

DREW SWANIGAN

Public Safety Systems Engineer · PSAP / P25 / Console Deployment · Former 911 Telecommunicator

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PROFESSIONAL SUMMARY

Public-safety systems engineer with 6+ years deploying mission-critical communications — L3Harris VIDA / MASTR V, Motorola ASTRO P25, Tait, and Avtec / Zetron / Symphony / Telex dispatch consoles — for PSAPs, electric utilities, and federal customers. Former certified 911 telecommunicator with hands-on operator experience on the same systems I now design, install, and cut over. CJIS-trained. Brings FAT/ATP discipline and a zero-interruption cutover track record across 10+ multi-site public safety deployments. Cross-trained software engineer: ships production Python / FastAPI / REST APIs as founder of a live B2B SaaS.

TECHNICAL SKILLS

Communications Platforms: L3Harris (VIDA, MASTR V, StatusAware, UAS, Two47, SUMS, VIDA Edge), Motorola ASTRO P25, Tait (DMR, GridLink), P25 Phase 1/2, simulcast, BDA/DAS in-building RF

Dispatch & Console Systems: Zetron, Avtec, Symphony, Telex — staging, install, multi-site commissioning, dispatcher-side operational experience

Public Safety Systems Discipline: PSAP integration, FAT / ATP, interface control documents, risk analysis, multi-agency interop, zero-interruption cutover, CJIS data handling

Networking: Cisco routing/switching, WAN, VLANs, MPLS, IP backhaul, fiber, microwave, network diagnostics, live production network changes

Systems & Infrastructure: Windows Server, Linux (Ubuntu / RedHat), PostgreSQL, Redis / Valkey, virtualization, observability (Sentry, PostHog), hardened security headers, rate limiting

Industrial & OT: SCADA, DNP3, RTU integration, IT/OT network integration, SCADA Gateway / Master

Software & Cloud: Python (FastAPI, psycopg3), TypeScript (Next.js 16, React 19), REST APIs, LLM / AI integrations (OpenAI, Azure Document Intelligence), background job queues (RQ/Valkey), AWS, Cloudflare R2, Railway, Vercel, multi-tenant SaaS, OAuth 2.0, JWT, HMAC webhooks

PROFESSIONAL EXPERIENCE

Systems Engineer — AMK Services

Apr 2020 – Present

Design, deploy, and sustain mission-critical communications and SCADA infrastructure for public safety, electric utility, and federal customers. Full-lifecycle delivery: system design, FAT / ATP, multi-site commissioning, RF alignment, and zero-interruption cutover.

Network, Server & Cross-Domain Engineering

- Configure and support Cisco-based network infrastructure across customer sites — routing, switching, VLANs, MPLS, IP backhaul — including live production changes with zero service interruption.
- Build, harden, and operate Windows Server and Linux infrastructure supporting mission-critical communications, SCADA, and dispatch console systems.
- Troubleshoot and resolve complex cross-domain issues spanning RF, networking, server, and application layers.
- Execute full system cutovers and commissioning across multiple live public safety environments with zero service interruption.

Mission-Critical Communications Deployments

- **AES Ohio (AES Corporation):** Configured full L3Harris P25 platform — UAS, MASTR V base station personalities, radio personalities, and Cisco IP network across all sites. Performed MASTR V site commissioning, RF alignment, and field ATP with the customer including failover testing, redundancy validation, and site-failure scenarios.
- **DART (Dallas Area Rapid Transit):** Supported full P25 deployment — staging, installation, system-wide re-IP, Two47 base station configuration, commissioning.

- **Madison County KY, Clark County KY, GSCP25:** Led FAT, ATP, and system validation across multiple P25 systems and dispatch consoles in operational PSAP environments.
- **Nellis AFB / Nevada DOE:** Supported P25 system upgrade — network infrastructure buildout, configurations, dispatch console integration.
- **Iowa Statewide (RACOM / Eastern Communications):** NWS-to-VIDA Edge migration — configuration, alarm wiring, legacy decommissioning, SUMS updates.
- **VELCO (Vermont Electric Power Company):** Tait base station deployment, system configuration, geofencing, troubleshooting.
- **Powhatan County VA, Eastern Shore VA:** Supported P25 deployments — site management, interoperability, cutover.
- Designed and implemented L3Harris StatusAware officer safety system for a public safety customer.
- Installed, configured, and hardened BDA/DAS in-building RF systems across utility and public safety facilities.

Industrial Control / SCADA Integrations

- **EKPC (East Kentucky Power Cooperative):** Integrated Tait GridLink with full SCADA stack — Gateway and Master configuration, field RTU integration, DNP3 between control center and remote terminal units. Configured supporting Cisco network alongside DMR radio deployment. Led FAT, ATP, and validation; zero-interruption cutover.

911 Telecommunicator — Georgetown-Scott County E911

Oct 2018 – Mar 2020

DOCJT-certified 911 telecommunicator handling phone and radio dispatch operations for every public safety agency in Scott County. Operator-side experience on the same P25, console, and CAD systems I now deploy as an engineer.

- Operated dispatch console and P25 radio infrastructure daily — firsthand operator perspective directly informs the design, validation, and cutover decisions I make on the engineering side today.
- Dispatched police, fire, and EMS via radio and phone, managing multiple simultaneous incidents in high-pressure, time-critical environments.
- Provided IT troubleshooting and front-line technical support for dispatch center systems, workstations, and console software.
- Maintained composure and accurate communication during high-call-volume events and multi-agency responses, including interoperability with state and federal partners.
- Handled CJIS-protected data daily in accordance with KSP and DOCJT policy.

Founder & Engineer — InvoiceParser Pro

Jul 2025 – Present

Built and operate a production B2B SaaS — AI-powered AP automation for bookkeepers, accounting firms, and SMBs. Live with paying customers; 10K+ invoices processed in production.

- Architected a multi-stage extraction pipeline (Python / FastAPI) orchestrating Azure Document Intelligence and OpenAI GPT-4o with vision-fallback routing, math reconciliation, and per-field confidence scoring. Sub-5-second p50 latency on single-page invoices.
- Shipped three end-to-end ERP integrations — QuickBooks Online, Xero, Zoho Books — each with OAuth, vendor sync, attach-PDF, GL pull, push-status, batch push, and webhook signaling.
- Implemented multi-tenant security: JWT auth, OAuth (Google + Microsoft), magic-link, bcrypt password hashing, HMAC-signed outbound webhooks, hardened browser security headers, rate limiting.
- Engineering discipline: every change ships via protected-branch PR with CI gate (lint + typecheck + secret scan + preview verification); operational runbooks for cutover, observability, and known-issues triage.
- **Stack:** FastAPI, Next.js 16 / React 19 / TypeScript / Tailwind v4, PostgreSQL (Railway), Cloudflare R2, Valkey/Redis with RQ async workers, Sentry + PostHog observability, Railway + Vercel deployment.

CERTIFICATIONS & TRAINING

- CJIS Online Security & Privacy Certification — General Role (Peak Performance Solutions)
- DOCJT Public Safety Dispatch Academy — Certified Telecommunicator (Commonwealth of Kentucky)
- Avtec Console Certification — Staging & Install
- Comba BDA Certified — RF Theory & V3 Platform
- PS BDA NG Certificate