BluePrint
JOB COST MANAGEMENT

PLATFORM
v2026

// BLUEPRINT JC — TECHNOLOGY OVERVIEW

Platform Architecture & Technical Specifications

A complete reference for the technology stack, infrastructure, security model, and integration capabilities behind Blueprint JC.

// SYSTEM ARCHITECTURE



01 / Technology Stack

frontend_framework	`React 18` `TypeScript 5` — component-based SPA with strict type safety
build_tool	`Vite 5` — sub-second hot reload in development, optimized production bundles
ui_library	`shadcn/ui` `Radix UI` `Tailwind CSS 3` — accessible, composable component primitives
backend_platform	`Supabase` — open-source Firebase alternative; managed PostgreSQL, auth, storage, and real-time subscriptions
database	`PostgreSQL 15` — relational database with Row-Level Security enforced at the database layer, not just the API
hosting	`Vercel` — global edge network with automatic SSL, preview deployments, and zero-config CDN

mobile	`PWA` — Progressive Web App installable on iOS and Android without an app store; works offline for core field functions
payments	`Moov` — ACH-based incoming and outgoing electronic payments; no card data stored in Blueprint JC
state_management	`TanStack Query v5` — server-state caching, background refetching, and optimistic updates
charts_reporting	`Recharts` — composable charting library built on D3 for all dashboard visualizations
export_formats	PDF (jsPDF + pdf-lib), Excel (xlsx-js-style), CSV (PapaParse), Word (.docx)

02 / Security Model

✔ Row-Level Security (RLS)

Every database query is filtered at the PostgreSQL layer based on the authenticated user's organization and role. No tenant can access another's data, even through a misconfigured API call.

✔ JWT Authentication

Supabase Auth issues signed JSON Web Tokens for every session. Tokens are short-lived and refresh automatically. Multi-factor authentication (MFA) is supported.

✔ Role-Based Access Control

Granular role guards (Company Admin, Accountant, Project Manager, Superintendent, Foreman, Field Employee) restrict UI access and API operations by function.

✔ Encrypted Data at Rest & in Transit

All data is encrypted at rest via Supabase's managed PostgreSQL. All traffic is served over HTTPS/TLS 1.3. Electronic payment data is processed entirely by Moov — no sensitive payment credentials touch Blueprint JC servers.

✔ ACH Payment Security via Moov

Moov handles all incoming and outgoing electronic payments via ACH. No sensitive payment credentials are stored in the Blueprint JC database — Moov manages the full payment rail.

✔ Audit Logging

Key data changes are logged with timestamps and user attribution. Audit trails support compliance requirements and give administrators visibility into platform activity.

03 / Hosting & Availability

deployment_model	Cloud-hosted SaaS — no on-premise installation required
frontend_cdn	Vercel global edge network — assets served from the nearest of 100+ edge locations worldwide
database_region	Supabase managed PostgreSQL — US East (primary) with point-in-time recovery and automated daily backups
uptime_target	99.9% availability SLA — inherited from Supabase and Vercel infrastructure
updates	Continuous deployment — new features and fixes ship without downtime or client action required
mobile_access	Full PWA support — installable on iOS (Safari) and Android (Chrome); core field features available offline
browser_support	Chrome, Safari, Firefox, Edge — last two major versions

< 1s	100+	99.9%	TLS 1.3
Initial page load (CDN cached)	Edge locations globally	Uptime SLA	All traffic encrypted

04 / Integrations & Data Portability

data_import	AI-Assisted Intelligent CSV & Excel import — Blueprint JC maps columns automatically using AI, flags mismatches, and suggests corrections before data is committed. Supports employees, vendors, chart of accounts, cost codes, and historical job data.
ai_column_mapping	No rigid template required — paste any CSV or spreadsheet and the AI engine infers field intent from header names and sample values, handling common variations (e.g. "Emp #", "Employee ID", "Worker Code") without manual remapping.
data_export	All reports exportable to PDF, Excel, and CSV at any time — no data lock-in
payroll_export	Certified payroll reports in standard formats; compatible with state reporting requirements
document_output	Contracts, subcontracts, and lien waivers generated as Word (.docx) and PDF from built-in templates
bank_feeds	Bank reconciliation with manual CSV import; direct bank feed integration on roadmap
api_access	REST API via Supabase — available for enterprise integrations and third-party connectors