



Capabilities Statement

Jonathan Loop
Chief Executive Officer

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Representations and Certifications

- DUNS: 079736715
- CAGE: 7B1ZO
- Business Type: SBA 8(A) GMS-DC MBE, SDB
- NAICS: 541611, 541330, 541513



Corporate Overview

Harpe Engineering Solutions (HARPE), Inc., is an experienced and innovative SBA 8(a) and GMSDC MBE-certified management and engineering small business providing cybersecurity, System on Chip (SoC) engineering, software and system development for the Department of Defense and U.S. Federal Agencies.

Since 2014, HARPE provides master training schedules, programs of instructions, training courseware, simulations, and facilitated computer-based design, development, and training solutions. From enterprise classroom training to electrical engineering for pre-silicon and post-silicon deployment, HARPE provides system engineers, system administrators, network administrators, software engineers, hardware engineers, and instructors and writers.

HARPE strives to deliver the best quality products and services. **Honest, Anticipation, Respect, Professionalism, Excellence.**

Key Business Areas



Software Engineering



System on Chip (SoC) Engineering



Robotics Engineering



Knowledge Management and Training



Cybersecurity

Specialized Expertise

Software Engineering

- Dynamic Personnel and Readiness tracking
- Platform agnostic/ browser agnostic
- HIPPA compliant coding | TLS 1.3 encryption
- Global sync to cloud resources
- Global connectivity | COMPO 1/2/3 Integration
- Desktop, Mobile, Web-based applications
- Two-factor authentication
- Designed to operate in a minimum bandwidth setting

System on Chip (SoC) Engineering

- Physical design of 10 nanometer System on a Chip
- Monolithic chip design and fabrication
- Analysis of package and on-die power delivery networks
- Voltage droop analysis and mitigation
- Design improvements for efficient power delivery, power management techniques and evaluation of on-die power grid robustness
- Logical Design, Verification and Validation Post/Silicon
- Quantum computing with Qiskit (quantum computing framework written in Python) for system and algorithm demonstrations.



Specialized Expertise (continued)

Robotics Engineering

- Design, build, and rapidly prototype 3D printed exoskeletons for virtual reality applications
- Implement dynamic controls that respond to user input and provide haptic feedback
- Implement admittance control paradigm to translate user force into motion with custom software
- Perform clinical evaluations to assess design and functional performance

Knowledge Management & Training

- Asynchronous web-based or synchronous classroom training by certified instructors
- Shareable web-based digital libraries to support online courses, interactive multimedia instruction, simulations, and other digitized training content.
- Total asset visibility and history, requisitions and purchase orders, shipping and receiving, disposal management, IUID and RFID support, configuration management, automated scheduled maintenance, AIT-enabled work orders, modification management, and operations for equipment condition/usage logging.

Cybersecurity

- System administration and maintenance on disparate and complex networks consisting of 50+ ESXi host, 100+ VMs/appliances and over 200+ vDI Windows 10 desktops to smaller hardware-in-the-loop (HWIL) labs with a handful of servers, workstations, and network devices. Basic to advanced hardware troubleshooting and maintenance for hardware related issues with motherboards, hard drives, RAM NICs, network cabling. Follow OSI model testing through physical layer to application layer until determining where the root cause of the problem is occurring. Maintenance of software and hardware performed after business hours to limit operational impact to customers. All hardware and software managed has valid maintenance and license agreements and are tracked and the customer is informed of upcoming expirations.
- Enterprise Security Management deploying ELK Stack or Splunk. Containerization of VMs with Docker or Kubernetes.
- Patch management and vulnerability scanning based on CIA level of the system. (Assured Compliance Assessment Solution (ACAS) is the primary vulnerability scanner used to document the overall health of the network devices within the system.
- User Account Management/Backup & Restoration

Past Performance

TRADOC (Prime): Distributed Learning (DL) Diagnostic, Advisement and Technical Research (DATR) | W911S0-16-P-0052

Puerto Rico National Guard (Prime): Lessons Learned/AAR Development Hurricane Season | W912LR-18-P-0066

Puerto Rico National Guard (Prime): Strategic Planning, Strategic Communications and Exercise Support | W912LR-17-P-0169

Johnson Controls Building Automation Systems (Sub): Strategic Weapons Facility Atlantic EMS-SMS Database Administration/Testing | J01P008527

Intel Corporation (Sub): Power Delivery Engineering | H98230-13-D-0124

RDECOM (Sub): Office Secretary of Defense (OSD) Future Virtual Collective Training (FVCT) | W911NF-17-C-0016

Redstone Arsenal (Sub): RAM WARN Virtual Training | W31P4Q-17-R-0083

PEO C3T(Sub): C WIN-T INC1 Unit Hub Satellite Truck (UHST) | W15P7T-10-D-C007/0077