component	RadiusX Light Chat Client - V1	RadiusX Light Chat Client - V4
Project Structure	Modular with separate client/server directories	Simplified structure focused on components
API Communication	Server-side proxy for all API calls	Direct API calls or optional proxy
Error Handling	Comprehensive client and server error handling	Basic error handling
Configuration	Environment variables in .env file	Environment variables or server.js configuration
Development Experience	Richer developer tools via React ecosystem	Lightweight development environment

Deployment Comparison

Aspect	RadiusX Light Chat Client - V1	RadiusX Light Chat Client - V4
Hosting Requirements	Requires Node.js hosting environment	Can be deployed on static file hosting with optional proxy
Configuration	More complex server setup	Simpler setup with fewer dependencies
CI/CD Complexity	Higher (frontend + backend)	Lower (primarily frontend)
Scaling Strategy	Requires scaling both client and server	Client-side scaling only (unless using proxy)

Summary

RadiusX Light Chat Client - V1 offers a more robust, feature-rich solution with better security through its server-side architecture. It's ideal for enterprise applications where security compliance and rich feature sets are priorities.

RadiusX Light Chat Client - V4 provides a lightweight, easy-to-deploy solution optimized for simplicity and performance. It's perfect for embedding in existing websites or deploying in environments where a full server setup is not feasible or necessary.

The choice between the two versions depends on your specific requirements regarding security, features, performance, and deployment constraints.