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- Built a machine learning model using AdaBoost to detect faces within an image.
- Achieved over 90% accuracy in face detection by training the model with thousands of classifiers.
- Preprocessed the input data of face images by cropping out extraneous data

Project Name: **Exoplanet Classification Model using Machine Learning** | 2022 - 2022

- Predicted habitability of Exoplanets on the Exoplanet Catalog using Python to implement ML algorithms.
- Improved cross-validation scores by 50% through data preprocessing and supervised ML models.
- Implemented machine learning algorithms such as logistic regression, support vector machines (SVM), decision trees, and K-nearest neighbors (KNN)

### 3.2 Relevant Past Projects

Def-Logix has developed Crimson Raven, an AI-driven platform, and Crimson Crawler, an advanced Open-Source Intelligence (OSINT) tool, to revolutionize cybersecurity operations. At a recent Cyber Ops meetup organized and facilitated by Rob Dodson, participants engaged directly with Crimson Raven through hands-on exploration, testing its capabilities, and providing valuable feedback based on real-world experiences. This collaborative session highlighted Rob's expertise in bridging advanced technologies with user-centric facilitation, ensuring actionable insights were gathered to enhance the platform's development. Crimson Crawler complements these efforts by leveraging machine learning and data aggregation to analyze vast amounts of publicly accessible data, including social media, forums, dark web sources, and open databases, delivering deep, actionable insights into cybersecurity threats.

### 3.3 Background and Years in Business

**Def-Logix Inc.** is an 8(a) certified veteran-owned small business firm with over 15 years of experience in specialized professional services in cybersecurity, emphasizing software architecture and engineering. Through our relentless commitment to research and development, we have developed cutting-edge technologies and products that effectively address the needs of both federal and commercial clients. We have a proven track record of delivering customized software solutions for the *Department of Defense, Air Force Life Cycle Management Center (AFLMC), Department of Homeland Security (DHS), and Defense Information Systems Agency (DISA)* and developing integrated applications for government agencies' red and blue team functions. Def-Logix maintains *Level 3 Cybersecurity Maturity Model Certification (CMMC) certification*.

- Cybersecurity Research & Development
- Secure Software Design & Development
- Secure System Design
- Intrusion Detection/Prevention Systems
- Network Security Development
- Computer and Network Forensics
- Security Risk Assessment

#### Def-Logix Capabilities

Def-Logix's expertise in network forensics, intrusion detection/prevention, and exploit detection/prevention allows us to implement power tools that effectively detect, stop, and recover from cyber threats. We have a team of highly skilled Subject Matter Experts (SMEs) who deeply understand cybersecurity and continuously expand their knowledge base to tackle complex challenges. Focusing on delivering tailored solutions to meet our client's needs, we provide software security professionals and engineers with proven technical expertise and operational skills. Our team draws upon a comprehensive knowledge base and past performance to support commercial and government projects. We have equipped our team with various technical skills and knowledge, including system engineering, software development, network operations, cybersecurity procedures and techniques, white-hat hacker prevention methods, and zero-day prevention, ensuring our ability to deliver quality solutions for our clients.

Our organization is driven by a mission to advance technology and innovation in service to our government and commercial customers, empowering them to meet critical cybersecurity challenges with confidence. Guided by our core values of innovation, integrity, teamwork, and excellence, we are dedicated to developing cutting-edge technologies and solutions that strengthen the cybersecurity posture, increase situational awareness, and provide robust defenses against malicious cyber-attacks. We are deeply committed to fostering a collaborative and inspiring environment for our employees, where teamwork, creativity, and innovation thrive. Recognizing the importance of a skilled workforce, our CyberOps Training Academy plays a vital role in bridging the gap between education and careers in cybersecurity. By equipping students with in-demand skills and hands-on experience, we contribute to building a strong and resilient cyber workforce prepared to address evolving threats.

Through our unwavering dedication to excellence and innovation, we continue to push the boundaries of what is possible, delivering impactful solutions that protect, empower, and inspire.

### **3.4 Significant Requirements Not Met**

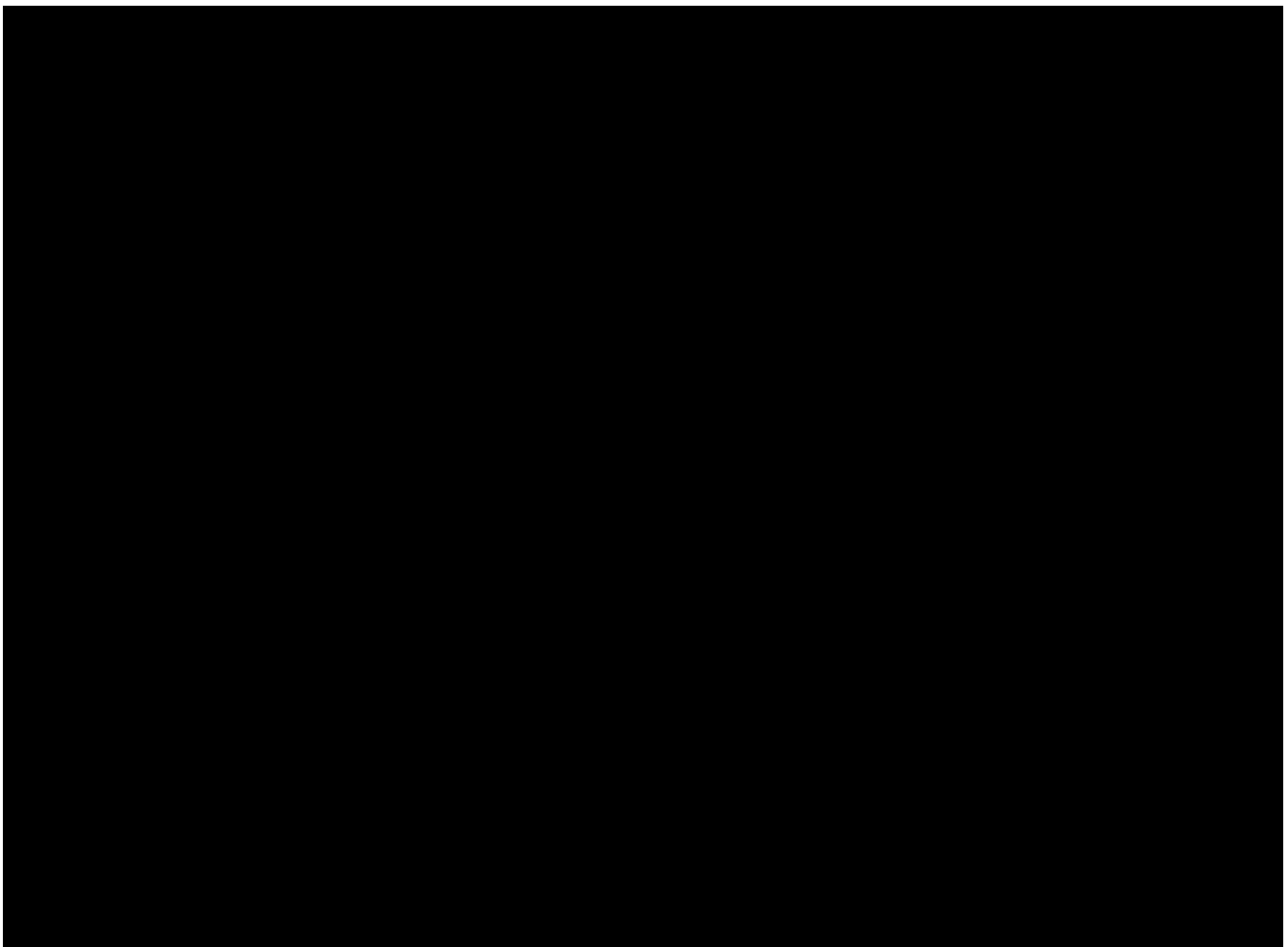
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Def-Logix is confident in meeting all significant requirements outlined in the Scope of Work.

**Statement of Limitations:** At this time, there are no significant requirements from the Scope of Work that Def-Logix is unable to meet. Should any constraints arise during the project lifecycle, they will be promptly communicated with proposed solutions.

## **4 Technical Proposal**

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#### 4.2.3 User-friendliness and accessibility considerations

Crimson Raven will prioritize user engagement and inclusivity, offering an intuitive experience for IT personnel, government employees, and citizens. Its conversational AI will facilitate natural, real-time interactions, boosting citizen trust and enhancing overall engagement with public services.

Table 5 - Crimson Raven User-Friendliness and Accessibility Considerations

Key Features	Description	Benefits
Intuitive Dashboards	Provide real-time visualizations of data trends and system performance.	Simplifies decision-making for IT personnel and government leaders.
Natural Language Interfaces	Enable citizens to engage through AI-powered chatbots embedded in websites, mobile apps, and kiosks.	Enhances citizen satisfaction with real-time, intuitive responses.
Customizable Interfaces	Allow personalization to meet the specific needs of different departments or user groups.	Improves adaptability and efficiency for diverse use cases.
Accessibility Compliance	Adhere to WCAG 2.1 and Section 508 standards with features like screen reader compatibility and keyboard navigation.	Ensures inclusivity for users with disabilities, promoting equitable access to services.
Feedback Integration	Continuously gather user feedback to refine features and enhance usability.	Drives user-centered improvements and long-term system relevance.

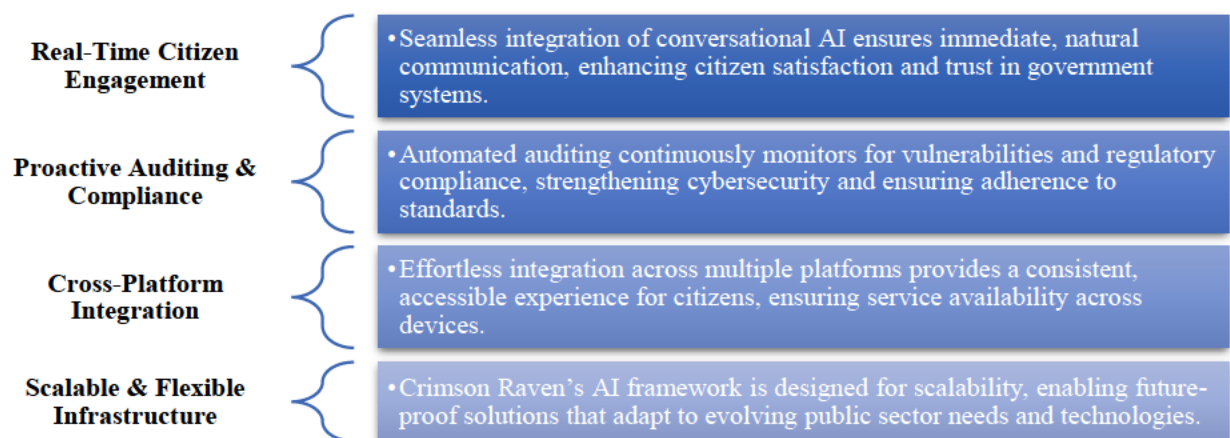


Figure 4 - Crimson Raven's AI-Driven Citizen Engagement Framework

strictly adhering to privacy regulations and employing robust cybersecurity practices, Crimson Raven will safeguard public service systems and ensure that citizens' personal information remains protected.

#### **4.3.6 Natural Language Processing Capabilities**

Crimson Raven incorporates advanced Natural Language Processing (NLP) capabilities, enabling the AI system to understand and respond to a wide range of citizen inquiries in a conversational, intuitive manner. This facilitates seamless interactions with users through chatbots and automated response systems. The NLP engine is designed to interpret various languages, dialects, and types of inquiries accurately, ensuring citizens from diverse backgrounds can easily engage with the system. Additionally, we are currently working on integrating voice-to-text functionality, further enhancing communication and allowing citizens to interact more naturally. By leveraging NLP, Crimson Raven will improve citizen engagement, delivering prompt, relevant responses related to public services, compliance, and other government functions, thus fostering a more positive citizen experience.

#### **4.3.7 Accuracy**

Crimson Raven is engineered to ensure a high level of accuracy in processing data and generating responses, which is critical for maintaining trust and effectiveness across all functionalities. Crimson Raven already utilizes advanced machine learning models, including natural language processing (NLP) and predictive analytics, to ensure that every interaction, decision, and output is grounded in accurate, real-time data. To measure and maintain accuracy, the solution follows a rigorous process throughout its lifecycle:

- 1. Data Validation:** Crimson Raven incorporates robust data validation protocols at every stage of data collection and integration, ensuring that input data from government systems, service requests, and citizen interactions is clean, consistent, and accurate before it is processed.
- 2. Continuous Model Training:** The platform's machine learning models are constantly retrained using the latest data, improving their predictive power and accuracy over time. By continuously learning from new inputs and real-world scenarios, the system adapts and fine-tunes its responses to ensure optimal accuracy.
- 3. Real-Time Monitoring and Feedback Loops:** Crimson Raven includes built-in mechanisms for real-time monitoring and feedback collection. Any inaccuracies detected in the system's output are automatically flagged, and corrective actions are taken immediately to rectify these issues. This is especially important for complex tasks such as AI-driven automation of services and conversational AI responses.
- 4. Performance Metrics and Accuracy Dashboards:** To measure and track accuracy, the system includes key performance indicators (KPIs) that monitor the precision of data processing and responses generated by the AI. These metrics are presented through interactive dashboards that allow administrators to track trends and identify potential accuracy issues, ensuring continuous improvement.
- 5. Regular Auditing and Quality Assurance:** Regular audits and quality assurance checks are built into the solution's lifecycle. These audits examine system performance, ensuring that all responses, automated processes, and data-driven decisions align with predefined accuracy standards. These checks help maintain high accuracy levels, even as new features or updates are implemented.
- 6. User Feedback and Adaptation:** Finally, Crimson Raven's interface allows end-users to provide feedback on the accuracy of AI-generated responses. This feedback is processed by the system and used to fine-tune the algorithms, ensuring that user interactions continuously improve over time.

Through this multi-layered approach, Crimson Raven guarantees a high level of accuracy in processing data and generating responses, continuously maintaining and enhancing the precision of the solution throughout its lifecycle.



#### 4.3.8 Algorithm Transparency

Def-Logix recognizes that algorithm validation and effectiveness are crucial for ensuring the successful deployment of AI solutions like Crimson Raven. To ensure our algorithms perform accurately, fairly, and effectively, we use a comprehensive validation process that leverages the latest AI evaluation techniques. At the core of our validation strategy is DeepEval, an advanced evaluation framework for large language models (LLMs) that incorporates over 14 evaluation metrics, based on the latest research in AI evaluation. These metrics cover a broad range of considerations, from general accuracy to more advanced issues like bias and toxicity, allowing us to assess and refine our algorithms continuously.

1. **Algorithms in Crimson Raven:** Crimson Raven leverages advanced algorithms, including large language models (LLMs), machine learning (ML), natural language processing (NLP), and predictive analytics, to optimize service delivery, citizen engagement, and resource management. These algorithms work cohesively to process and analyze vast datasets in real-time, enabling automated decision-making and actionable insights that enhance operational efficiency. The key algorithms in Crimson Raven include:

- **Large Language Models (LLMs):** LLMs serve as the backbone for advanced NLP capabilities in Crimson Raven, enabling sophisticated natural language understanding and generation. These models allow the system to interpret complex citizen inquiries, provide accurate and context-aware responses, and improve conversational interfaces for citizen engagement.
- **Predictive Analytics:** Crimson Raven uses predictive analytics to forecast trends and outcomes by analyzing historical data. These algorithms help organizations proactively address issues such as demand surges, service bottlenecks, and efficient resource allocation, enabling informed, data-driven decisions.
- **NLP Algorithms:** Integrated with LLMs, NLP algorithms process unstructured text data to improve citizen interactions. They enable Crimson Raven to understand natural language inputs, deliver precise responses, and support multilingual and context-sensitive communication, improving accessibility and user satisfaction.
- **Machine Learning Models:** Both supervised and unsupervised learning methods are employed to detect patterns, identify anomalies, and continuously refine the system's performance. Reinforcement learning techniques may also be applied to adapt decision-making processes over time based on user interactions and evolving needs.

2. **Bias Mitigation and Ethical Outcomes:** Def-Logix's commitment to fairness and ethical AI is reflected in our deliberate approach to mitigate bias and ensure that the system operates equitably across all user demographics. To ensure that Crimson Raven's algorithms perform accurately, fairly, and effectively, we employ a rigorous validation process using the latest AI evaluation techniques. This process includes the use of *DeepEval, a comprehensive evaluation framework for large language models (LLMs), that incorporates over 14+ LLM evaluation metrics*, updated with the latest research in the field. Some of the metrics we use include:

- **G-Eval, Summarization, Hallucination, Faithfulness:** These metrics assess the accuracy, reliability, and contextual relevance of the model's outputs.
- **Answer Relevancy, Contextual Recall, and Contextual Precision:** These metrics ensure that the system's responses are pertinent and accurate within the context of the user's query.
- **RAGAS (Retrieval-Augmented Generation), Bias, Toxicity:** These advanced metrics allow us to assess the potential for bias and toxicity in the system's output, ensuring ethical and non-discriminatory interactions.

3. **Algorithm Validation and Effectiveness:** Ensuring that our algorithms perform effectively, fairly, and without unintended biases requires rigorous validation and testing processes. At Def-Logix, we use a combination of the following methods to validate and refine Crimson Raven's algorithms:

Table 6 - Def-Logix Algorithm Validation Methods and Effectiveness

Validation Method	Description	Purpose
A/B Testing	Controlled experiments comparing different algorithm versions to observe performance differences. It helps refine decision-making capabilities.	Validates model improvements and ensures updates lead to measurable, positive enhancements.
Cross-Validation (k-Fold)	Partitioning the dataset into multiple subsets and testing the model on each to prevent overfitting and ensure robustness.	Ensures algorithms generalize well to new data and prevents model overfitting.
Fairness Audits	Regular audits using fairness metrics like Demographic Parity and Equal Opportunity to evaluate and address any biases in algorithmic decisions.	Ensures that the algorithms treat all groups equitably and identify any unintended biases.
Performance Monitoring	Real-time monitoring tools track algorithm performance, including operational efficiency and accuracy, detecting any performance deviations.	Ensures the system operates optimally and identifies any operational issues or inefficiencies.

Def-Logix ensures that Crimson Raven remains a high-performing, fair, and ethical AI solution by leveraging advanced evaluation metrics like those provided by DeepEval. Using bias mitigation techniques, ongoing model refinement, and rigorous validation processes, Def-Logix guarantees that the platform consistently upholds the highest standards of accuracy, fairness, and transparency. This approach enables Crimson Raven to deliver reliable, impactful, and trustworthy outcomes for both organizations and citizens.

#### 4.3.9 Continuous Improvement

Crimson Raven is built with a focus on continuous improvement, ensuring that the solution evolves to meet the changing needs of users and adapts to emerging trends. The platform includes mechanisms that facilitate ongoing learning and performance enhancement, allowing algorithms to refine their capabilities based on real-time data, user interactions, and feedback. Key elements of our continuous improvement framework include:

1. **Adaptive Machine Learning Models:** The core of Crimson Raven's continuous improvement lies in its adaptive machine learning models. These models are designed to learn from every user interaction and transaction, allowing them to become smarter and more efficient over time. As new data is collected, the algorithms analyze this information to identify patterns, improving decision-making, response accuracy, and service delivery efficiency.
2. **User Feedback Integration:** Crimson Raven actively integrates user feedback to improve its performance. Users can rate AI interactions and provide suggestions, which are automatically processed by the system. This feedback loop allows the platform to recognize areas of improvement and adjust the algorithms accordingly. As users engage with the system, the platform's responses and capabilities are refined to better meet their needs.
3. **Real-Time Performance Monitoring:** The solution includes real-time performance monitoring tools that track system effectiveness and efficiency. By analyzing key performance indicators (KPIs) and service outcomes, Crimson Raven automatically identifies opportunities for optimization. When



performance deviates from desired standards, the system adjusts its processes to realign with objectives, ensuring consistent service quality.

4. **A/B Testing and Experimentation:** Crimson Raven incorporates A/B testing and experimentation frameworks, allowing the system to test different approaches to service delivery, data processing, and user interaction. This testing is continuously conducted in a live environment, enabling the solution to determine the most effective methodologies and incorporate successful strategies into its operational framework.
5. **Model Retraining and Updates:** The platform continually retrains its machine learning models using the latest data and insights. This ensures that Crimson Raven stays up-to-date with evolving trends, user expectations, and operational demands. Model retraining is conducted in a systematic and controlled manner to ensure that improvements are effectively incorporated without disrupting service quality.
6. **Knowledge Base Expansion:** Crimson Raven's knowledge base is constantly updated as the system learns from user interactions and feedback. This evolving knowledge base supports the AI's ability to handle more complex queries and offer more tailored responses over time. Additionally, the platform continuously expands its repository of best practices, enabling it to provide better guidance and optimized solutions for users.

By embedding continuous learning and improvement mechanisms, Def-Logix will ensure that the solution not only meets the immediate needs of its users but also evolves in response to changing demands and advancements in AI technology. This dynamic approach guarantees that the system remains a high-performance tool capable of delivering sustained value over time.

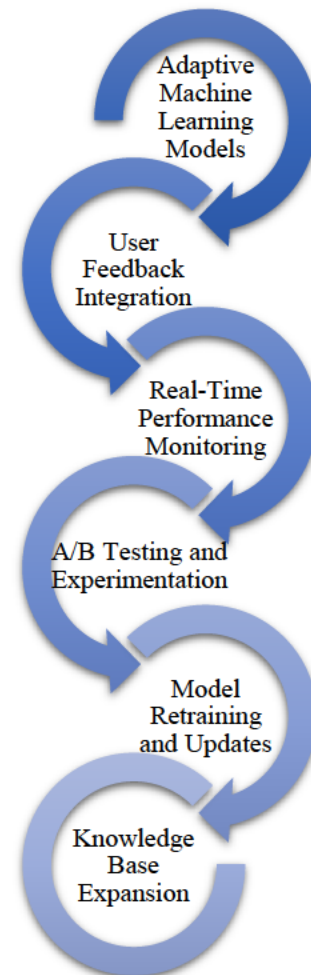


Figure 5 - Crimson Raven Continuous Improvement Framework.

#### 4.3.10 Interoperability

Crimson Raven is designed with robust interoperability capabilities to seamlessly integrate with a wide array of existing digital infrastructures. Our solution will ensure smooth interaction with various government systems, allowing organizations to maximize their current investments while future-proofing their systems for evolving needs. Below is an outline of how Crimson Raven will achieve high interoperability, ensuring effective integration with your current systems and supporting scalable future integration.

1. **Adherence to Open Standards:** Crimson Raven is built on open standards to ensure compatibility with a wide range of systems and platforms. The use of industry-standard protocols such as RESTful APIs, JSON, and XML ensures that the solution can interface seamlessly with existing software

architectures, including legacy systems. Our commitment to open standards guarantees that Crimson Raven can integrate into diverse environments, reducing friction and enabling smooth data exchange.

2. **API Capabilities:** A key element of Crimson Raven's interoperability is its comprehensive API framework. The platform offers robust and well-documented APIs that facilitate easy and secure data exchange between Crimson Raven and external systems. These APIs cover a broad range of functions, including:

- **Data Ingestion:** Allowing the import of data from external sources like case management, HR management, and utility billing systems.
- **Data Export:** Enabling the export of processed data to various downstream systems.
- **Real-Time Communication:** Facilitating real-time communication between Crimson Raven and external applications (e.g., chatbots, and service platforms).
- **User Management:** Allowing the synchronization of user identities with Identity and Access Management (IAM) systems.

3. **Data Format Compatibility:** Crimson Raven will support multiple data formats, ensuring that data can be exchanged without issues across different systems. Some of the formats supported will include:

- **Structured Data:** JSON, XML, CSV
- **Unstructured Data:** Text, log files, emails
- **Multimedia Data:** Images, audio, and video for service requests, citizen feedback, etc.

This flexibility in data formats allows Crimson Raven to integrate effectively with diverse systems, including those that might use proprietary data formats or legacy systems.

4. **Scalability to Support Future Integration:** As organizations grow and evolve, so will their infrastructure and integration needs. Crimson Raven will be designed to accommodate new systems, emerging technologies, and additional service requirements. The platform's modular architecture will allow new integrations to be added as necessary, without disrupting ongoing operations. Whether integrating with a new case management system, upgrading security protocols, or adopting newer technologies like IoT or blockchain, Crimson Raven will scale to meet these needs with minimal effort.

5. **Interoperability Testing Protocols:** Before deployment, Crimson Raven will undergo rigorous interoperability testing to ensure flawless integration with existing systems. Our testing protocol will include the following phases:

- **Compatibility Testing:** Verifying that Crimson Raven communicates correctly with external systems using the supported data formats and APIs.
- **Load Testing:** Ensuring that Crimson Raven can handle a high volume of requests and interactions without degradation of performance.
- **Security Testing:** Testing all APIs and data exchanges for potential vulnerabilities, ensuring that data remains secure during transmission and processing.
- **End-to-end Testing:** Validating the entire integration process from data collection to processing and reporting to ensure the system functions as expected in real-world conditions.

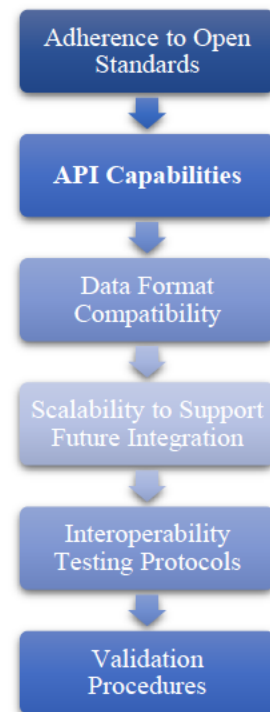


Figure 6 - Crimson Raven Interoperability Framework

**6. Validation Procedures:** Once the interoperability testing is complete, the validation procedures will ensure the integrity of the integration. We employ a rigorous validation process using the latest AI evaluation techniques. This process includes the use of DeepEval, a comprehensive evaluation framework for large language models (LLMs), that incorporates over 14+ LLM evaluation metrics, updated with the latest research in the field.

- **Automated Data Validation:** Ensures the accuracy and completeness of data as it flows between Crimson Raven and external systems.
- **Manual Review:** Post-integration, manual reviews of specific high-risk areas are conducted to ensure correct system behavior.
- **Continuous Monitoring:** Ongoing monitoring tools check the status of all integrations, immediately alerting teams to any discrepancies or failures.

Crimson Raven will be designed to provide exceptional interoperability with existing systems, ensuring seamless integration, scalability, and flexibility for future requirements. By adhering to open standards, offering robust API capabilities, and undergoing rigorous testing, Crimson Raven will guarantee efficient, secure, and reliable integrations that support long-term success and operational continuity.

#### 4.3.11 Quality Control

Ensuring the consistent performance and reliability of the solution is critical to maintaining high standards and meeting performance expectations. Def-Logix has implemented a comprehensive quality control (QC) framework for the Crimson Raven platform that includes both proactive and reactive measures. Our quality control process spans the entire lifecycle of the project, from initial design and development to ongoing maintenance and updates.



Figure 7 - Quality Control

**1. Code Reviews and Unit Testing:** Def-Logix will establish a robust Code Review and Unit Testing process for all Crimson Raven development activities. Every code change will undergo thorough peer reviews to ensure compliance with best coding practices, security standards, and performance requirements. These reviews aim to identify issues early, including logic errors, security vulnerabilities, and optimization opportunities. In parallel, automated unit testing will be conducted on all components to verify their functionality and consistency. These tests will be executed regularly throughout the development cycle, ensuring high-quality, error-free, and optimized code from the ground up.



2. **Continuous Integration and Deployment (CI/CD):** Our **CI/CD pipeline** will ensure continuous testing, integration, and delivery of Crimson Raven components. Automated build and deployment processes will be used to integrate new features seamlessly while maintaining the integrity of the entire solution. Each code commit will trigger a **build** that runs automated unit tests, integration tests, and security checks, ensuring any issues are detected early. With CI/CD, Def-Logix can deliver updates quickly, ensuring reliability and minimizing deployment risks, while preventing system conflicts and ensuring seamless integration of all components.
3. **Performance Testing and Optimization:** Performance testing will be conducted regularly to ensure that Crimson Raven can handle high volumes of data, traffic, and user interactions. This will include stress tests to determine the system’s capacity limits and load tests to simulate different usage scenarios. Key performance indicators, such as response time, throughput, and resource utilization, will be measured to identify bottlenecks. Based on the results, we will implement **optimization strategies**, such as database indexing, code refactoring, and caching techniques, to improve system performance and ensure scalability.
4. **Security Testing and Vulnerability Assessments:** Def-Logix will conduct comprehensive security testing to identify and address vulnerabilities within the Crimson Raven platform. This will involve regular vulnerability assessments using both automated and manual methods to ensure the solution meets security best practices. We will also perform penetration testing to uncover potential weaknesses that could be exploited by malicious actors, following industry standards like the OWASP Top 10 to safeguard both data and infrastructure from cyber threats.
5. **User Acceptance Testing (UAT):** To ensure that Crimson Raven meets the functional and operational needs of users, Def-Logix will engage with stakeholders in User Acceptance Testing (UAT). This phase will involve real-world users validating the platform’s features, usability, and performance. Feedback from UAT will be used to make necessary adjustments, ensuring the solution meets the end-users expectations and requirements. UAT will also include scenario-based testing, where users test the platform with actual data and workflows to confirm that it operates seamlessly in real-world conditions.
6. **Documentation and Knowledge Transfer:** Def-Logix will provide comprehensive **documentation** throughout the development lifecycle. This includes detailed **technical documentation** for the code, architecture, and system configurations, ensuring that all components of Crimson Raven are well-understood and can be maintained effectively. We will also provide user guides and training materials for end-users to ensure they can navigate the platform effectively. **Knowledge transfer** sessions will be held with client teams to ensure they are fully equipped to manage, maintain, and enhance the solution post-deployment.
7. **Ongoing Monitoring and Support:** After deployment, Def-Logix will implement **continuous monitoring** to ensure that Crimson Raven remains functional and high-performing. This will include monitoring for system errors, performance issues, and security threats. Crimson Raven’s design allows for a robust feedback mechanism, ensuring that issues detected at any stage of the lifecycle—whether pre- or post-deployment—are swiftly addressed. This continuous improvement process is vital to delivering the high standards expected from government solutions. We will set up alerts for any issues that require attention and provide **proactive support** to resolve issues before they impact users. Regular **system audits** and **performance reviews** will be conducted to ensure that the platform evolves in line with changing needs and emerging challenges, providing a long-term, sustainable solution.

Def-Logix’s commitment to quality control ensures that Crimson Raven continues to meet the highest performance standards throughout its lifecycle. By integrating a multifaceted approach to QC and validation, we guarantee that the solution will consistently meet and exceed performance expectations, providing a reliable and robust service to our partners.

## 4.4 Data Governance and Cybersecurity Provisions

Our team has successfully implemented robust data governance frameworks for organizations such as the Department of Air Force (DAF) and the Department of Army (DOA), where we ensured the highest standards of data integrity, privacy, and security. Using our proven methodology, we will apply the same meticulous approach to your project, tailoring our practices to meet specific requirements while adhering to industry standards.

### 4.4.1 Data Governance

#### a) Data Integrity and Accuracy:

Def-Logix will implement a comprehensive data management framework that includes validation checks and error correction protocols to ensure the accuracy and integrity of data throughout its lifecycle. This will involve:

- 1) **Data Validation:** Automated validation processes will be established to check data against predefined criteria at the point of entry. This includes format checks, range checks, and consistency checks to ensure that only accurate data is captured.
- 2) **Error Correction Protocols:** In the event of data discrepancies, Def-Logix will employ error correction protocols that include automated alerts for anomalies, manual review processes, and corrective actions to rectify any identified issues.
- 3) **Regular Data Audits:** Scheduled audits will be conducted to assess data integrity, identify potential inaccuracies, and implement corrective measures as necessary.

#### b) Data Privacy and Compliance:

Def-Logix is committed to adhering to all relevant data privacy laws and regulations, including GDPR and CCPA. Our approach includes:

- 1) **Data Anonymization and Pseudonymization:** We will implement techniques for anonymizing and pseudonymizing personal data where applicable, ensuring that sensitive information is protected while still allowing for data analysis.
- 2) **User Consent Management:** A robust consent management system will be established to ensure that user consent is obtained before data collection and processing. This system will document consent records and provide users with clear options to withdraw consent at any time.
- 3) **Compliance Training:** Regular training sessions will be conducted for all employees to ensure they are aware of data privacy regulations and the importance of compliance.

#### c) Data Access Controls:

To protect sensitive data, Def-Logix will define and implement strict role-based access controls (RBAC) along with multi-factor authentication (MFA):

- 1) **Role-Based Access Control (RBAC):** Access to data will be restricted based on user roles within the organization. Each role will have specific permissions tailored to the needs of the job function, ensuring that only authorized personnel can access sensitive information.
- 2) **Multi-Factor Authentication (MFA):** MFA will be required for accessing sensitive data systems. This will involve a combination of something the user knows (password), something the user has (security token or mobile device), and something the user is (biometric verification) to enhance security.

#### d) Data Retention and Disposal:



We will establish clear data retention policies that outline how long data will be stored and the methods for secure disposal:

- 1) **Data Retention Policy:** We will define retention periods based on regulatory requirements, business needs, and best practices. Data will only be retained as long as necessary for its intended purpose.
- 2) **Secure Disposal Methods:** Once data is no longer needed, it will be disposed of securely using methods such as data wiping, physical destruction of storage media, or secure deletion protocols to prevent unauthorized access or recovery.

#### e) Data Auditing and Monitoring

Def-Logix will implement a robust auditing and monitoring framework to track data usage and access:

- 1) **Regular Audits:** We will conduct regular audits of data access logs and usage patterns to ensure compliance with access controls and identify any unauthorized access attempts.
- 2) **Logging Mechanisms:** Comprehensive logging mechanisms will be established to track all data access and modifications. These logs will be monitored in real-time for suspicious activity, with alerts generated for any anomalies detected.
- 3) **Continuous Improvement:** The auditing process will include feedback loops for continuous improvement, allowing us to refine our data management practices based on audit findings.

### 4.4.2 Cybersecurity

Def-Logix has successfully delivered cybersecurity services to various federal organizations, including AFLCMC, DHS, and DISA, ensuring robust protection against evolving threats. Our proven track record in implementing comprehensive security frameworks highlights our expertise in safeguarding critical data and systems. We have consistently met industry standards and regulatory requirements, strengthening our clients' cybersecurity posture. This experience equips us with the skills necessary to address complex security challenges, ensuring effective threat detection, response, and ongoing protection.

#### a) Threat Detection and Response:

Def-Logix will implement advanced AI-driven threat detection systems designed to identify and respond to potential security breaches in real-time. Our approach includes:

- 1) **AI-Driven Monitoring:** We will deploy machine learning algorithms that analyze network traffic and user behavior to detect anomalies indicative of security threats. These systems will continuously learn from new data, improving their accuracy over time.
- 2) **Identity Verification Mechanisms:** Robust identity verification protocols will be integrated into our access control systems. This includes multi-factor authentication (MFA) and biometric verification to ensure that only authorized personnel can access sensitive information.
- 3) **Incident Response Protocols:** We will define comprehensive incident response protocols that specifically address identity-related breach scenarios. These protocols will include steps for containment, eradication, recovery, and communication. Regular testing of these protocols through tabletop exercises and simulations will ensure preparedness for evolving security threats.

#### b) Encryption

To protect sensitive data, Def-Logix will ensure end-to-end encryption for data both in transit and at rest:

- 1) **Industry-Standard Encryption Algorithms:** We will utilize strong encryption standards such as AES-256 for data at rest and TLS (Transport Layer Security) for data in transit. RSA-2048 will be

employed for secure key exchange, while SHA-256 and SHA-512 will be used for hashing sensitive information.

- 2) **Key Management Practices:** A robust key management system will be established to handle encryption keys securely. This includes regular key rotation, secure storage, and strict access controls to prevent unauthorized access to encryption keys.

#### **c) Vulnerability Management**

Def-Logix is committed to maintaining a proactive approach to vulnerability management:

- 1) **Regular Vulnerability Assessments:** We will conduct comprehensive vulnerability assessments on a quarterly basis, utilizing automated tools to identify potential weaknesses in our systems.
- 2) **Penetration Testing:** Annual penetration testing will be performed by third-party security experts to simulate real-world attacks and identify vulnerabilities that may not be detected through automated assessments.
- 3) **Timely Patching and Updates:** A structured patch management process will be implemented to ensure that all software and systems are updated promptly in response to identified vulnerabilities. This includes prioritizing critical patches based on risk assessments.

#### **d) Security Governance Framework**

We will establish a robust security governance framework that outlines our security policies, procedures, and responsibilities:

- 1) **Policy Development:** We will develop comprehensive security policies that cover all aspects of cybersecurity, including data protection, access control, incident response, and compliance with relevant regulations.
- 2) **Continuous Compliance Monitoring:** Regular audits and assessments will be conducted to ensure adherence to security standards and best practices. This includes compliance with frameworks such as NIST Cybersecurity Framework and ISO 27001.
- 3) **Roles and Responsibilities:** Clear roles and responsibilities will be defined within the organization to ensure accountability for cybersecurity practices at all levels.

#### **e) Risk Management**

Def-Logix recognizes the importance of effective risk management in safeguarding our AI solutions:

- 1) **Risk Identification and Assessment:** We will conduct thorough risk assessments to identify potential risks associated with our AI solutions. This includes evaluating threats related to data privacy, system integrity, and operational continuity.
- 2) **Risk Mitigation Strategies:** Based on the identified risks, we will develop and implement risk mitigation strategies tailored to address specific vulnerabilities. This includes establishing a disaster recovery plan (DRP) that outlines procedures for restoring operations in the event of a significant incident.
- 3) **Root-Cause Analysis (RCA):** Following any security incident, a root-cause analysis will be conducted to identify underlying issues and prevent recurrence. Lessons learned from these analyses will inform future risk management strategies.

#### **a) Training and Awareness**

To foster a culture of cybersecurity awareness, Def-Logix will provide regular training programs for all staff:

- 1) **Cybersecurity Training Programs:** Comprehensive training sessions will be conducted bi-annually to educate staff on security best practices, including recognizing phishing attempts, secure password management, and safe data handling procedures.
- 2) **Awareness Campaigns:** Ongoing awareness campaigns will be implemented to keep cybersecurity top-of-mind for employees. This includes newsletters, posters, and interactive workshops that highlight current threats and preventive measures.
- 3) **Assessment of Knowledge:** Regular assessments will be conducted to evaluate staff understanding of cybersecurity protocols, ensuring that knowledge is retained and applied effectively.

Def-Logix is committed to building a comprehensive data security and cybersecurity framework that ensures the integrity, privacy, and accessibility of data while effectively identifying and addressing potential threats. By utilizing advanced threat detection systems, enforcing strict access controls, conducting regular audits, and providing continuous staff training, we protect our data and systems from emerging risks.

## 4.5 Performance Metrics

To effectively measure the success and performance of the Crimson Raven AI solution, we establish a robust framework for key performance indicators (KPIs) that align with the project goals. These KPIs are carefully designed to track the system's ability to improve public services, optimize data usage, and increase citizen engagement. Our approach to performance measurement includes accuracy, reliability, and continuous improvement, ensuring that the AI solution meets the required performance standards and evolves to meet changing needs over time. The following KPIs will be tracked to ensure Crimson Raven meets the required standards:

*Table 7 - Crimson Raven Performance Metrics and KPIs*

KPI	Description	Measurement Method
Accuracy of AI-driven Decisions	Measures how often the AI's decisions align with the desired outcomes and expected results.	Performance benchmarking, A/B testing, and real-time monitoring.
Citizen Engagement	Tracks the level of interaction and engagement with citizens through AI-enabled interfaces.	Usage statistics, feedback surveys, and engagement rate analytics.
Service Optimization	Assesses how well the AI optimizes service delivery and resource allocation.	Efficiency metrics, service response time, resource utilization rate.
Bias Mitigation Effectiveness	Evaluates how effectively the AI prevents biased outcomes and ensures fairness.	Fairness audits, demographic parity tests, and regular audits.
Operational Efficiency	Measures the speed and reliability of AI-driven tasks, including process automation and real-time actions.	System uptime, response times, throughput rates, and failure rates.
Scalability	Measures the AI solution's ability to handle increasing volumes of data and interactions over time.	Load testing, system scaling metrics, and resource usage metrics.
Feedback Loop Efficiency	Tracks the system's ability to incorporate user feedback into ongoing improvements and adjustments.	Frequency of updates, user satisfaction ratings, feedback processing speed.

To ensure our AI system delivers consistent accuracy and reliability, Def-Logix takes a proactive, multi-step approach. First, we set up real-time monitoring, keeping track of important metrics like decision accuracy, engagement, and service outcomes. If something isn't performing as expected, we get instant alerts, which allow us to act quickly and make corrections. We also use A/B testing regularly, comparing different versions of the algorithms to see which one works better, so we can ensure that any updates lead to measurable improvements. To further validate the system's capabilities, we perform cross-validation and stress testing, simulating various scenarios to ensure the AI remains reliable, even during high-demand

periods. Finally, we build a feedback loop where performance data, user input, and system audits continuously inform improvements. This ensures the system keeps evolving, becoming smarter and more effective over time, while meeting the ever-changing needs of the users.

To ensure continuous improvement, Def-Logix will regularly update the AI model based on insights gathered from performance monitoring and real-world user interactions. These updates will be driven by continuous learning and feedback from system users and stakeholders, ensuring the solution adapts to evolving needs. To maintain fairness, we will conduct ongoing bias audits using fairness metrics and external experts, ensuring the system remains impartial. As data volumes and user interactions grow, we will monitor the scalability of the AI solution and make adjustments to ensure its reliability. Additionally, we will foster ongoing collaboration with stakeholders, keeping communication open to ensure the solution remains aligned with both technical and functional expectations, ultimately enhancing its performance over time. To effectively track and measure these KPIs, Def-Logix utilizes interactive dashboards that provide a clear and real-time view of performance across all metrics. Figure 8 illustrates a conceptual diagram depicting how our performance tracking and feedback loop operates.

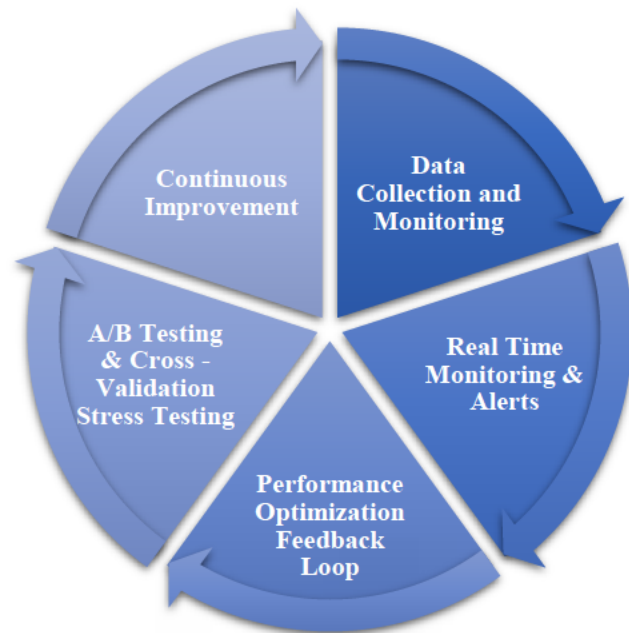


Figure 8 - Crimson Raven Performance Tracking and Feedback Loop

## 4.6 Risk Management

Crimson Raven adopts a proactive and comprehensive risk management framework to ensure the successful implementation and sustained performance of the project. This framework identifies potential risks, evaluates their impact, and applies tailored mitigation strategies to minimize disruptions while maximizing solution effectiveness. Below is a detailed breakdown of the risks and strategies, organized for clarity and accessibility.

Table 8 - Crimson Raven Risk Management Framework

Risk Area	Potential Risks	Mitigation Strategies
Data Security & Privacy	Unauthorized access, data breaches, non-compliance with regulations.	<ul style="list-style-type: none"> <li>End-to-end encryption and multi-factor authentication.</li> <li>Real-time monitoring with alerts.</li> <li>Regular security audits and data anonymization.</li> </ul>
Algorithm Bias & Ethics	Biased decision-making, lack of transparency, ethical concerns.	<ul style="list-style-type: none"> <li>Fairness audits using industry metrics.</li> <li>Diverse datasets to minimize bias.</li> <li>Regular third-party reviews and transparent documentation of algorithms.</li> </ul>
Performance & Scalability	Degraded performance under high workloads, and scalability issues.	<ul style="list-style-type: none"> <li>Cloud-based infrastructure and load balancing.</li> <li>Stress testing and real-time performance monitoring.</li> </ul>



		<ul style="list-style-type: none"> <li>Disaster recovery protocols for minimal downtime.</li> </ul>
<b>Integration Challenges</b>	Difficulties integrating with legacy systems, compatibility issues, and high customization costs.	<ul style="list-style-type: none"> <li>Pre-integration analysis and custom APIs.</li> <li>Incremental pilot testing.</li> <li>24/7 technical support for integration issues.</li> </ul>
<b>User Adoption &amp; Training</b>	Resistance to new technology, insufficient training, and misalignment with user needs.	<ul style="list-style-type: none"> <li>Stakeholder engagement early in the process</li> <li>Tailored training and user-friendly design</li> <li>Continuous feedback channels to refine adoption strategies.</li> </ul>
<b>Operational Downtime</b>	Service disruptions, outages during updates, and limited contingency planning.	<ul style="list-style-type: none"> <li>Scheduled updates during off-peak hours.</li> <li>Failover systems for continuity.</li> <li>Incident response plans and continuous testing to ensure high availability.</li> </ul>
<b>Regulatory Compliance</b>	Non-compliance with laws, evolving regulatory standards, reputational risks.	<ul style="list-style-type: none"> <li>Internal oversight committees and periodic reviews.</li> <li>Maintaining audit trails for transparency and accountability.</li> </ul>

## 4.7 Compliance and Standards

Def-Logix confirms full adherence to all applicable regulations and standards, ensuring that our solution aligns with the highest levels of data privacy, security, and operational integrity. Crimson Raven is designed with compliance at its core, enabling seamless integration with frameworks and other regional and sector-specific standards. Our approach will encompass proactive monitoring, robust documentation, and stringent adherence to regulatory requirements, ensuring that every aspect of the solution is legally and ethically sound.

To maintain compliance, we will implement privacy-by-design principles, embedding data protection measures into every stage of the solution lifecycle. This will include advanced encryption protocols, access control mechanisms, and regular system audits. Our data processing workflows will be structured to ensure minimal data retention, and we will employ anonymization techniques where necessary to protect sensitive information. Furthermore, we will establish data subject access protocols that allow clients to respond promptly to user rights requests, such as data access or deletion.

Our commitment to regulatory compliance will be reinforced by periodic third-party audits and certifications. We will actively collaborate with compliance experts and legal advisors to ensure that our system remains aligned with evolving standards. Additionally, we will provide our clients with clear, transparent documentation and reporting capabilities, enabling them to demonstrate compliance during audits or inspections. By integrating these measures, we will ensure that Crimson Raven not only meets regulatory expectations but also fosters trust and accountability across all stakeholders.

## 5 Pricing

We have submitted this as a separate attachment – “**Exhibit 1 - Proposal Pricing**”.



## 6 Proposed Value-Add

Def-Logix offers innovative solutions and additional capabilities to enhance public sector operations beyond the scope of this RFP. Our value-added services include:

Technology Advisory	We offer expert Technology Advisory services to optimize system performance and seamlessly integrate new technologies. With a large, skilled team of SF Engineers, we tackle complex challenges, provide ongoing technical guidance, and test systems to ensure they meet your evolving needs.
Surge Capability	We offer flexible surge support to quickly scale resources for urgent project needs, ensuring efficient and timely outcomes during peak demands.
Cybersecurity	We implement robust cybersecurity solutions, conduct audits, and provide vulnerability assessments to safeguard your systems and data against emerging threats.
Comprehensive Training and Support	We deliver tailored training programs and ongoing support to maximize system adoption and operational efficiency, empowering your staff to fully leverage new technologies.

*Figure 9 - Def-Logix Value-Added Services for Public Sector Operations*

## 7 HUB

### Texas Historically Underutilized Business (HUB) Certificate



Certificate/VID Number: **1262774089200**  
Approval Date: **March 1, 2022**  
Scheduled Expiration Date: **March 31, 2024**

In accordance with the Memorandum of Agreement between the  
SOUTH CENTRAL TEXAS REGIONAL CERTIFICATION AGENCY (SCTRCA)  
and the Texas Comptroller of Public Accounts (CPA), the CPA hereby certifies that

#### Def-Logix, Inc

has successfully met the established requirements of the State of Texas Historically Underutilized Business (HUB) Program to be recognized as a HUB. This certificate printed **March 1, 2022**, supersedes any registration and certificate previously issued by the HUB Program. If there are any changes regarding the information (i.e., business structure, ownership, day-to-day management, operational control, addresses, phone and fax numbers or authorized signatures) provided in the submission of the business; application for registration/certification into SCTRCA's program, you must immediately (within 30 days of such changes) notify SCTRCA's program in writing. The CPA reserves the right to conduct a compliance review at any time to confirm HUB eligibility. HUB certification may be suspended or revoked upon findings of ineligibility. If your firm ceases to remain certified in SCTRCA's program, you must apply and become certified through the State of Texas HUB program to maintain your HUB certification.

Statewide HUB Program  
Statewide Procurement Division

Note: In order for State agencies and institutions of higher education (universities) to be credited for utilizing this business as a HUB, they must award payment under the Certificate/VID Number identified above. Agencies, universities and prime contractors are encouraged to verify the company's HUB certification prior to issuing a notice of award by accessing the Internet (<https://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp>) or by contacting the HUB Program at **512-463-5872** or toll-free in Texas at **1-888-863-5881**.

### South Central Texas Regional Certification Agency of Bexar County, Texas hereby duly affirms that:

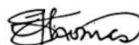
#### Def-Logix, Inc.

has successfully met the established requirements of SCTRCA's Business Enterprise Certification Program to be certified as a

#### \*ESBE HABE MBE SBE VBE

##### Certified NAICS Codes

NAICS 541511: COMPUTER PROGRAMMING SERVICES, CUSTOM  
NAICS 541512: COMPUTER SYSTEMS DESIGN SERVICES  
NAICS 541513: COMPUTER FACILITIES MANAGEMENT SERVICES  
NAICS 541519: OTHER COMPUTER RELATED SERVICES  
NAICS 611420: COMPUTER TRAINING



Sheena Thomas  
Executive Director



Certification Number: 224083716  
Effective Date: August 5, 2024  
Expiration Date: August 31, 2026

Note: This certificate is the property of the South Central Texas Regional Certification Agency and may be revoked should the above named firm graduate from or fails to comply with SCTRCA's Business Enterprise Program. A Certification Renewal Application is required every two years.

## 8 Required Attachments

### Attachment I: Instructions for Proposals Compliance and Submittal

#### ATTACHMENT I: INSTRUCTIONS FOR PROPOSALS COMPLIANCE AND SUBMITTAL

##### Compliance with the Solicitation

Submissions must be in strict compliance with this solicitation. Failure to comply with all provisions of the solicitation may result in disqualification.

##### Compliance with the NCTCOG Standard Terms and Conditions

By signing its submission, Offeror acknowledges that it has read, understands and agrees to comply with the NCTCOG standard terms and conditions.

##### Acknowledgment of Insurance Requirements

By signing its submission, Offeror acknowledges that it has read and understands the insurance requirements for the submission. Offeror also understands that the evidence of required insurance must be submitted within ten (10) working days following notification of its offer being accepted; otherwise, NCTCOG may rescind its acceptance of the Offeror's proposals. The insurance requirements are outlined in Section 2.2 - General Terms and Conditions.

Name of Organization/Contractor(s):

Def-Logix, Inc.

Signature of Authorized Representative:

Paul A. Rivera

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 09:54:34 -06'00'

Date: 01/13/2025

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## Attachment II: Certification of Offeror

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### ATTACHMENT II: CERTIFICATIONS OF OFFEROR

I hereby certify that the information contained in this proposal and any attachments is true and correct and may be viewed as an accurate representation of proposed services to be provided by this organization. I certify that no employee, board member, or agent of the North Central Texas Council of Governments has assisted in the preparation of this proposal. I acknowledge that I have read and understand the requirements and provisions of the solicitation and that the organization will comply with the regulations and other applicable local, state, and federal regulations and directives in the implementation of this contract.

I also certify that I have read and understood all sections of this solicitation and will comply with all the terms and conditions as stated; and furthermore that I, Paul Rivera (typed or printed name) certify that I am the CEO & Owner (title) of the corporation, partnership, or sole proprietorship, or other eligible entity named as offeror and respondent herein and that I am legally authorized to sign this offer and to submit it to the North Central Texas Council of Governments, on behalf of said offeror by authority of its governing body.

Name of Organization/Contractor(s):

Def-Logix, Inc.

Signature of Authorized Representative:

Paul A. Rivera

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 09:55:22 -08'00'

Date: 01/13/2025

## Attachment III: Certification Regarding Debarment

### ATTACHMENT III: CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

This certification is required by the Federal Regulations Implementing Executive Order 12549, Debarment and Suspension, 45 CFR Part 93, Government-wide Debarment and Suspension, for the Department of Agriculture (7 CFR Part 3017), Department of Labor (29 CFR Part 98), Department of Education (34 CFR Parts 85, 668, 682), Department of Health and Human Services (45 CFR Part 76).

The undersigned certifies, to the best of his or her knowledge and belief, that both it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency;
2. Have not within a three-year period preceding this contract been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction, violation of federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false Proposals, or receiving stolen property;
3. Are not presently indicated for or otherwise criminally or civilly charged by a government entity with commission of any of the offense enumerated in Paragraph (2) of this certification; and,
4. Have not within a three-year period preceding this contract had one or more public transactions terminated for cause or default.

Where the prospective recipient of federal assistance funds is unable to certify to any of the qualifications in this certification, such prospective recipient shall attach an explanation to this certification form.

Name of Organization/Contractor(s):

Def-Logix, Inc.

Signature of Authorized Representative:

Paul A. Rivera

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 09:55:49 -06'00'

Date: 01/13/2025



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## Attachment IV: Restrictions on Lobbying

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### LOBBYING CERTIFICATION FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge or belief, that:

1. No federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an officer or employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal loan, the entering into of any cooperative Contract, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative contract; and
2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, and or cooperative contract, the undersigned shall complete and submit Standard Form – LLL, "Disclosure Form to Report Lobbying", in accordance with the instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers and that all sub-recipients shall certify accordingly.

Name of Organization/Contractor(s):

Def-Logix, Inc.

Signature of Authorized Representative:

Paul A. Rivera

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 09:56:19 -06'00'

Date: 01/13/2025

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**Attachment V: Drug-Free Workplace Certification**

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**ATTACHMENT V: DRUG-FREE WORKPLACE CERTIFICATION**

The Def-Logix, Inc. (company name) will provide a Drug Free Work Place in compliance with the Drug Free Work Place Act of 1988. The unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited on the premises of the Def-Logix, Inc. (company name) or any of its facilities. Any employee who violates this prohibition will be subject to disciplinary action up to and including termination. All employees, as a condition of employment, will comply with this policy.

**CERTIFICATION REGARDING DRUG-FREE WORKPLACE**

This certification is required by the Federal Regulations Implementing Sections 5151-5160 of the Drug-Free Workplace Act, 41 U.S.C. 701, for the Department of Agriculture (7 CFR Part 3017), Department of Labor (29 CFR Part 98), Department of Education (34 CFR Parts 85, 668 and 682), Department of Health and Human Services (45 CFR Part 76).

The undersigned subcontractor certifies it will provide a drug-free workplace by:

Publishing a policy Proposal notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the consequences of any such action by an employee;

Establishing an ongoing drug-free awareness program to inform employees of the dangers of drug abuse in the workplace, the subcontractor's policy of maintaining a drug-free workplace, the availability of counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed on employees for drug violations in the workplace;

Providing each employee with a copy of the subcontractor's policy Proposal;

Notifying the employees in the subcontractor's policy Proposal that as a condition of employment under this subcontract, employees shall abide by the terms of the policy Proposal and notifying the subcontractor in writing within five days after any conviction for a violation by the employee of a criminal drug abuse statute in the workplace;

Notifying the Board within ten (10) days of the subcontractor's receipt of a notice of a conviction of any employee; and,

Taking appropriate personnel action against an employee convicted of violating a criminal drug statute or requires such employee to participate in a drug abuse assistance or rehabilitation program.

Name of Organization/Contractor(s):

Def-Logix, Inc.

Signature of Authorized Representative:

Paul A. Rivera Digitally signed by Paul A. Rivera  
Date: 2025.01.13 09:56:49 -0600

Date: 01/13/2025

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**Attachment VI: Certification Regarding Disclosure of Conflict of Interest**

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**ATTACHMENT VI: DISCLOSURE OF CONFLICT OF INTEREST  
CERTIFICATION REGARDING DISCLOSURE OF CONFLICT OF INTEREST**

The undersigned certifies that, to the best of his or her knowledge or belief, that:

"No employee of the contractor, no member of the contractor's governing board or body, and no person who exercises any functions or responsibilities in the review or approval of the undertaking or carrying out of this contract shall participate in any decision relating to this contract which affects his/her personal pecuniary interest.

Executives and employees of contractor shall be particularly aware of the varying degrees of influence that can be exerted by personal friends and associates and, in administering the contract, shall exercise due diligence to avoid situations which give rise to an assertion that favorable treatment is being granted to friends and associates. When it is in the public interest for the contractor to conduct business with a friend or associate of an executive or employee of the contractor, an elected official in the area or a member of the North Central Texas Council of Governments, a permanent record of the transaction shall be retained.

Any executive or employee of the contractor, an elected official in the area or a member of the NCTCOG, shall not solicit or accept money or any other consideration from a third person, for the performance of an act reimbursed in whole or part by contractor or Department. Supplies, tools, materials, equipment or services purchased with contract funds shall be used solely for purposes allowed under this contract. No member of the NCTCOG shall cast a vote on the provision of services by that member (or any organization which that member represents) or vote on any matter which would provide a direct or indirect financial benefit to the member or any business or organization which the member directly represents".

No officer, employee or paid consultant of the contractor is a member of the NCTCOG.

No officer, manager or paid consultant of the contractor is married to a member of the NCTCOG.

No member of NCTCOG directly owns, controls or has interest in the contractor.

The contractor has disclosed any interest, fact, or circumstance that does or may present a potential conflict of interest.

No member of the NCTCOG receives compensation from the contractor for lobbying activities as defined in Chapter 305 of the Texas Government Code.

Should the contractor fail to abide by the foregoing covenants and affirmations regarding conflict of interest, the contractor shall not be entitled to the recovery of any costs or expenses incurred in relation to the contract and shall immediately refund to the North Central Texas Council of Governments any fees or expenses that may have been paid under this contract and shall further be liable for any other costs incurred or damages sustained by the NCTCOG as it relates to this contract.

Name of Organization/Contractor(s):

Def-Logix, Inc.

Signature of Authorized Representative:

Paul A. Rivera

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 09:57:10 -06'00'

Date: 01/13/2025

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**Attachment VII: Certification of Fair Business Practices**

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**ATTACHMENT VII: CERTIFICATION OF FAIR BUSINESS PRACTICES**

That the submitter has not been found guilty of unfair business practices in a judicial or state agency administrative proceeding during the preceding year. The submitter further affirms that no officer of the submitter has served as an officer of any company found guilty of unfair business practices in a judicial or state agency administrative during the preceding year.

Name of Organization/Contractor(s):

Def-Logix, Inc.

Signature of Authorized Representative:

Paul A. Rivera

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 09:57:35 -06'00'

Date: 01/13/2025

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**Attachment VIII: Certification of Good Standing Texas Corporate Franchise Tax Certification**

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**ATTACHMENT VIII: CERTIFICATION OF GOOD STANDING  
TEXAS CORPORATE FRANCHISE TAX CERTIFICATION**

Pursuant to Article 2.45, Texas Business Corporation Act, state agencies may not contract with for profit corporations that are delinquent in making state franchise tax payments. The following certification that the corporation entering into this offer is current in its franchise taxes must be signed by the individual authorized on Form 2031, Corporate Board of Directors Resolution, to sign the contract for the corporation.

The undersigned authorized representative of the corporation making the offer herein certified that the following indicated Proposal is true and correct and that the undersigned understands that making a false Proposal is a material breach of contract and is grounds for contract cancellation.

Indicate the certification that applies to your corporation:



The Corporation is a for-profit corporation and certifies that it is not delinquent in its franchise tax payments to the State of Texas.



The Corporation is a non-profit corporation or is otherwise not subject to payment of franchise taxes to the State of Texas.

Type of Business (if not corporation):

☐

Sole Proprietor

☐

Partnership

☐

Other

Pursuant to Article 2.45, Texas Business Corporation Act, the North Central Texas Council of Governments reserves the right to request information regarding state franchise tax payments.

**Paul Rivera**

(Printed/Typed Name and Title of Authorized Representative)

Signature

Date: Paul Rivera  
Digitally signed by Paul A. Rivera  
Date: 2025.01.13 10:04:00 -06'00'



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**Attachment IX: Historically Underutilized Businesses**

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**ATTACHMENT IX: HISTORICALLY UNDERUTILIZED BUSINESSES,  
MINORITY OR WOMEN-OWNED OR DISADVANTAGED BUSINESS ENTERPRISES**

Historically Underutilized Businesses (HUBs), minority or women-owned or disadvantaged businesses enterprises (M/W/DBE) are encouraged to participate in the solicitation process.

NCTCOG recognizes the certifications of most agencies. HUB vendors must submit a copy of their certification for consideration during the evaluation of their proposal. Please attach the copy to this form. This applies only to the Offeror and not a subcontractor.

Texas vendors who are not currently certified are encouraged to contact either the Texas United Certification Program, State of Texas HUB Program, or the North Central Texas Regional Certification Agency, among others. Contact:

State of Texas HUB Program  
Texas Comptroller of Public Accounts  
Lyndon B. Johnson State Office Building  
111 East 17th Street  
Austin, Texas 78774  
(512) 463-6958  
<http://www.window.state.tx.us/procurement/prog/hub/>

North Central Texas Regional Certification Agency  
624 Six Flags Drive, Suite 100  
Arlington, TX 76011  
(817) 640-0606  
<http://www.nctrca.org/certification.html>

Texas United Certification Program  
USDOT website at  
<https://www.transportation.gov/DBE>

**You must include a copy of your certification document as part of this solicitation to receive points in the evaluation.**

**Vendor to Sign Below to Attest to Validity of Certification:**

**Def-Logix, Inc.**

Vendor Name

**Paul A. Rivera**

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 10:04:49 -06'00'

Authorized Signature

**Paul Rivera**

Typed Name

**01/13/2025**

Date

☐ Not applicable.

**Attachment X: Federal and State of Texas Required Procurement Provisions****ATTACHMENT X: NCTCOG FEDERAL AND STATE OF TEXAS  
REQUIRED PROCUREMENT PROVISIONS**

The following provisions are mandated by Federal and/or State of Texas law. Failure to certify to the following will result in disqualification of consideration for contract. Entities or agencies that are not able to comply with the following will be ineligible for consideration of contract award.

**PROHIBITED TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT  
CERTIFICATION**

This Contract is subject to the Public Law 115-232, Section 889, and 2 Code of Federal Regulations (CFR) Part 200, including §200.216 and §200.471, for prohibition on certain telecommunications and video surveillance or equipment. Public Law 115-232, Section 889, identifies that restricted telecommunications and video surveillance equipment or services (e.g., phones, internet, video surveillance, cloud servers) include the following:

- A) Telecommunications equipment that is produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliates of such entities).
- B) Video surveillance and telecommunications equipment produced by Hytera Communications Corporations, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliates of such entities).
- C) Telecommunications or video surveillance services used by such entities or using such equipment.
- D) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, Director of the National Intelligence, or the Director of the Federal Bureau of Investigation reasonably believes to be an entity owned or controlled by the government of a covered foreign country. The entity identified below, through its authorized representative, hereby certifies that no funds under this Contract will be obligated or expended to procure or obtain telecommunication or video surveillance services or equipment or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as a critical technology as part of any system prohibited by 2 CFR §200.216 and §200.471, or applicable provisions in Public Law 115-232 Section 889.

☒ The Contractor or Subrecipient hereby certifies that it does comply with the requirements of 2 CFR §200.216 and §200.471, or applicable regulations in Public Law 115-232 Section 889.

SIGNATURE OF AUTHORIZED PERSON:

Paul A. Rivera

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 10:05:40 -06'00'

NAME OF AUTHORIZED PERSON:

Paul Rivera

NAME OF COMPANY:

Def-Logix, Inc.

DATE:

01/13/2025

-OR-

☐ The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of 2 CFR §200.216 and §200.471, or applicable regulations in Public Law 115-232 Section 889.

SIGNATURE OF AUTHORIZED PERSON:

NAME OF AUTHORIZED PERSON:

NAME OF COMPANY:

DATE:

**DISCRIMINATION AGAINST FIREARMS ENTITIES OR FIREARMS TRADE ASSOCIATIONS**

This contract is subject to the Texas Local Government Code chapter 2274, Subtitle F, Title 10, prohibiting contracts with companies who discriminate against firearm and ammunition industries.  
TLGC chapter 2274, Subtitle F, Title 10, identifies that "discrimination against a firearm entity or firearm trade association" includes the following:

- A) means, with respect to the entity or association, to:
  - I. refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; and
  - II. refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or
  - III. terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association.
  
- B) An exception to this provision excludes the following:
  - I. contracts with a sole-source provider; or
  - II. the government entity does not receive bids from companies who can provide written verification.

The entity identified below, through its authorized representative, hereby certifies that they have no practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and that they will not discriminate during the term of the contract against a firearm entity or firearm trade association as prohibited by Chapter 2274, Subtitle F, Title 10 of the Texas Local Government Code.

☒ The Contractor or Subrecipient hereby certifies that it does comply with the requirements of Chapter 2274, Subtitle F, Title 10.

SIGNATURE OF AUTHORIZED  
PERSON:

**Paul A. Rivera** Digitally signed by Paul A. Rivera  
Date: 2025.01.13 10:06:09 -06'00'

NAME OF AUTHORIZED PERSON:

Paul Rivera

NAME OF COMPANY:

Def-Logix, Inc.

DATE:

1/13/25

-OR-

☐ The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of Chapter 2274, Subtitle F, Title 10.

SIGNATURE OF AUTHORIZED  
PERSON:

\_\_\_\_\_

NAME OF AUTHORIZED PERSON:

\_\_\_\_\_

NAME OF COMPANY:

\_\_\_\_\_

DATE:

\_\_\_\_\_

**BOYCOTTING OF CERTAIN ENERGY COMPANIES**

This contract is subject to the Texas Local Government Code chapter 809, Subtitle A, Title 8, prohibiting contracts with companies who boycott certain energy companies.

TLGC chapter Code chapter 809, Subtitle A, Title 8, identifies that "boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company:

- I. engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; and
- II. does business with a company described by paragraph (I).

The entity identified below, through its authorized representative, hereby certifies that they do not boycott energy companies, and that they will not boycott energy companies during the term of the contract as prohibited by Chapter 809, Subtitle A, Title 8 of the Texas Local Government Code.

☒ The Contractor or Subrecipient hereby certifies that it does comply with the requirements of Chapter 809, Subtitle A, Title 8.

SIGNATURE OF AUTHORIZED PERSON:

**Paul A. Rivera**

Digitally signed by Paul A. Rivera  
Date: 2025.01.13 10:06:37 -06'00'

NAME OF AUTHORIZED PERSON:

**Paul Rivera**

NAME OF COMPANY:

**Def-Logix, Inc.**

DATE:

**1/13/25**

**-OR-**

☐ The Contractor or Subrecipient hereby certifies that it cannot comply with the requirements of Chapter 809, Subtitle A, Title 8.

SIGNATURE OF AUTHORIZED PERSON:

NAME OF AUTHORIZED PERSON:

NAME OF COMPANY:

DATE:



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**Exhibit 1: Description of Desired Product Categories for Proposed Pricing**

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**EXHIBIT 1: CATEGORIES OFFERED AND PRICING PROPOSAL**

**Place a checkmark next to each category you are offering in your proposal:**

☒ **Service Category #1: Artificial Intelligence (AI) Solutions for Public Sector Entities**

☐ **Service Category #2: Other Ancillary Goods or Services (List Below)**

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The Respondent shall furnish a comprehensive cost pricing model for this RFP, pursuant to the guidance provided in Section 5.13. Please delineate pricing based on **Service Category 1**, **Service Category 2**, or a combined pricing model for both categories. Label your pricing proposal as "Exhibit 1 – Pricing," and use as many pages as necessary to provide detailed information.

**Important Note:** This RFP is not tied to any specific project at this time. The purpose is to secure pricing for potential future use of AI solutions by public sector entities. Respondents are encouraged to provide pricing models that are as descriptive and flexible as possible to accommodate the varied needs of potential users.

In addition to the requested pricing, Respondents are encouraged to include a retainage rate based on the hourly rate of each staff member for any future projects that may arise but are not currently anticipated by this RFP.

**Refer to Exhibit 1 –Pricing Proposal Worksheet Attachment.**



### Exhibit 3: Service Area Designation Forms

#### EXHIBIT 3: SERVICE DESIGNATION AREAS

Texas Service Area Designation or Identification			
<b>Proposing Firm Name:</b>	Def-Logix, Inc.		
<b>Notes:</b>	Indicate in the appropriate box whether you are proposing to service the entire state of Texas		
	Will service the entire state of Texas	Will not service the entire state of Texas	
	<input checked="checked" type="checkbox"/>	<input type="checkbox"/>	
	If you are not proposing to service the entire state of Texas, designate on the form below the regions that you are proposing to provide goods and/or services to. By designating a region or regions, you are certifying that you are willing and able to provide the proposed goods and services.		
<b>Item</b>	<b>Region</b>	<b>Metropolitan Statistical Areas</b>	<b>Designated Service Area</b>
1.	North Central Texas	16 counties in the Dallas-Fort Worth Metropolitan area	Yes
2.	High Plains	Amarillo Lubbock	Yes
3.	Northwest	Abilene Wichita Falls	Yes
4.	Upper East	Longview Texarkana, TX-AR Metro Area Tyler	Yes
5.	Southeast	Beaumont-Port Arthur	Yes
6.	Gulf Coast	Houston-The Woodlands-Sugar Land	Yes
7.	Central Texas	College Station-Bryan Killeen-Temple Waco	Yes
8.	Capital Texas	Austin-Round Rock	Yes
9.	Alamo	San Antonio-New Braunfels Victoria	Yes
10.	South Texas	Brownsville-Harlingen Corpus Christi Laredo McAllen-Edinburg-Mission	Yes
11.	West Texas	Midland Odessa San Angelo	Yes
12.	Upper Rio Grande	El Paso	Yes

(Exhibit 3 continued on next page)

(Exhibit 3 continued)

Nationwide Service Area Designation or Identification Form			
<b>Proposing Firm Name:</b>	Def-Logix, Inc.		
<b>Notes:</b>	<p>Indicate in the appropriate box whether you are proposing to provide service to all Fifty (50) States.</p> <p>Will service all fifty (50) states <input checked="checked" type="checkbox"/> Will not service fifty (50) states <input type="checkbox"/></p> <p>If you are not proposing to service to all fifty (50) states, then designate on the form below the states that you will provide service to. By designating a state or states, you are certifying that you are willing and able to provide the proposed goods and services in those states.</p> <p>If you are only proposing to service a specific region, metropolitan statistical area (MSA), or City in a State, then indicate as such in the appropriate column box.</p>		
Item	State	Region/MSA/City (write "ALL" if proposing to service entire state)	Designated as a Service Area
1.	Alabama	ALL	Yes
2.	Alaska	ALL	Yes
3.	Arizona	ALL	Yes
4.	Arkansas	ALL	Yes
5.	California	ALL	Yes
6.	Colorado	ALL	Yes
7.	Connecticut	ALL	Yes
8.	Delaware	ALL	Yes
9.	Florida	ALL	Yes
10.	Georgia	ALL	Yes
11.	Hawaii	ALL	Yes
12.	Idaho	ALL	Yes
13.	Illinois	ALL	Yes
14.	Indiana	ALL	Yes
15.	Iowa	ALL	Yes
16.	Kansas	ALL	Yes
17.	Kentucky	ALL	Yes
18.	Louisiana	ALL	Yes
19.	Maine	ALL	Yes
20.	Maryland	ALL	Yes

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21.	Massachusetts	ALL	Yes
22.	Michigan	ALL	Yes
23.	Minnesota	ALL	Yes
24.	Mississippi	ALL	Yes
25.	Missouri	ALL	Yes
26.	Montana	ALL	Yes
27.	Nebraska	ALL	Yes
28.	Nevada	ALL	Yes
29.	New Hampshire	ALL	Yes
30.	New Jersey	ALL	Yes
31.	New Mexico	ALL	Yes
32.	New York	ALL	Yes
33.	North Carolina	ALL	Yes
34.	North Dakota	ALL	Yes
35.	Ohio	ALL	Yes
36.	Oregon	ALL	Yes
37.	Oklahoma	ALL	Yes
38.	Pennsylvania	ALL	Yes
39.	Rhode Island	ALL	Yes
40.	South Carolina	ALL	Yes
41.	South Dakota	ALL	Yes
42.	Tennessee	ALL	Yes
43.	Texas	ALL	Yes
44.	Utah	ALL	Yes
45.	Vermont	ALL	Yes
46.	Virginia	ALL	Yes
47.	Washington	ALL	Yes
48.	West Virginia	ALL	Yes
49.	Wisconsin	ALL	Yes
50.	Wyoming	ALL	Yes

End of Exhibit 3