



# U.S. Immigration and Customs Enforcement

## REQUEST FOR INFORMATION

### Repository for Analytics in a Virtual Environment

#### 1.0 Background

The U.S. Immigration and Customs Enforcement (ICE) Homeland Security Investigations (HSI) is the principal investigative arm of DHS and the second largest investigative agency in the Federal Government. HSI's primary mission is to promote homeland security and public safety through the criminal and civil enforcement of Federal laws governing border control, customs, trade, and immigration.

HSI is in the process of transforming the Agency's investment approach and processes for acquiring and delivering capabilities to HSI's 10,000+-person workforce. While HSI has streamlined its investments in tools to support routine investigations, the challenges of large, complex, and unique cases invariably involve metadata analysis and the integration of large volumes of data from multiple sources.

In support of its investigations, HSI invests significant time and resources to analyze large volumes of data sourced from multiple data sets in order to understand patterns and uncover associations, links, and leads. It is HSI's vision to provide expert analytic tools and services to ensure the employment of innovative analytic techniques to support investigations and to ensure customer value.

ICE currently has three (3) task orders supporting the HSI Innovation Lab and the Repository for Analytics in a virtualized Environment (RAVE) platform that expire in September 2021. These task orders are as follows:

Task Order	Contractor	Title
70CTD018FR0000193	Booz Allen Hamilton	RAVE
70CTD019FR0000280	DirectViz Solutions LLC	Data Analytics Tools, Applications & Solutions
70CTD019FR0000277	KCI-Acuity, LLC	User Interface/User Experience

ICE requires continued support for each of the expiring task orders while streamlining some functions. It is ICE's preference that each of these procurement actions remain as separate contracts. The Government is exploring the possibility of limiting a Contractor to perform as the prime on only one of the contracts.

## **2.0 Purpose of Request for Information (RFI)**

The purpose of this RFI is to communicate the objectives for the upcoming RAVEn procurements, receive feedback from industry, and determine capable sources for the purposes of selecting the most appropriate contract vehicle(s) and contracting strategies.

**Responses to this RFI will be used to identify potential DHS Strategic Sourcing vehicles and set asides for specific small business classifications. Therefore, while not responding to this RFI does not directly preclude a vendor from participating in a future solicitation, not responding to this RFI could impact procurement decisions that affect a vendor's ability to participate in future solicitation(s) as a prime.**

This RFI is issued solely for information and planning purposes – it does not constitute a Request for Proposal (RFP) or a promise to issue an RFP in the future. This request for information does not commit the Government to contract for any supply or service whatsoever. Further, ICE will not accept unsolicited proposals. Interested parties are advised that the Government will not pay for any information or administrative costs incurred in response to this RFI; all costs associated with responding to this RFI will be solely at the interested party's expense. All submissions become Government property and will not be returned.

## **3.0 Description of Requirements**

Below is a brief description of the three anticipated procurements that ICE requires. For each of these prospective contracts the majority of the work will be conducted at the Sensitive but Unclassified level. However, RAVEN maintains a platform at the Classified TS/SCI level which requires Operations and Maintenance (O&M) support. Additionally, there will be the need to develop mechanisms to port information into a classified environment, develop tools/processes in the classified environment and develop a system to promote code to the Classified environment. All personnel will be required to obtain at least a Public Trust High adjudication and each prime contractor will be required to provide a percentage of the contract personnel who must be able to obtain and maintain a TS/SCI clearance.

### **3.1 Procurement 1: Repository for Analytics in a Virtual Environment (RAVEn) - DevSecOps Support**

In the first procurement, the Government seeks to continue enhancing the HSI data analytics program in delivering next generation data storage and analytical capabilities to HSI. To this end the Government requires Contractor support services which can provide the following high-level goals:

(1) Provide the necessary qualified personnel with the appropriate skill mix, experience to support the analytic platform and development of analytic tools.

(2) Provide HSI with the advancement of its analytic platform, analytic tools, and infrastructure. It is the Government's intention to continually pursue improvements to processes and practices which will result in meeting mission requirements and provide the best value to the Government. The Contractor is expected to partner with the Government to support this goal by actively studying existing processes and making recommendations for improvements.

The Government requires Contractor support services to accomplish the following tasks:

1. Administration, configuration, maintenance and enhancement of RAVEn hosted in Amazon Web Services (AWS) cloud environments.

**Support for Development Environment/Teams:** Within RAVEn development teams require regular support to configure and maintain the RAVEn non-production environments and Continuous Integration and Continuous Delivery (CI/CD) pipelines. Additionally, the team supporting the environment acts as the primary point of contact when conducting security assessments and addressing platform vulnerabilities.

**Production O&M:** O&M support services include modifications of Government procured software component(s) after delivery to correct faults, improve performance or other attributes; adapt to a changed environment or maintenance activities focused on anticipated problems, and preventive maintenance. These services also include providing processes, procedures, people, material, and information required to support, maintain, and operate the software aspects of a system. This includes sustaining engineering, data management, configuration management, survivability, environment, and protection of critical program information, anti-tamper provisions, information technology security, supportability and interoperability functions, and technology refresh. These services should ensure a continuously operating, reliable, stable, and secure environment.

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- The Contractor will be responsible for responding to systemic issues identified during common Tier 1, 2, and 3 escalation procedures through the ICE Remedy Service Tool. Issues are to be routinely evaluated and reviewed with the IT Project Manager to assess the appropriate prioritization for resolution of reported issues. O&M support shall consist of Tier 2 and Tier 3 support as described below. The Government will provide Tier 1 support. During this support period, the Contractor shall identify and correct software, performance and implementation failures. Corrective work includes performing System Change Requests (SCRs) that reflect a change to requirements or technical specifications, as well as updating and maintaining the required System Lifecycle Management (SLM) documentation.

- **Tier 1 Support (for informational purposes only)**

Tier 1 support will be provided by the Government and is performed by the ICE Service Desk, which serves as the Single Point of Contact for IT issues for ICE. Any IT issue or problem that cannot be resolved at the Service Desk level or that is not under the purview of the Service Desk

will be forwarded to Tier 2 and Tier 3 support entities. Tier 1 response times are: immediate for telephonic reports and within one hour for e-mail reports.

The ICE Service Desk has the following responsibilities:

- Receiving and recording accurately all calls from End Users regarding IT products and services into a ticket in the Remedy Action Request System and assigning tickets to the appropriate Tier 2 or Tier 3 group for resolution, as needed;
- Dealing directly with simple requests such as password resets and account unlocks for all applications supported, including basic network and application troubleshooting;
- Monitoring incidents reported and escalating them to Tier 2 or Tier 3 groups, as appropriate;
- Monitoring system or application outages assigned to the Tier 2 or Tier 3 groups and reporting on resolution progress to identified individuals;
- Monitoring the tickets created to ensure users are updated on tickets' status and progress;
- Providing reports to ICE management and System / Application Program Management, as required or requested.

- **Tier 2 Support**

- All trouble tickets that cannot be resolved at the ICE Service Desk level are automatically turned over to the Contractor's Tier 2 support;
- The Contractor shall report the status of the trouble ticket using the ICE approved tracking tool;
- This work includes, but is not limited to, activities such as: patching systems, running scripts, and minor fixes;
- The Contractor shall develop an application feedback loop, whereas systemic issues identified during common Tier 1, 2, and 3 escalation procedures are routinely evaluated and reviewed with the ITPM to assess the need for a SCR in future release;
- Known issues that cannot be addressed through an SCR shall be documented and coordinated with the ICE Service Desk for inclusion as a troubleshooting script within the Remedy Service Desk tool;
- If the Contractor's Tier 2 support cannot close the trouble ticket or perform the required tasks, then the trouble ticket shall be referred to the Contractor's Tier 3 support;
- Prioritization of issues and acceptable timeframe for response will be determined by the Government.

- **Tier 3 Support**

- All maintenance activities that reach this level shall have an SCR opened and be reported
- using the ICE approved tracking tool;
- SCRs will be prioritized and agreed to by the authorized Government personnel and entered into the ICE approved management-tracking tool. SCRs will be approved in writing by the Government;
- Prior to working on a system modification, the Contractor and the Government ITPM

shall agree on the degree of the modification as minor, moderate, or major (see table below for classification);

- The Contractor shall develop an application feedback loop, whereas systemic issues identified during common Tier 1, 2, and 3 escalation procedures are routinely evaluated and reviewed with the ITPM to assess the need for a SCR in future release;
- Known issues that cannot be addressed through an SCR shall be documented and coordinated with the Office of the Chief Information Officer (OCIO) Operations Tier 1 Help Desk for inclusion as a troubleshooting script within the Remedy Service Desk tool;
- The Contractor shall respond to all Software Maintenance Tier 3 trouble tickets in accordance with the service level agreements agreed upon by the Government;
- Prioritization of issues and acceptable timeframe for response will be determined by the Government.
- Software changes to applications are based upon the submission of an SCR. Software changes are classified as minor, moderate, or major changes, where:

Type Change	Estimated Effort Required
Minor Change	1-40 Hours
Moderate Change	41-250 Hours
Major Change	251-500 Hours
Development	>500 Hours

### **3.2 Procurement 2: Repository for Analytics in a Virtual Environment (RAVEN) - Data Analytics**

In the second procurement, ICE requires a Contractor to provide data analytics support for the RAVEN platform. ICE requires a Contractor to assist the Government with introducing new capabilities related to data analytics, data ingest and data processing leveraging the Innovation Lab's RAVEN platform. To achieve this the Contractor is required to provide personnel with experience:

- o Utilizing industry standard data ingest tools such as but not exclusive to NiFi and Kafka
- o Designing, developing, implementing and maintaining data ingest solutions
- o Delivering solutions utilizing Python, Groovy, Java and JavaScript computer languages
- o Designing and leveraging REST APIs
- o Produce visualization using tools such as Kibana and custom reports
- o Extensive experience developing large scale graph solutions

The Government seeks to enhance the HSI data analytics capabilities. To this end the Government requires Contractor support services which can provide support to HSI in the advancement of its analytic platform, analytic tools, and infrastructure through collaboration with other support Contractors. The Contractor will be expected to leverage HSI's analytic platform to support investigations by building modular reusable analytic processes, automated business workflows and visualizations. It is the Government's intention to continually pursue improvements to processes and practices which will result in meeting mission requirements and provide the best value to the Government. The Contractor is expected to partner with the Government and other contracted support teams to further the mission of the HSI Innovation Lab.

### **3.3 Procurement 3: Repository for Analytics in a Virtual Environment (RAVEN) - User Interface/User Experience**

In the third procurement, ICE requires a Contractor to enhance HSI data analytics capability by developing web-based and mobile native User Interfaces (UIs) which form a consistent User Experience (UX). All UIs will be developed to leverage other tools developed within RAVEN platform. The platform and all tools within it are designed to enable users to access information in ways that facilitate deriving meaning from information in ways far beyond what is currently available at HSI. This requires contract support services to design, develop, and improve UIs. The UIs will be developed to address specific high priority issues but the following tasks are representative of the types of requirements the UIs will be developed to address: Persistent Data Retrieval and Bring Your Own Data, Data Ingest, Data Mapping (Flat Files), Data Mapping (Relational Databases), Graph Visualization, Timeline Visualization, Intuitive Search, Customized Reports, Mobile Device Accessible, Export, Logging and user interaction monitoring, Logging and user interaction monitoring, and Ease of Use.

#### **4.0 RFI Response Instructions**

Interested parties are requested to respond to this RFI with a submission of the company's qualifications and experience and answers to the response topics below. Responses must be submitted in size 12 Times New Roman font with single spacing and 1" margins. All company proprietary information, performance capabilities and/or future modifications must be clearly identified and marked so segregation of proprietary information is required.

The response shall include the following:

##### **4.1 Administrative Information (One (1) page limit)**

At a minimum, interested parties shall provide shall include the following:

- Name, mailing address, DUNS number, phone number and e-mail of designated point of contact.
- Business type based upon North American Industry Classification System (NAICS) code 541511 – Custom Computer Programming Services (large business, small business, small disadvantaged business, etc.)
- Current Information Technology contract vehicles that your company holds such as NIH CIO SP3, Alliant, VETS 2, GSA Schedule, etc.
- Which of the three procurement actions your company has interest in

##### **4.2 Response Topics**

###### **4.2.1 Corporate Experience (Five (5) page limit)**

Experience in the each of the following tools, technologies, and/or practices is considered to be critical for success of the proposed procurement actions. It should be noted that the listed experiences may be relevant to only one of the proposed procurement actions. In each area the

contract relevant proposed procurement action is listed in bold text. Please describe your company's experience in each of the following areas:

Area	Context/Description	Please Address the following in the RFI Response:
<p>Apache NiFi - Team Member who is a Contributor</p> <p><b><u>Procurement 2: RAVEn - Data Analytics</u></b></p>	<p>Apache NiFi is an open source tool which provides a powerful, scalable system for data routing, transformation, and system mediation logic. The bulk of RAVEN's Extract, Load, Transform (ETL) processes leverage NiFi. It is crucial for a successful vendor to have deep experience using NiFi. Additionally, it has proven to be a considerable benefit to the Government to have RAVEN team members who are contributors on the NiFi project and who are deeply familiar with the processes governing this open source project.</p>	<ul style="list-style-type: none"> <li>○ Please describe your corporate experience leveraging NiFi.</li> <li>○ Does your company currently have a team member on staff who is a contributor on the Apache NiFi project? Do not include personnel who work for another company which your company has a business association (i.e. Cloudera). If Yes, please include the following items for each of the contributors: <ul style="list-style-type: none"> <li>▪ Name of the team member</li> <li>▪ Number of commits to NiFi GitHub</li> <li>▪ Date of first commit to NiFi GitHub</li> <li>▪ Date of most recent commit to NiFi GitHub</li> </ul> </li> </ul>
<p>Large Scale Graph Analytics</p> <p><b><u>Procurement 2: RAVEn - Data Analytics</u></b></p>	<p>Central to RAVEN's architecture is a large-scale property graph. RAVEN has chosen JanusGraph (janusgraph.org), an open source product, to implement its graph. This graph is used to facilitate complex analytics and entity disambiguation in both an Online Transactional Processing (OLTP) and Online Analytical Processing (OLAP) mode.</p>	<ul style="list-style-type: none"> <li>○ Describe your companies experience leveraging graph technology.</li> <li>○ Describe the key facets of your implemented graph architecture.</li> <li>○ How many nodes and edges were in the graph database?</li> <li>○ How interconnected/dense was the graph?</li> <li>○ What were the drivers of performance of your solution?</li> <li>○ What did you do to improve the performance of JanusGraph?</li> <li>○ How did you resolve performance problems and conduct maintenance activities without a loss of service or capacity?</li> </ul>
<p>DevSecOps</p> <p><b><u>Procurement 1: RAVEn - DevSecOps</u></b></p>	<p>Automation, infrastructure as code, continuous integration (CI) and continuous development (CD) are viewed by the RAVEN program as paramount to being able to successfully deliver value to our customers. Strong DevSecOps practices and procedures are crucial to fulfilling RAVEN's objectives.</p>	<ul style="list-style-type: none"> <li>○ Describe the largest AWS cloud deployment that your company has had the primary responsibility for managing in the last 5 years. Do not include examples where your company was a subcontractor. Also include the following quantitative measures: <ul style="list-style-type: none"> <li>▪ Number of servers/virtual machines managed</li> <li>▪ Number of Kubernetes pods managed</li> <li>▪ Number of development teams supported</li> <li>▪ Number of Jenkins build pipelines supported</li> <li>▪ Number of applications managed</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>○ Describe your company’s experience managing an environment which services development teams that were not part of your contract or a contract where your company was a performer. <ul style="list-style-type: none"> <li>▪ How many teams were supported?</li> <li>▪ How many contract teams were supported?</li> </ul> </li> <li>○ Describe your company’s experience performing DevOps tasks supporting Apache Cassandra without professional services or support from one of the companies who offer specialized support for Apache Cassandra.</li> <li>○ Describe your company’s experience performing DevOps tasks supporting Elastic Search.</li> <li>○ Describe your company’s experience leveraging Ansible for DevSecOps automation.</li> <li>○ Describe your company’s experience managing and leveraging Kubernetes container orchestration platforms.</li> <li>○ Describe your company’s experience delivering CI/CD which supported at least 10 teams and incorporated containerization for some or all deployments. <ul style="list-style-type: none"> <li>▪ Describe your automation pipeline.</li> <li>▪ Were development teams able to make changes to the deployment’s pipelines, configurations, Helm charts etc.?</li> <li>▪ Describe the GitHub branching strategy utilized.</li> </ul> </li> <li>○ Describe your corporate experience delivering a system monitoring capability which provided a real-time operating picture of server and application statuses.</li> </ul>
<p>Ability to Support Short- and Long-Term Contract Surge</p> <p><b><u>All three Procurements</u></b></p>	<p>HSI is entrusted with the mission of investigating criminal and other threat actors who wish to harm America and her interests. These threat organizations are constantly evolving and striving to exploit our Trade, Travel, Immigration and Finance systems. HSI, through the HSI Innovation Lab, is tasked with delivering analytics systems which enable HSI to stay ahead of these ever-changing threats. In the upcoming contract solicitation(s) HSI will seek to partner with a Contractor who is able to rapidly provide surge support for priority projects.</p>	<ul style="list-style-type: none"> <li>○ How many current staff members does your company have who would be available to work on a project in a short- or long-term surge capacity within 14 days of notification?</li> <li>○ Number of staff who currently hold DHS Public Trust High suitability. <ul style="list-style-type: none"> <li>▪ Does your company generally have a pool of cleared personnel in the event of staff turnover and surge support?</li> </ul> </li> <li>○ Often surge situations require advice and consultation with Subject Matter Experts. <ul style="list-style-type: none"> <li>▪ List the three most applicable categories of subject matter experts your company has on staff who would be available to support surge requirements.</li> <li>▪ Does your company have staff for the subject matter experts and/or staff centers</li> </ul> </li> </ul>

		of excellence where staff can gain guidance and/or training?
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**4.2.2 Feedback on Onboarding and Retaining Highly Qualified Staff (Two (2) page limit)**

The HSI investigative mission is complex and nuanced, likewise the RAVEn environment leverages a complex symphony of different technologies working together to deliver tremendous customer value. The complexity of the platform leads to a significant learning curve for new team members. For this reason, it is paramount that companies who we partner with are able to attract and retain highly qualified team members.

The Government is exploring strategies for realistically attracting and/or retaining high quality team members and incentivizing partner companies who are successful in recruiting and retaining these high-quality team members.

Please provide strategies your company would find incentivizing for recruiting and retaining high quality team members, or other strategies for the Government to consider related to staffing.

**4.2.3 Feedback on Labor Categories (Three (3) page limit not including the below table)**

- o Please provide the following:
  1. Please fill in the table below with what your company would assess to be a fair market labor rate for each of the following labor category descriptions at the Government site in the National Capital Region with and without a Top Secret/SCI Clearance based only on this description so that a direct comparison between respondents can be assessed.
  2. Provide suggestions on improving the below listed labor category descriptions and other labor categories your company suggests the Government include in a future solicitation.

Proposed Labor Category	Experience/Qualifications	Security Clearance Without TS/SCI	Security Clearance With Top Secret/SCI
<i>Senior Architect</i>	6-8 years of professional experience developing and testing software. At least 2 years of experience conducting analysis and design for medium to large enterprise systems. At least 2 years of experience developing applications leveraging big data technologies including at least two of the following: <ul style="list-style-type: none"> <li>• Elastic Search</li> <li>• Cassandra</li> <li>• Janus Graph</li> <li>• H-Base</li> </ul> Ability to demonstrate current and at least intermediate-advanced skills in front-end,	\$ _____	\$ _____

	<p>middle-tier and back-end development. Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.</p> <p>Expert level skills with:</p> <ul style="list-style-type: none"> <li>• Java – SpringBoot</li> <li>• NodeJS</li> </ul>		
<p><i>Senior Data Engineer</i></p>	<p>Minimum/General Experience: 4-6 years of professional experience developing and testing software and data ETL pipelines. At least 4 years of experience designing and implementing ETL solutions in medium to large enterprise systems. At least 2 years of experience developing applications leveraging big data technologies including at least two of the following:</p> <ul style="list-style-type: none"> <li>• Elastic Search</li> <li>• Cassandra</li> <li>• Janus Graph</li> <li>• H-Base</li> </ul> <p>At least 2 years of experience leveraging NiFi to develop complex ETL processes in a medium to large enterprise system.</p> <p>Ability to demonstrate current and at least intermediate skills in middle-tier and back-end development. Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.</p> <p>Expert level skills with:</p> <ul style="list-style-type: none"> <li>• Java – SpringBoot</li> <li>• Python</li> <li>• NiFi</li> </ul>	<p>\$ _____</p>	<p>\$ _____</p>
<p><i>Senior Data Scientist</i></p>	<p>Minimum/General Experience: 4-6 years of professional experience developing and testing software and implementing machine</p>	<p>\$ _____</p>	<p>\$ _____</p>

	<p>learning into production applications. At least 3 years of experience designing and implementing solutions in medium to large enterprise systems. At least 2 years of experience developing applications leveraging big data technologies including at least two of the following:</p> <ul style="list-style-type: none"> <li>• Elastic Search</li> <li>• Cassandra</li> <li>• Janus Graph</li> <li>• H-Base</li> </ul> <p>At least 2 years of experience working with property graphs with specific focus on designing specialized graph schemas and conducting complex graph operations. Ability to demonstrate current and at least intermediate skills in middle-tier and back-end development. Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.</p> <p>Expert level skills with:</p> <ul style="list-style-type: none"> <li>• Python</li> <li>• Tensor Flow</li> <li>• Spark</li> </ul> <p>Intermediate level skills with:</p> <ul style="list-style-type: none"> <li>• Java – SpringBoot</li> </ul>		
<p><i>Senior Full Stack Developer</i></p>	<p>Minimum/General Experience: 4-6 years of professional experience developing and testing software. At least 2 years of experience designing medium to large enterprise systems. At least 1 year of experience developing applications leveraging big data technologies including at least two of the following:</p> <ul style="list-style-type: none"> <li>• Elastic Search</li> <li>• Cassandra</li> <li>• Janus Graph</li> <li>• H-Base</li> </ul>	<p>\$ _____</p>	<p>\$ _____</p>

	<p>Ability to demonstrate current and at least intermediate skills in front-end, middle-tier and back-end development. Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.</p> <p>Expert level skills with:</p> <ul style="list-style-type: none"> <li>• Java – SpringBoot</li> <li>• NodeJS</li> </ul>		
<i>Senior Web User Interface Developer</i>	<p>Minimum/General Experience: 4-6 years of professional experience developing and testing software. At least 2 years of experience designing medium to large enterprise systems.</p> <p>Ability to demonstrate current and at least intermediate skills in front-end and middle-tier development. Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.</p> <p>Expert level skills with:</p> <ul style="list-style-type: none"> <li>• React.js</li> <li>• NodeJS</li> </ul>	\$ _____	\$ _____
<i>Senior Native iOS Developer</i>	<p>Minimum/General Experience: 4-6 years of professional experience developing and testing software. At least 2 years of experience designing medium to large enterprise systems. At least 2 years of experience designing and developing iOS applications in Swift and/or React Native. Ability to demonstrate current and at least intermediate skills in front-end and middle-tier development. Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.</p>	\$ _____	\$ _____

	<p>Expert level skills with:</p> <ul style="list-style-type: none"> <li>• Swift</li> <li>• React Native</li> </ul>		
<i>Senior DevSecOps Engineer</i>	<p>Minimum/General Experience: 4-6 years of professional experience deploying and maintaining AWS cloud infrastructure in medium to large enterprise leveraging robust infrastructure as code. At least 3 years of experience designing and implementing security countermeasures to maintain system compliance with DISA STIGs or similar U.S. Government security compliance regime. At least 3 years of experience configuring, tuning and maintaining big data technologies including at least two of the following:</p> <ul style="list-style-type: none"> <li>• Elastic Search</li> <li>• Cassandra</li> <li>• Janus Graph</li> <li>• H-Base</li> </ul> <p>At least 2 years of experience configuring, tuning and maintaining production Kubernetes container orchestration clusters. At least 2 years of experience configuring, tuning and maintaining CI/CD pipelines with included containerization deployments.</p> <p>Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.</p> <p>Expert level skills with:</p> <ul style="list-style-type: none"> <li>• Centos Linux</li> <li>• Windows Server</li> <li>• Containerization</li> </ul>	\$ _____	\$ _____
<i>Senior Test Automation/Quality</i>	<p>Minimum/General Experience: 4-6 years of professional experience testing software. Ability to demonstrate current and at least</p>	\$ _____	\$ _____

<i>Assurance Engineer</i>	intermediate skills in front-end, middle-tier and back-end development. Strong knowledge of concepts, methodologies and best practices - especially as they pertain to mitigating development risks, estimating tasks, coding standards and source control procedures.  Expert level skills with: <ul style="list-style-type: none"> <li>• Selenium</li> </ul>		
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**4.2.4 Contract Type Considerations (Three (3) page limit)**

ICE is considering a Labor-Hour contract type, or a hybrid of Firm-Fixed-Price and Labor-Hour for the proposed procurements. The flexibility of a Labor-Hour contract structure aligns well the mission and requirements of the HSI Innovation Lab. In adopting a Labor-Hour contract structure, the Government assumes additional cost risk and performance risk of paying Labor-Hour rates for a team member who does not produce value for the Government.

The Government is seeking feedback on measurable performance standards that could be incorporated into the contract.

The Government does not feel that a strictly quantitative measure is possible but believes a transparent process that blends quantitative and qualitative aspects is possible and in the best interest of the Government.

The Government is considering adopting a strategy where the Contractor’s productivity is measured by the number of story-points their team members complete within a given sprint. After excluding significant outliers, the mean story points and standard deviation of the variance would be calculated based on each labor category. For team members who fall more than one standard deviation below the mean the company would be required to complete a qualitative assessment and submit a written justification or remediation plan to the Government. It would be at the Governments sole discretion to accept the justification and/or remediation plan. If the team member is assessed to not be likely to produce value for the Government at an acceptable rate, after reasonable notification, no further Labor Hours billed for the team member would be accepted by the Government.

It is understood that this methodology would prove to be infeasible for certain labor categories such as the Senior Architect or any labor category with less than 4 team members. Additionally, events such as vacation/sick leave, a significant reprioritizations mid-sprint, work blocked by dependencies could result in a false positive, but could easily be mitigated in a brief justification. The Government strongly views team cohesion as vital to success and desires to ensure that this strategy does not erode the fabric of the team while providing some quantifiable safety net to mitigate the inherent risk.

Please provide the following:

- Provide comments or factors which should be considered if the Government decided to pursue the above described strategy measuring productivity based on story points.
- Provide description of an alternate quantitative and qualitative strategy for the Government to measure and mitigate performance risks.
- Provide feedback on your experience with contract types that works well in this type of environment. Fixed price contracts are generally preferred, but present many challenges with staffing levels during onboarding, and changes with personnel throughout the project. This creates challenges with invoice processing for CLINs that are not fully staffed. How do you bill for fixed priced CLINs that are not fully staffed?

## **5.0 Questions**

Questions and requests for additional information must be sent to DHS/ICE via e-mail to: [Michelle.Brooks@ice.dhs.gov](mailto:Michelle.Brooks@ice.dhs.gov) and [Miranda.Collins@ice.dhs.gov](mailto:Miranda.Collins@ice.dhs.gov) by Monday, December 21, 2020 at 10:00 AM (EST). All submissions shall include in the subject line "1.2.1 Questions for ICE-HSI-2021-RAVEN – (Company's Name)." Verbal questions will NOT be accepted. Questions shall NOT contain proprietary or classified information. The Government does not guarantee that questions received after the due date deadline will be answered.

## **6.0 Submission Instructions**

Responses shall be received via e-mail as one electronic submission in Adobe PDF format with the subject line "1.2.1 ICE-HSI-2021-RAVEN – (Company's Name)."

Submissions must be received no later than Tuesday, January 5, 2021 at 10:00 AM (EST) and submitted only to [Michelle.Brooks@ice.dhs.gov](mailto:Michelle.Brooks@ice.dhs.gov) and [Miranda.Collins@ice.dhs.gov](mailto:Miranda.Collins@ice.dhs.gov). Early submissions are encouraged. ICE reserves the right to review late submissions but makes no guarantee to the order of, or possibility for, this review.