

NASA/MARSHALL SPACE FLIGHT CENTER

JOINT COUNSELING SESSION

2022.09.13

Craft Designs, Inc.

Background

COMPANY NAME:	Craft Designs, Inc.	ADDRESS:	700 Boulevard South SW Suite 501 Huntsville, AL 35802
OWNER:	Linda M. Craft	CONTACT NAME:	R. Wayne Craft
EMAIL:	sales@craftdesigns.net	YEARS IN BUSINESS:	24
CAGE CODE:	3HD54	DUNS NUMBER:	130615581
WEB SITE:	https://www.craftdesigns.net	NAICS CODES:	541330ENG, 541715, 541420

CERTIFICATIONS (e.g., ISO 9001, AS 9100, etc.):

ISO 9001, AS9100D, CMMI-DEV V2.0 ML3

Business Size & Classifications

EMPLOYEES (range):	10-50
AVERAGE SALES (range):*	\$1-8M

CLASSIFICATIONS (select from list below):	Yes/No
SMALL BUSINESS	Yes
SMALL DISADVANTAGED BUSINESS	No
NATIVE AMERICAN-OWNED	No
ALASKAN NATIVE CORPORATION	No
WOMEN OWNED	Yes
ECONOMICALLY DISADVANTAGED WOMEN OWNED	No
VETERAN-OWNED	No
SERVICE DISABLED VETERAN OWNED	No
HUBZONE CERTIFIED	No
8(A) CERTIFIED	No
8(A) EXPIRATION DATE (if applicable)	No

*Based around NAICS 541XXX



Primary Capabilities

- Software Engineering Services
 - DO-178C Software Development up to DAL-A experience (current and past experience)
 - Cybersecurity posture with NIST SP 800-53A and FIPS 199 and FIPS 200 as guidance
 - Familiarity with NASA NPR 7150.2
 - Familiarity with ISS Common Interface Requirements document, SSP50835, and ISS Safety Requirements Document, SSP51721



Primary Capabilities

- Bare metal Applications in low resource environments
- Real Time Operating System (RTOS) experience with Wind River VxWorks, Greenhills Integrity-178, and DDCI DEOS
- Integration experience with Domain Adapter Node (DAN) Arcturus Developers Guide and Reference Manual (JSC-67084)



Primary Capabilities

- Modular Open Systems Approach (MOSA) / Future Airborne Capability Environment (FACE) development approaches to produce portable modular code with interoperability between systems and components, as well as interface reuse
- Open Source Software (OSS) usage when desired and approved by customer to reduce development cost, schedule, and risk
- Microfocus HP Fortify Source Code Analysis (SCA) code scanning to reduce potential vulnerabilities and threats



Primary Capabilities

- Avionics Data Loading capability
 - ARINC 615A Data Loader Application development
 - ARINC 665 Loadable Parts / Media Set Application for Media Set Generation
 - Customer specific Data Loader Application development
 - Embedded avionics server application development with robust bootloader extension capability
- Big data numerical analysis



Current and Recent Contracts/Performance (< 5 years)

NASA Related Contracts and Performance

- Pressure Management Device (PMD)
- Mini Total Organic Carbon Analyzer (MiniTOCA)



NASA Value - Quad Chart



Problem(s):

- Systems require software loads, patches, updates, and downloads often lack robust design and test.

Company Solution:

- CDI has developed over 15 custom Data Loader Applications (DLAs) that provide a LICENSE FREE
- Existing fielded USG avionics and ground base systems.
- One case example, CDI decreased load times of a single line replaceable unit (LRU) from 45 minutes to 20 minutes. A future update provided the load team the ability to perform more than a single load, and instead perform concurrent loading across multiple LRUs. This decreased aircraft load time from around 4-6 hours to 1.5 hours per LRU set on a single aircraft

Value:

- When resource and crew time is limited, decreasing touch labor and troubleshooting allows the team to focus on higher priorities.
- This will free up resources and decrease labor costs.

Status of Solution

- CDI has already developed and fielded over 15 custom data loaders with varying communication protocols such as ARINC 615A, FTP, SFTP, SSH, RS-232, RS-422, and more.
- TRL – 6 – existing solutions are already tested and fielded on ground based systems
- **CDI can leverage our existing technology and solutions to provide a low risk / high reward solution for existing NASA efforts.**



NASA Value - Quad Chart



Problem(s):

- Data transmission and data integrity approaches may be weak by newer cyber security standards and expectations.

Company Solution:

- CDI has experience with using secure communication on top of existing protocols.
- Using solutions like OpenSSL DTLS and WolfSSL DTLS to encrypt communication protocols such as ARINC 615A that already have data authentication.

Value:

- Let us worry about encrypting your data during transfer using our proven secure communication approaches and digital certificate management to safeguard your application and user data.
- This is all about digitally securing what matters to you most.

Status of Solution

- CDI has completed testing with this product and is working with 2 external vendors to integrate with their solutions which are still under development.
- TRL-6
- **CDI would recommend using the OpenSSL approach to avoid unnecessary license costs.**



Awards/Notable Accomplishments



Craft Designs, Inc.
Software Development



has successfully achieved

CMMI® Maturity Level 3

12
Capability Maturity Mod
(CMMI)



Principle Point(s) of Contact

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