EXHIBIT A – REQUIREMENTS

Exhibit A – Requirements includes details about the work and services to be provided by Supplier under this Contract.

| General | | | |
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| General | Specification | A | B |
| GEN-1 | Does the Supplier have extensive experience and a proven reputation in providing services to government entities and localities?  Please describe. | Y | Virginia Interactive (VI), an NIC company, is a focused organization with a proven track record of success in building and managing eGovernment application solutions for the Commonwealth.  NIC provides similar eGovernment services for 27 states including the Commonwealth.  These enterprise contracts provide all aspects of eGovernment services, from technology to supporting specific funding models that are flexible to accommodate the needs of each state and SOW.  The services include hosting, operations and maintenance, customer support, payment processing, security, website design, application development, customer outreach, and marketing. VI's Richmond-based team has supported the Commonwealth's dramatic expansion of digital government services for the last 22 years and has been honored over 75 times since 2000 by independent organizations for innovative eGovernment services and website provided to our partners. We have specific domain experience with the existing Commonwealth services, having developed many of them for the Commonwealth, and VI is fully capable and prepared to support the existing and develop new innovative solutions for the Commonwealth.<br>In addition, VI leverages NIC's nationwide eGovernment and technology expertise – including leaders who have worked closely with Virginia in the past on marketing and public relations, social media strategy, user experience design, security, payment processing, application development, and eGovernment best practices.  No other provider can match our domain expertise in eGovernment in general and specifically for the Commonwealth, and VI is eager to deliver additional value to the Commonwealth of Virginia through deploying innovative new services.<br> |
| GEN-2 | Will the Solution be able to comply with all current COV ITRM Policies and Standards, as applicable, found at:<br><br>http://www.vita.virginia.gov/library/default.aspx?id=537<br><br>If not, can comply by the time of project initiation? | Y | VI has a proven history of developing solutions for the Commonwealth that comply with the COV ITRM Policies and Standards and we will continue to provide services that meet the current policies and standards.  COV ITRM compliance will be included with the delivery of each SOW.  VI agrees to enhance existing solutions as these policies and standards evolve.  VI has demonstrated our ability to meet this standard repeatedly over the past 22 years. For example, when Commonwealth Security policies were updated to require an increase in password length along with requiring historical passwords to be remembered by the system, VI made the necessary changes to our authentication solution to comply with the new standards. |

## General

| General | Specification | A | B |
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| GEN-3 | Will the Solution provide effective, interactive control and use with nonvisual means and provide 508 Compliance in accordance with the following standards regarding IT Accessibility and 508 Compliance:<br><br>http://www.vita.virginia.gov/it-governance/itrm-policies-standards/it-accessibility-and-website-standards/<br><br>(Refer to www.section508.gov and www.access-board.gov for further information)<br><br>Please describe how this functionality is achieved and include a completed Voluntary Product Accessibility Template (VPAT) with your proposal.  (The VPAT template is located in APPENDIX B of the Enterprise Technical Architecture IT Accessibility Topic Report in the Application Domain (GOV103-02)). | Y | VI is fully committed to ensuring universal access and ease of use of all applications and websites that we support.  We look forward to continuing to work with the Commonwealth to ensure appropriate controls, standards, and policies are implemented to meet these goals so that all customers have access to the partners digital government services.<br><br>VI is committed to the current accessibility standards defined by Section 508, as well as the Web Content Accessibility Guidelines (WCAG) 2.1 issued by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C).  To ensure the broadest support for desktop, mobile, and audio browsers, VI will continue to utilize the progressive enhancement approach when designing and building web content.<br><br>Testing is conducted using automated testing tools and manual testing methods with screen readers, policy experts, and persons with disabilities when possible.  In addition, the site is routinely reviewed for alignment with the latest Web Accessibility Initiative guidelines from the W3C.  The WAI guidelines at http://www.W3.org/WAI define how browsers, media players, and other "user agents" support people with disabilities and work assistive technologies.<br><br>As required, VI has included a completed Voluntary Product Accessibility Template (VPAT) with our proposal for one of our current services that we provide Web Application Operations and Maintenance for the Commonwealth.  The report covers the DHCD public facing CMS based website solution.<br>Please see the completed VPAT in the Appendices section of this response. |
| GEN-4 | As part of the Solution, will you be using any 3$^{rd}$ parties to provide the solution/services?  Please list the 3rd party suppliers you will be using and all services they will provide. | Y | VI has identified the most qualified partners to make this solution successful. Together, we will utilize the most talented people, proven processes, and cutting edge technology to support the Comonwealth in this initiative. We will provide award winning solutions that will maintain the highest level of security and the best possible user experience.<br><br>The list of our 3rd parties will include: Microsoft, CapTech Consulting, SiteVision, Thought Logic, Pure Culture, UDig, GeoDecisions, Complia, Verint, Technology Solutions Partners Corporation (TSP), Vail, Call Experts and Periscope |

| Facility | | | |
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| Facility | Specification | A | B |
| FAC-1 | Will the Solution include a highly available data center? Please describe the data center's site infrastructure (power, security, network, cooling and fire systems) where the applications will be hosted. Also, please indicate which Tier Level the data center is rated, (Tier 1, Tier II, Tier III or Tier IV), based on the Uptime Institute's Site Infrastructure Tier Standards.<br>A copy of the Data Center Site Infrastructure Tier Standard Topology document can be found at:<br><br>https://uptimeinstitute.com/resources/asset/tier-standard-topology | Y | VI provides hosting at the two NIC ETS Data Centers that are located at AT&T's Tier IV internet data centers within the United States.  Optional public cloud hosting can be provided at Microsoft Azure in US based regions.<br><br>The NIC ETS private cloud hosting solution enables highly available, secure hosting environments that leverage the latest technologies for virtualization, service management, system provisioning, and security.  The virtual infrastructure supports rapid deployment and system segmentation. Within each data center, based on the requirements of an application VI can provision a segmented network environment for the applications, websites, and supporting infrastructure.<br><br>This environment is recognized as a world-class hosting facility and provides features such as:<br><br>•Redundant power with diesel generator back-up<br>•Fire, smoke and water suppression and detection technology<br>•State-of-the-art cooling and heating equipment<br>•24x7x365 on-site security with physical security features such as man-traps, palm scans, and controlled access only to the client's own equipment<br>•Redundant Internet connectivity<br>•Fully redundant fault tolerant internal network with a terabit Ethernet backbone<br>•24x7 environmental and physical monitoring including performance data<br>•Remote access through tunneled SSH and VPN connections<br>•Hardware SSL accelerator<br><br>The hosting facilities use dual MPLS circuits as well as a site-to-site VPN to connect each of its data centers.  This allows VI to provide high quality data resiliency and options for highly available web, application, and database services. |
| FAC-2 | Will the Solution be externally hosted?  If yes, where? | Y | VI utilizes one of the Tier IV facilities as the primary hosting site, usually determined by distance to the data center and the scope of the project.  VI uses a secondary geographically separated "hot site" data center for disaster recovery services.  VI currently hosts the primary private cloud at the AT&T Internet Data Center (IDC)  located in Virginia, and AT&T's IDC in Texas for the secondary data center.  F5 Global Traffic Managers control traffic between the primary and secondary hosting facilities, redirecting traffic to the secondary hosting facility if the primary hosting environment is lost.   This managed private cloud hosting platform alleviates the need for on-premise hosting.<br><br>All solution components are located at physical locations within the United States, including, but not limited to the data centers, infrastructure, network, hardware, and software.  This includes our two data centers and our development and operation team locations.<br><br>VI also provides the ability for government users to use VI-supported public cloud hosting solutions with Microsoft Azure.  VI will utilize only US based cloud regions and architect any solution using the public cloud solutions to only replicate to regions/availability zones that are located within the United States. |

| FAC-3 | Will the Solution's data center include physical access controls? Please describe. | Y | VI provides cloud hosting services through NIC's ETS Data Center facilities.  These  environments are located at Tier IV facilities.  Measures are implemented at the data center to ensure that only authorized access is permitted into the hosting facilities.  There are surveillance cameras both inside and outside the facility.  Access to the NIC ETS data centers are strictly enforced and restricted to individuals who have been authorized to gain such access.  Monitoring is performed to check for any unauthorized access to data assets.  No one is allowed to enter the facility without prior approval from the site administrator.  The facilities include palm scans and man traps at entry locations.  Our locations access controls are audited by our third party security assessor for compliance with NIST 800-53 rev4 access controls and PCI DSS compliance for areas in PCI scope.  All network equipment is contained in an access room that is secure 24/7/365.<br><br>All services hosted at public cloud service providers (Microsoft Azure) follow the service providers physical access controls in compliance with their security programs, and VI staff do not have physical access to these facilities. |
| FAC-4 | Will the Solution's data center include access management procedures?  Please explain how access is managed and who has access to the data center. | Y | To enhance the overall physical security of the NIC ETS Data Center, only two types of access are allowed: Permanent and Guest/Vendor.  Permanent access requires that the individual have a photo ID badge and a biometrics scan. Guest or vendor access requires prior approval from the site adminstrator. Once guest arrives they guest must check in and show valid identifcation. The guest is then granted escorted access with a member of the facility/or NIC throughout visit. |
| FAC-5 | Will you, as part of the Solution, include security background checks on your employees and contractors?   Please describe what types of checks and how often they are completed.  (Supplier will be required to comply with provision 2.1, *Background Investigations* , of the then-current Commonwealth of Virginia security procedures found at<br><br>https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/psgs/pdf/COVITRM513-00PersonnelSecurityGuideline02_15_08.pdf<br><br>before any work can begin.) | Y | As a standard process, VI completes a criminal and credit history background check on every employee or sub-contractor who has access to VI systems prior to hiring and every five years thereafter.  VI currently complies with and will continue to follow the procedures outlined in Provision 2.1 Background Investigations for all new hires. |

| Performance | | | |
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| **Perf/Support** | **Specification** | **A** | **B** |
| **PFM-1** | Will the Solution include Service Level Agreement (SLA) metrics, including optional levels and reporting on metrics? Please describe the SLA metrics, how they are measured, and how they are reported. | Y | The solution will include Service Level Agreement (SLA) metrics, which include Service Availability, Incident Response and Resolution Time Levels.  VI will use commercially reasonable efforts to achieve a monthly average Service Availability of at least 99% and achieve a monthly average Incident Response and Resolution Time Service Levels of at least 90%.<br><br>Each service will be considered available, for purposes of monthly availability calculation, if the service is generally available to end users and functioning without any material defects.  "Actual Availability" shall mean actual Availability divided by the total minutes in a month minus Excusable Downtime.<br><br>NIC uses industry-standard Application Performance Monitoring (APM) and Network Performance Monitoring (NPM) tools, along with operational processes to measure SLAs. The combination of data derived from tools, along with insight provided by our Incident Management and Root Cause process allows NIC to accurately determine and document the SLA impact of any incident.<br><br>All service management information (incidents, problems, and service data) are stored in the IT service management tool. VI will generate monthly SLA reports from this tool to provide to the appropriate Commonwealth staff based on the requirements of the contract. All reports will include all required metrics on incidents, as well as response and resolution times.<br><br>VI will provide a Monthly Service Level Performance Report in order to report on these SLAs. |
| **PFM-2** | Will the Solution have any exceptions within the SLAs? Please describe. | Y | VI is proposing two (2) exceptions to the SLAs which are defined in Appendix A - Services Level Agreements (SLAs). |
| **PFM-3** | Will the Solution include remedies when SLAs are not met? Please describe. | Y | VI proposes to provide "Remedies" to compensate the Commonwealth for VI's failure to achieve performance levels agreed to between VI and the Commonwealth.  Details are defined in Appendix A - Services Level Agreements. |
| **PFM-4** | Will the Solution include backup and restore standards? Please describe. | Y | VI's hosting solution provides a combination of replication and traditional backup and restore capabilities.  VI maintains an alternate processing site at a geographically separated alternate data center. The primary datacenter is replicated and data is synchronized in the alternate data center.  The replication enables the backup databases to remain in sync with a minimum period without a synchronization between the primary and secondary systems.  For financial systems (payment processing, billing, and disbursements), full database backups are performed every night and archive log backups are performed every 4 hours. The NIC ETS private cloud solution provides the following Recover point Objective (RPO) and Recovery Time Objective (RTO) for hosted services:<br><br>NIC TPE Payment Suite (financial data): RTO of 30 minutes, RPO of 4 hours<br>eGovernment Web Sites and Applications: RTO of 1 hour, RPO of 4 hours<br><br>A typical Commonwealth application is implemented with 14 daily server backups with weekly backups which are kept for 5 weeks. SQL Server backups consist of daily incremental backup, with weekly full backups. This can however be modified per application to meet specific requirements. |

| Performance | | | |
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| Perf/Support | Specification | A | B |
| PFM-5 | Will the Solution include restoration services?  Please describe. | Y | VI has the capabilities to provide backup/restoration services for all aspects of the solution within the solutions RPO and RTO standards.<br><br>The NIC ETS data center provides comprehensive back-up, recovery, and disaster recovery solutions that include nightly backups to Rubrik.  There is a separate Avamar and Data Domain grid in both the primary and secondary data centers.  Nightly, the backup data is replicated to the alternate grid which is in a geographically separated data center.<br><br>In addition to traditional backups, the solution securely synchronizes through database and SAN-to-SAN replication between mirrored, geographically disbursed data centers to provide alternate processing services for solution functions in disaster scenarios.<br><br>VI maintains the versions of code in production for applications in a secure code source repository and in a source code escrow as well as deployment scripts and configurations.  This repository is hosted on a high availability system that VI can reliably access and then restore the code to an alternate hosting location or to roll back a production deployment. |
| PFM-6 | If the Solution includes sub-contracting for hosting services, will you require a key performance indicator for website up time as part of your sub-contractor agreement? Please describe. | Y | VI is not proposing to sub-contract hosting services for any citizen-facing websites as part of the proposed solution. |
| PFM-7 | If the Solution includes sub-contracting for hosting services, will you regularly monitor performance and report results to customer? Please describe. | Y | VI does not intend to sub-contract for hosting services. VI will monitor performance of all Commonwealth services directly and report the results to the customer as required under the contract. |
| PFM-8 | If the Solution includes sub-contracting for hosting services, will you take the lead in resolving any hosting issues?  Please describe. | Y | VI is not proposing to sub-contract hosting services and will be the primary point of contact for any and all issues pertaining to the proposed solution.  VI will take the lead in resolving any issues that arise concerning hosting according to best practices and procedures. We will follow the VI methodology as illustrated below for all issues that arise:<br><br> |

| Perf/Support | Specification | A | B |
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| | | Performance | |
| PFM-9 | Will the Solution include satisfaction surveys to Commonwealth customers related to Solution/Supplier performance?  Please describe. | Y | VI will provide satisfaction surveys to Commonwealth customers to measure the promptness, professionalism, and adequacy of service.<br><br>VI recognizes the value of collecting and assessing constituent assessment on a regular basis and incorporates feedback mechanisms into all services we develop for commonwealth government.  We regularly use customer feedback to improve the solutions we offer—to enhance existing services or to identify new areas of opportunity.<br><br>VI finds that customer satisfaction is usually most effectively measured by providing links to interactive survey pages from within the main portal, agency websites, or specific online services.  In many instances, VI creates custom landing pages that allow users to submit feedback while they are in the process of using a system as well as after a user completes the online application to measure user satisfaction.<br><br>VI will work closely with the Commonwealth to determine the preferred format, schedule, distribution, and tracking/reporting process for receiving, reviewing, and acting on user satisfaction information.  We provide similar information in a variety of formats under different schedules in many of our partner states and are eager to develop a plan that meets the Commonwealth's needs. |
| PFM-10 | Will the Solution include a process for ticket/trouble/incident tracking and reporting?  Please describe. | Y | The solution will utilize an internal ITIL-based process that leverages Jira, an Atlassian product, for its ticketing system to record questions, incidents, problems, change orders, and/or work requests.Partners and end users will utilize our Customer Service support email and phone numbers to initiate the tracking of an incident. Jira is a highly configurable product that allows VI to capture metrics on status, response time, ticket type, reporter/agency among others.  VI will review metrics regularly to identify opportunities for improvements and can provide a high-level overview to partner stakeholders upon request. |
| PFM-11 | Will the Solution include an escalation process associated with ticket tracking?  Please describe. | Y | VI follows a three-tier support escalation model tied to the service management model outlined in this proposal.<br><br>A summary of the model follows:<br>Tier 1<br>• First-line level of support for all VI-developed applications<br>• CSR responds directly to user, gathers user information, determines issue by<br>  - Analyzing symptoms<br>  - Figuring out underlying problem<br>  - Assigns initial severity level<br>• Provides solution and closes problem<br>• Logs call and close problem or escalate to Tier 2<br>  - Issues regarding state applications or state-maintained websites will be forwarded to the help facility in the appropriate agency<br><br>Tier 2<br>• Review Tier 1 ticket<br>• Confirm the validity of the problem and seek known solution<br>• Provide more in-depth technical analysis and troubleshooting techniques<br>• Provide solution<br>• Log call and close problem or escalate to Tier 3<br><br>Tier 3<br>If VI determines that an issue resides with a third-party software or hardware product, VI will work closely with the third-party vendor to determine the problem and immediately notify the impacted agency.  VI will closely monitor the progress of the issue and report status changes to the appropriate VITA business owner or agency.  When the issue is resolved, VI will notify all impacted parties and the issuer of the trouble ticket. |

| Perf/Support | Specification | A | B |
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| **Performance** | | | |
| **PFM-12** | Will the Supplier provide technical response within one (1) hour and resolution within twenty-four (24) hours of the time an issue is reported?  Please explain. | Y | VI provides telephone and email support without additional charge to the partner.  Our dedicated help desk is responsible for telephone and e-mail support during business hours, and VI provides 24x7x365 access to agencies via phone and email for emergency situations.<br><br>The response and resolution times of issues will depend on the severity level of the issue as outlined in the service level agreement.  VI and VITA will establish severity categories and the appropriate response and resolution times of each for the contract.  VI understands that certain SOWs may need customized response and resolution times based on the service's criticality, VI can integrate customized service levels into the SOW depending on the requirements of a specific partner. |
| **PFM-13** | Will the Solution include technical support available to website owners, users, and the general public twenty-four (24) hours per day, seven (7) days per week, fifty-two (52) weeks per year?  Please describe. | Y | Our dedicated help desk is responsible for telephone and e-mail support during business hours, and VI provides 24x7x365 access to agencies via phone and email for emergency situations.   If after-hour support is required, this can be requested by the owner or user group.<br><br>To support VI, our data center is staffed with technical support resources, who are prepared to resolve any database or technical emergencies 24x7x365.  Additionally, VI draws on our extensive NIC family of companies' technical resources from NIC's over 850 employees to address database systems and experience not provided by the local team.<br><br>Public end-user customer service is available through the Service Desk and is escalated appropriately based on the severity. |
| b h | Will the Supplier provide a minimum of 72 hour notice for scheduled downtime for upgrades and maintenance? Please explain. | Y | bn |
| **PFM-15** | (M)  This is MUST HAVE #3 - The Supplier shall annually verify, by third-party independent assessment, attestation or audit, that required Commonwealth of Virginia security controls have been implemented in the Solution environment; and, upon request provide a copy of the report to VITA and the Authorized User(s).  The Trust service principles to be covered include Security, Availability, Processing Integrity, Privacy and Confidentiality.  Please describe your current assurance processes for third-party assessment, attestation or audit. | Y | VI currently obtains a SOC2 Type 2 assessment covering the Security, Availability and Processing Integrity trust categories for its payment processing platform.  This report is issued by Ernst & Young annually.  If awarded the contract, VI will work with the Commonwealth to determine the most efficient course of action to ensure compliance with PFM-15. VI will either add the scope of services provided under the contract to its existing SOC2 report and expand the report to include the Privacy and Confidentiality trust categories or engage an independent audit firm to prepare a separate attestation report for the services provided under this contract.  Any attestation provided will comply with the requirement to address the Security, Availability, Processing Integrity, Privacy and Confidentiality trust criteria. |

| Perf/Support | Specification | A | B |
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| PFM-16 | Will the supplier agree to provide the following reports and the required intervals?<br>- Service Level Performance- Due monthly by the 5th day of the month.<br>- System/Application Patching Compliance – Due monthly by the 5th day of the month<br>- Scanning Reports (OS, middleware, applications & Interfaces) – Due monthly by the 5th day of the month.<br>- Summary report of Intrusion Detection Scans and Intrusion Prevention Scans – Due Quarterly, by the 5th day of the first month in the quarter.<br>- Third-party independent assessment, attestation or audit – Initial review due within 90 days of contract effective date. Afterwards due Annually, Supplier to provide target annual date, by defaults it is due by the anniversary of the contract effective date. | Y | VI currently provides all of the required reports per ECOS guidelines and will provide all of the listed reports at the required intervals. VI will continue to follow and abide by all parameters set forth by VITA.  Reports will be generated at the time proposed or required by VITA and sent to VITA team for review. |
| PFM-17 | Will the Solution include benchmark data and related assumptions for the expected time that it would take to refresh current application screen and navigate between different application screens?  Please describe. | Y | VI can provide benchmark data and related assumptions for average expected times when refreshing an aspect of the solution or switching between different application screens.  Expected response and load times will be dependent on the application, the data set, and the source of the data.  Data set can include any information served through a webpage (e.g. content, application data, images, etc). |
| PFM-18 | Will the Solution include benchmark data regarding the number of concurrent (logged in) and simultaneous (transacting at the same time) users that it can support in typical environment setup while maintaining the performance levels indicated above?  Please describe, including all assumptions. | Y | VI can provide benchmark data regarding application performance while factoring in concurrent users and simultaneous transactions.  VI understands that it will need to work with VITA to define a typical environment since each solution for the Commonwealth has different performance needs and is sized and scoped to meet the specific SOW, not a generic service.  The Commonwealth may want to break this down by enterprise Solution component, such as payment processing, the content management system, etc., instead of one general metric. |
| PFM-19 | Will the Solution include the tools necessary for monitoring and optimizing performance?  If yes, please describe. If no, please describe how the application is monitored and optimized. | Y | The cornerstone of a proactive monitoring, notification, and problem-resolution approach is the appropriate mix of technology and supporting processes that engage vendors and other service providers to identify and correct problems.  NIC's ETS data center uses SolarWinds Orion Network Performance Monitor (NPM) to track system and network performance.  Orion allows for performance and health monitoring which provides the foundation to manage service levels, works in heterogeneous environments, and is capable of monitoring VMware virtualized servers.  E-mail and SMS alerts are established for system metrics that exceed standard and established service level thresholds.  VI also leverages a third-party monitoring service from Pingdom.  This measures service levels from various checkpoints on the internet from around the globe.  All monitoring and performance resources can be configured to alert VI personnel as well as Commonwealth staff, as appropriate.<br><br>The proposed solutions allows VI to continuously monitor the health of digital government systems, notifying designated Commonwealth staff of performance issues as necessary, system alerts, or failures at all times, using the most appropriate and efficient communication methods. |
| PFM-20 | Will the Solution include all the install, setup, configuration, and maintenance documentation that is provided to the business owners?  Please describe. | Y | In VI's project life cycle, technical artifacts including installation (if applicable), environment setup, system configuration, and maintenance documentation will be created and held in escrow. |

Note: The table header "Performance" spans above the columns.

| | Performance | | |
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| **Perf/Support** | **Specification** | **A** | **B** |
| **PFM-21** | Will the Solution use all the licensed and currently supported components to host, build, and cater the Solution?  Please describe. | Y | VI will use only licensed components that are currently supported to host, build, and customize the Solution. VI will keep the infrastructure components licensed and at a currently supported version and will schedule all upgrades and major system releases as part of our short term and long-term technology roadmap.  We understand that it is imperative to maintain currency with technology given today's security requirements and as user's expectations change with new iterations of technology. |
| **PFM-22** | Will the Solution include support for pre go-live preparations?  Please describe. | Y | VI will provide support for all pre go-live preparations.  As part of any project plan VI will create a detailed deployment / go-live plan including the preparations.  The preparations include but are not limited to:<br>• Production environment setup and configuration<br>• Unit Testing<br>• Load Testing<br>• Accessibility Testing<br>• User Acceptance Testing<br>• Roll Back Planning<br>VI will work with each individual partner to ensure that the partner and stakeholders have visibility and input and that the go live preparations. |
| **PFM-23** | Will the Solution include a Requirements Verification process to make sure all the committed requirements are met?  Please describe. | Y | QA is responsible for periodic audit and review of the processes, applications, or activity related to each service, and validates that the software developed meets functional and design requirements.  QA processes validate assumptions on the usability of the components and suggests ways to improve the delivered software.  QA also tracks usability and technical issues.  VI uses a comprehensive QA process throughout the project lifecycle to ensure that the requirements of the project have been met at the close of the project.<br><br>After each development iteration, all developed components enter quality assurance (QA) testing.  QA testing validates that the software developed meets functional and design requirements (Requirements Verification).  QA processes validate assumptions on the usability of the components and suggests ways to improve the delivered software.  In addition to QA testing, a security assessment is conducted on the delivered components of the build to ensure that any potential security issues are addressed early on in the implementation. |
| **PFM-24** | Will the Solution prevent the use of auditing and logging from adversely impacting system performance?  Please describe. | Y | VI will ensure that the Solution's auditing and logging internal to the overall solution are designed and implemented in a way which will not adversely impact the performance of the solution.  Services will be performance tested before implementation and the impact of any logging or auditing will be tested in that process.  After release, VI will continue to monitor the performance at all levels to ensure that the solution implementation is not impacted by logging processes, including SIEM data, and audits.  If unplanned external audits are detected at the network or application level, the audit may be blocked to prevent performance issues. |
| **PFM-25** | Will the Solution provide a mechanism for rolling back all software and data to a previous release for all software applications and databases included in the Solution?  Please describe. | Y | VI follows a robust ITIL-based Release Management approach for all production releases.  The goal of Release Management is to implement authorized changes into the production environment with minimum negative impact.  Unlike Change Management, which is concerned with planning and verifying changes, Release Management is concerned with the actual implementation.  Release Management defines the procedures to ensure secure, managed rollouts of new hardware, new versions of software, and/or databases, including comprehensive roll back procedures.<br><br>Production releases are scheduled and communicated with the stakeholders.  Prior to each deployment, VI creates a rollback plan for both databases and code.   The previous version and database, depending on the change, is backed-up prior to release.  This enables VI to easily restore the previous version if an unforeseen issue arises.  All source code versions and release information are stored in our Git and Microsoft TFS repositories.<br><br>Once a production deployment has been completed, VI will perform validation within the production environment.  Upon confirmation of successful validation, project stakeholders will be notified of the release. |

## Network & Operations

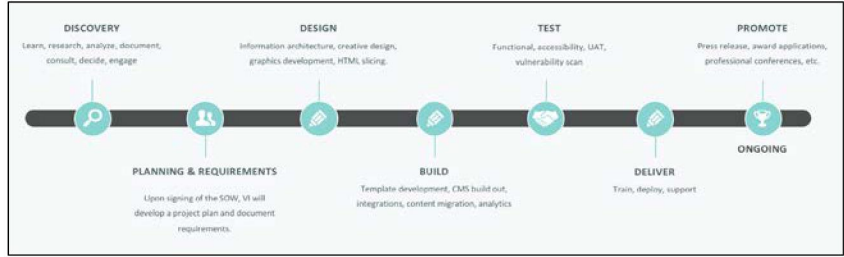| etwork/O | Specification | A | B |
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| NOP-1 | Will the Solution have an operating system life cycle? Please describe. | Y | The Solution will only utilize operating systems which are fully supported by it's respective vendor. As operating systems approach end of life, VI will follow a defined procedure for updating to the current supported version.  Since Operating System life cycles are announced well in advance, VI will prepare an upgrade plan and approach as part of the solution's road map and annual planning process. |
| NOP-2 | Will the Solution allow for the introduction of new technologies? If yes, please describe how they are introduced. | Y | VI constantly evaluates new technologies and how they can positively impact our solution.  New technology can come from a specific need in a Statement of Work or through a strategic road map process.<br><br>Working closely with the Commonwealth, VI will develop and maintain a plan that captures the governing strategies and technology roadmap for improving the solution over the short term (2-3 years) including software upgrades, introduction of new technologies, changes to the hosting infrastructure, and other enhancements that can be made to improve functions of the system and service levels.  This plan will be prepared and updated at least annually and as-needed when significant changes to operating objectives necessitate revision of the roadmap or an unforeseen technology or statement of work necessitates immediate change.  The roadmap will be submitted to VITA for feedback and approval on an agreed upon schedule that complements VITA's own technology planning cycle.  All changes will undergo robust testing, including full regression testing and testing in staging and will be managed similar to any other project. |
| NOP-3 | Will the Solution have a standard time frame for the "stand up" of an operating environment?  Please explain. | Y | VI's infrastructure is in place and ready to establish environments for each new SOW.  VI will establish a standard process for rapidly standing up an operating environment for that SOW, as needed.  However, the timeframe needed will depend on the requirements for the particular project  and what services are needed in the operating environment.  VI will work with VITA to establish timeframes for certain types of environment requests (CMS only, application only, payment only, combinations, etc.). |
| NOP-4 | Will the Solution be fault-tolerant?  Please describe this fault-tolerance in detail. | Y | VI's default configuration requires all network devices to be redundant and for the project to be hosted in redundant environments.  The proposed hosting environment is designed to maximize uptime through connectivity and power. The architecture established by VI, including the servers, network equipment, and software, removes all single points of failure through the use of load balancing, server clustering, device fail-over, and equipment redundancy.  Additional fault tolerance may be specified as part of the requirements for the particular SOW, and VI will implement those as needed. |
| NOP-5 | Will the Solution offer load balancing? Please explain. | Y | The solution is hosted on load balanced web and application servers within tier IV datacenters that are synchronized through replication technology. All production-grade hardware tiers utilize redundancy through F5 local traffic manager (LTM) load balancers to allow for high scalability and availability.  A secondary, disaster recovery data center is located in a geographically separated location from the primary site.  All production equipment necessary for the operation of services and applications is replicated between the data centers.  Applications are installed to both data centers concurrently.  Relational databases are synchronized as close to real time as possible. External traffic is directed to the secondary data center during a fail over situation via a F5 Global Traffic Manager (GTM). |
| NOP-6 | Will the Solution include alternate routing capabilities? Please describe. | Y | NIC's ETS Data Center supports MPLS, QoS and VPN routing, in addition to standard network routing. NIC carries two data center locations for diversity and failover capacity, located in separate regions, to add to the multiple routing options. NIC also employs Border Gateway Protocol (BGP) routing with peers for more automatic routing possibilities. |
| NOP-7 | Will the Solution use multiple internet service providers? Please describe. | Y | The NIC ETS Data Center caged environments receive two path-diverse 1Gbit Ethernet feeds from the AT&T network core.  Feed #1 is linked to AT&T's IDF/MDF pair fed by the OC48 destined for Atlanta, GA.  Feed #2 is linked to AT&T's IDF/MDF pair fed by the OC48 destined for New York City.  Traffic leaving the NIC ETS Data Center first passes through Layer 3 routers.  These Layer 3 routers in turn feed into Access Routers that connect the IDC facility to the AT&T IP backbone.  Effectively, network traffic leaving the environment is one hop from the Internet backbone. |
| NOP-8 | Will the Solution include Tier I or Tier II internet-provided services?  Please explain. | Y | VI's data center can utilize Tier I and Tier II internet-provided services, depending on the need of the specific service.  The default internet access method is through AT&Ts IP backbone (tier I). |

| Network & Operations | | | |
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| etwork/O | Specification | A | B |
| NOP-9 | Will the Solution display consistently on Google Chrome, Apple Safari, Internet Explorer 8.0 or greater, Firefox, UC Browser or any other web browser with more than 5% market share. Please list supported browsers. | Y | The solution will display on all currently supported versions of all major browsers and any browser of which more than 5% of an application's traffic originates. Currently that includes supported releases of Google Chrome, Apple Safari, Internet Explorer, and Firefox. VI will review site analytics to determine which browsers should be tested.<br><br>VI will develop and refresh its web-based digital government services and web sites using modern development techniques and industry best-practices to provide the broadest range of compatibility. VI avoids technologies that are browser-specific or requires any special browser modules to work. VI uses tools to test services using browsers with over a 5% adoption and platforms including, Windows and Macintosh operating systems as well as mobile devices such as tablets and mobile phones. |
| NOP-10 | Will the Solution include a capacity planning methodology for managing high/low use levels? Please describe. | Y | Deployments at the ETS datacenter utilize VCE Vblock converged infrastructure solutions to seamlessly integrate best-in-class compute, network, and storage technologies from industry leaders Cisco, EMC, and VMware. Vblock Systems provide dynamic pools of resources that can be intelligently provisioned and managed to address the changing demands and growth requirements of a program. The proposed Vblock solution will allow VI to expand delivery capacity as needed without compromising overall security.<br><br>Data center staff will continually monitor capacity and performance, and provision new capacity once minimum thresholds are reached and for known peak utilization periods.<br><br>Virtualization greatly simplifies management of server farms including provisioning, backup, configuration management, and disaster recovery. When the capacity of the farm needs to be scaled up, new server nodes can quickly be provisioned or the server farm moved with minimal effort to a new virtualized environment residing on different physical hardware. |
| NOP-11 | Will the Solution have any network volume limitations? Please describe. | N | The solution will have limitless network volume scalability. |
| NOP-12 | Will the Solution allow for data to leave a controlled data infrastructure? Please explain. | Y | VI provides secure methods controlling data leaving our datacenters. Use of email gateway and server protection, content scanning of messages and attachments to control and block sensitive information, by identifying, for example, social security numbers, or keywords relating to confidential corporate information. Controlling access to particular files, true file type identification to prevent users from disguising and obfuscating unauthorized file types in emails. Web gateway protection prevents users from accessing the types of website and application that are typically used to bypass corporate controls and disseminate sensitive company information, including peer-to-peer file sharing, FTP sites, and webmail sites. Endpoint protection blocking the use of non-essential applications such as P2P file sharing, IM, FTP clients, unauthorized email clients, wireless network connections, and mobile device synchronization tools. Managing write access to portable storage devices such as USB keys. Encrypting portable storage data so that it cannot be read if it gets into the wrong hands. All data management practices will comply with VI's security controls that comply with COV standards. |
| NOP-13 | Will the Solution include bandwidth utilization? Please describe. | Y | VI uses a tool to measure and monitor bandwidth utilization in real-time. The solution has visibility into network traffic behavior and trends and an in-depth view into which users and applications are consuming the most bandwidth. VI's traffic analyzer delivers a comprehensive, customizable view of network traffic on a single page. Unusual network activity signals alerts. Automated reports are configured to run weekly for complete analysis. |
| NOP-14 | Will the Solution provide for bandwidth options on the infrastructure and internet connections? Please describe. | Y | NIC's ETS datacenter utilizes redundant Internet connectivity with dual one Gigabit connections to the Internet with burstable bandwidth capabilities for spikes in network usage. For services that would require atypical bandwidth needs (such as video streaming), VI could acquire more bandwidth from the provider, get dedicated circuits, or bring in another provider to the datacenter to accommodate the need. These custom solutions would be priced depending on the specific statement of work.<br><br>The ability for AT&T to provide high capacity, low latency Internet connectivity was a significant differentiator when selecting AT&T as our data center provider. VI is confident that the ISP connectivity provided by AT&T will ensure a responsive user experience for Virginia constituents. The hosting infrastructures for many Commonwealth services as well as other NIC partner states are currently operated in these same data center facilities. |

## Network & Operations

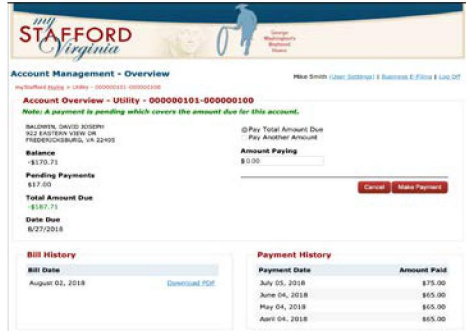| etwork/O | Specification | A | B |
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| NOP-15 | Will the Solution provide tools to migrate to and/or from another provider?  Please describe. | Y | VI and NIC have experience transitioning thousands of services from other providers and vendors onto NIC's platforms and/or NIC's operation and maintenance program.  VI will work with the Commonwealth to analyze and estimate the cost for the items needing to be transitioned as defined in the corresponding SOW.  VI will utilize tools where appropriate such as content migration tools, database management tools, and our Atlassian project management tools to capture and track the migration.<br><br>Based on our prior experience transitioning similar-scale systems across the country, the following management tactics may be used to enable project visibility, maintain the transition schedule, manage risk, and ensure success for all parties involved.  Some of these tasks may not be needed and there may be more tasks depending on the final scope of the SOW.<br><br>• Establish entry/exit criteria for gathering, identifying, and analyzing the scope of the transition.<br>• Determining transition effort, schedule, dependencies, and resources to identify the critical path.<br>• Determine availability of tools and how those tools will be utilized in the migration effort.<br>• Coordinating across all workstreams, including team ramp up and enablement to provide visibility and transparency through status reports, metrics, and meetings.<br>• Providing transparency into the achieved progress through regular meetings, reporting, and access to the NIC's work management tools.<br>• Using status meetings to enable prompt escalation of issues.<br>• Utilizing experience-informed processes and standard tools for storage, management, access, and distribution of documents and deliverables associated with the project.<br>• Conducting service readiness reviews at pre-determined milestones with an extended stakeholder group to provide awareness of progress and issue management.<br>• Conducting final transition completion review prior to transition operations, maintenance, and support. |
| NOP-16 | Will the Solution provide for additional data storage to be addressed for a given application?  Please describe. | Y | The proposed solution will allow for the data storage associated with an individual application to be set at the application level.  VI will establish the current need and projected future storage needs of the application during the SOW process. VI's solution has the ability to scale storage to support the specific needs of each SOW. |
| NOP-17 | Will the Solution utilize an IT service management framework.  Please explain. | Y | VI and NIC's teams provide comprehensive service management functions based on the ITIL guidance for IT Service Management (ITSM) for development, maintenance, enhancement, and hosting of eGovernment services.  VI relies on the ITIL methodology to assist with overall service development as well as ongoing delivery and management.  Our Centralized Data Center staff and system administration resources  are well-versed, trained, and certified in ITIL v3.  This enables our team to incorporate the core tenets of the methodology into our daily operations.  This includes all facets of operations: service management, business continuity, backup and recovery, and patch/release management. |
| NOP-18 | Will VITA be integrated within the IT service management framework utilized by your Solution?  Please explain. | Y | VITA will be an integral component of VI's IT Service Management (ITSM) approach.  Service Management is a set of  specialized organizational capabilities for providing value to customers in the form of services.  It is imperative that VITA performs all aspects of the role of Customer in the ITSM.  This includes involvement in service design, change management, service level management, reporting, continuity, acceptance, security, and continual service improvement.  VI will work with VITA to ensure that VITA fits into the appropriate segments of VI's ITSM framework. |
| NOP-19 | Will the Solution provide operational services?  Please describe. | Y | VI and our parent company NIC currently provide operational services support in hosting for 27 states including a number of clients located throughout the Commonwealth of Virginia.  The services include end-to-end life-cycle support for all aspects of hosting including managed services and Operations and Maintenance on the applications.  The NIC ETS facilities provide dedicated and virtual hosting, disaster recovery, application hosting and technical services that can be used by all of NIC's eGovernment contracts.  Our clients can quickly leverage our capacity on-demand services to solve hosting needs for static and dynamic content, web services and applications, databases, secure communications, PCI-compliant payment, and transaction processing. |

## Network & Operations

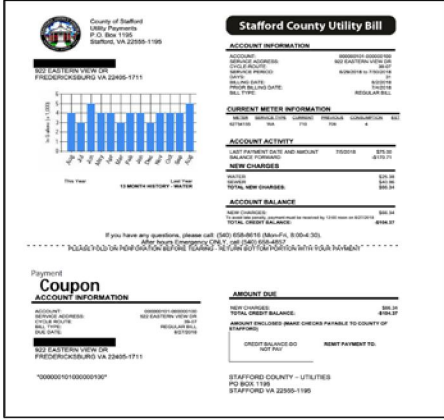| etwork/O | Specification | A | B |
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| NOP-20 | Will the Solution follow operational Best Practices? Please describe. | Y | VI is committed to following best practices in operations and service management.  To ensure that effective business processes integrate the proposed technologies with experienced staff and comprehensive service levels, VI will provide comprehensive service management functions based on the ITIL guidance for IT Service Management (ITSM).  VI will rely on the ITIL methodology to assist with overall service development as well as ongoing delivery and management.  Key members of our staff are well-versed, trained, and certified in ITIL v3.  This will enable us to incorporate the core tenets of the methodology into our daily operations.  This includes all facets of operations: service management, business continuity, backup and recovery, and patch/release management.  VI's processes for service management will include service desk, incident management, problem management, change management, configuration management, release management, and capacity management.  These processes are specifically designed to detect, notify, and mitigate risk to services, as well as ensure the daily management of the Solution's operations.<br><br>In addition, the cloud infrastructure, platform, and services will be provisioned and managed using a modern DevOps approach.  Where in the past these technical practices were executed by separate teams within an organization often with competing objectives, DevOps unites development, operations, and security into a single modernized, results-oriented technology culture built upon integrated tooling and processes that increase the frequency, quality, security, and business alignment of system delivery and operations. |
| NOP-21 | Will the Solution provide reporting such as problem, incident and capacity reporting? Please describe types of reporting provided. | Y | Our IT service management teams follow ITIL v3 based processes and procedures for managing all aspects of the data center.  All service management information (incidents, problems, capacity information) are stored in the IT service management tool.  VI will generate monthly reports from this system to provide to the appropriate Commonwealth staff based on the requirements of the contract. All reports will include all required metrics on incidents and problems that needed to be address, as well as provide an attention level to be given to each item.  These reports will also be used to determine and correct root causes of issues for continual improvement of the solution. All reports will be generated and pulled from an online reporting portal called Service Desk that provides real-time insight into the status of the proposed solution, and all tickets submitted.  Service Desk is a highly configurable product that allows VI and NIC to capture metrics on status, response time, ticket type, and reporter/agency. |
| NOP-22 | Will the Solution allow website owner access to your security and audit reports?  Please describe. | Y | The proposed solution will allow website owner acces to security and audit reports in accordance to the contract. |
| NOP-23 | In development and production, will the Solution support fast loading pages? Please describe target load speed and connection capacity used to measure. | Y | Virginia Interactive ensures that all of our applications perform above industry standard when it comes to speedy and responsive page loading.  With the industry standard being less then 2 seconds per webpage, VI uses Pingdom to continuously monitor and tune our applications and websites to ensure that users experience a fast, fluid navigation experience. With this in mind, circumstances do arise in which the source that VI draws data from is not up to industry standards.  In this case, VI would provide feedback back to users and administrators of the data source that load times might be slower than normal. |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-1 | Will the Solution provide for various system operating systems? Please describe what operating systems and versions are supported. | Y | The applications within the Solution may be run on various current operating systems depending on the project requirements. VI currently supports all vendor supported Windows and RedHat Linux versions. Although not preferred, versions are supported up until the point which they have reached end of life status and are no longer provided with security updates or patches. |
| SWS-2 | Will the Solution support Database Management Systems (DBM)? Please describe what DBM systems the Solution supports including releases/versions currently being used. | Y | VI supports current versions of Microsoft SQL Server, Oracle, and MySQL. The solution is open to supporting additional Database Systems if a need is identified in a project, permitting that the DBM vendor can provide security updates. |
| SWS-3 | Will the Solution be scalable? Please describe. | Y | VI's solution takes advantage of high powered, load balanced server clusters that can be scaled to support required capacity levels. VI utilizes our parent company NIC's ETS datacenter which uses a highly available SAN for file storage and clusters our SQL Server and Oracle database servers. Through provisioning of new resources and the system's architecture, VI can scale to support increases on demand without degrading performance. |
| SWS-4 | Will Solution provide scalability to support the following? a) An increasing user base b) Increased transaction volume c) Exponentially expanding data If yes, please describe how scalability is accomplished. Include any tools that would be provided and/or limitations to scaling. | Y | VI has 22 years of experience using an architecture that can rapidly scale to support changes to the service needs of the Commonwealth, particularly in support of services that are funded with ongoing transactions. We also have proven staff that with the knowledge and experience to manage capacity throughout the life of the contract. The tools that VI will use to support the scalability include SolarWinds for network and server performance monitoring, Stackify for application performance monitoring, and Oracle Enterprise Manager for database performance monitoring. Along with those tools, we use built in tools such as Pure1 to manage our Storage, AT&T Business Direct to manage network circuits, and vCenter to manage our VMWare environment. VI's scalability is mostly going to be a manual action based on administrator notifications and reaction to those notifications, monthly capacity management reporting and manual responses to planned events like forecasted growth or planned peak times. Our monthly capacity reporting is an auditable report that is produced and discussed internally on a monthly basis. The report indicates growth, trends and forecasted purchasing so we can maintain available capacity that can be utilized when needed. |
| SWS-5 | Will application development within this Solution be a repeatable process that can be defined in a Statement of Work? Please describe. | Y | VI utilizes a repeatable software development process that can be flexible to meet the specific needs of each client and their project. VI has vast experience developing websites and applications for the Commonwealth and has established processes for implementing the components of those sites. Whether it be in the definition phase of creating a web-service, or finalizing the front end after user testing, VI follows a well-defined process. The development process is reflective of our overall project management methodology, which aims to ensure successful project management and is an imperative facet to achieving the goals set forth by the Commonwealth. The phases of a VI project are Discovery->Planning->Design->Build->Test->Deliver->Operations and Maintenance as described in the attached image.  |

## Software and Web Services

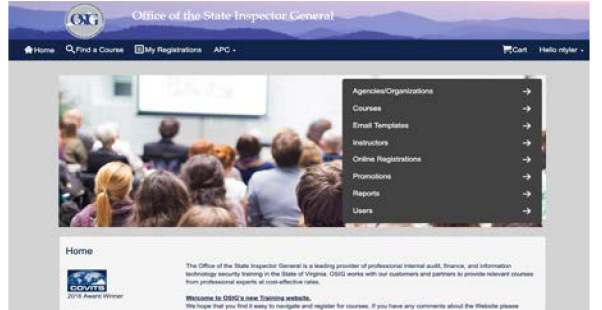| SW/WebSvc | Specification | A | B |
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| SWS-6 | Will the Solution include a records retention policy? Please explain. | Y | The proposed solution will have the ability to retain records according to defined data governance rules for each set of data. The retention policy will be defined during the requirements phase which will include a data classification.<br><br>In most cases, based on best practices, VI will recommend that critical data be stored in the Agency's system of record and is exposed via web-services or real-time direct database access.  In these cases, the records will be retained based on the Agency's and VITA's record retention policy.  In rare cases where VI stores critical data, VI will follow the data security and retention polices of VITA based on the category of the data. |
| SWS-7 | Will the Solution have the ability to provide interactive voice response (IVR) services?  Please describe. | Y | To accommodate users who may not have web access or wish to use alternatives to the web, VI provides telephone-accessible Interactive Voice Response (IVR) solution to the Commonwealth.  It has been our experience that IVR solutions demonstrate tremendous success and lead to greater accessibility to the citizenry.  In Virginia, for example, VI developed an IVR solution for Stafford County to allow customers to submit their payments over the phone.  In Utah, another division of NIC implemented an integrated web and IVR solution for an individual tax filing application and found the IVR interface was used four times as much as the State's web-based interface.<br><br>VI leverages a hosted full-scale IVR solution, while our experienced resources write the code for the specific IVR applications.  Services that use IVR are coded using Voice eXtensible Markup Language (Voice XML) as the data layer.  Because this technology is based on open standards and XML, we are able to deploy the solution regardless of the operating environment or application development language.  Not only are we able to integrate this IVR solution with service offerings by using Voice XML, we are able to open the system to partners who may wish to develop their own IVR scripts and services by leveraging the project's IVR infrastructure. |
| SWS-8 | Will the Solution employ responsive design and support device independence?  Please describe. | Y | The proposed solutions will utilize responsive design and support device independence.<br><br>Through our experience delivering and supporting tens of thousands of responsive design sites and applications, VI understands that responsive design must adapt the content to the user's needs and device capabilities, beyond simply resizing fonts and images to fit the screen size.  A successful responsive design also has a responsive information architecture, adapting content or presenting information in a different order based on what a mobile or tablet user will require first.  The VI design approach takes into consideration the differing bandwidths and speeds of the users' devices so that the same functionality is available for all users with a consistent aesthetic appeal that conforms to the capabilities of each device.<br><br>Virginia Wine Distribution Company (VWDC) has recently partnered with VI to complete a Website Redesign. VI used a mobile first approach to complete the redesign. Please reference the VWCD success story to read more about the project: https://vi.virginiainteractive.org/vi/success-vwdc.shtml<br><br> |

| | | | Software and Web Services |
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| SW/WebSvc | Specification | A | B |
| SWS-9 | Will the Solution include versioning for audit capabilities? | Y | All applications within the Solution are maintained within a source code repository.  All applications are appropriately labeled or branched per release so that versions may be maintained.<br><br>VI uses Team Foundation Server (TFS) for code management of .NET based solutions.  TFS is Microsoft's premier code management suite of tools. TFS allows VI to integrate related processes and allow easier collaboration and communication across project management, development, testing, and systems administration.<br><br>VI uses the latest versions of Microsoft Visual Studio, currently 2017, for application development and testing.  TFS integrates with Visual Studio for version control.  The use of Visual Studio allows VI teams to do parallel development and use features including branching and merging, shelving, labeling, concurrent check-outs, establishing check-in policies, and associating check-ins with work items.  Visualization tools allow for simpler branching and merging and changes can be easily identified, tracked, and managed.<br><br>A private GIT repository is used for Linux applications.  GIT is a distributed software version control system for tracking updates to code with one of it's strengths being it's robust branching capabilities.  Using GIT allows VI to develop and manage code safely and securely, while maintaining proper version control. |
| SWS-10 | Will the Supplier agree that any code that is developed and paid for under this contract will be owned by the Commonwealth website owner? Please explain. | Y | VI agrees that any code that is developed and paid for under this contract will be owned by the Commonwealth website owner in accordance with the contract. |
| SWS-11 | Will the Solution provide administrative accounts over an encrypted connection to manage the site securely? Please describe. | Y | Administrative access to underlying systems of the Solution is restricted to NIC / VI employees. Users are only granted the permissions to do their necessary tasks. User access to these systems is required to go over a secure VPN connection. This connection along with access to each server within the solution requires dual authentication which consists of Windows Authentication as well as RSA SecureID. |
| SWS-12 | Will the Solution require multi-factor authentication for administrator login sessions? Please describe. | Y | VI's architecture and user management solution offers the ability to support various levels of authentication depending on administrator needs and access levels. VI works with the website owner to identify what level of authentication is required for each type of user interacting with the service. While typical authentication involves a user account (verified with email) and a password, NIC has implemented multifactor authentication for system administrators and other users with administrative access.  The current solution supports Multi-Factor Authentication for administrators through a user ID and password and a securely time synchronized generated token. |
| SWS-13 | Will the Solution provide the creation of citizen accounts over an encrypted connection allowing them to provide non-sensitive user data? Please describe. | Y | The proposed solution will provide the ability to create citizen accounts over an encrypted connection.  Protecting customer information as it travels between the user and the server is a very important aspect of protecting sensitive data.  Strong TLS stream encryption is used to secure communications between a user's web browser and the server.  Encrypting this information in transit prevents a third party from intercepting sensitive data as it traverses local networks and the Internet.  This type of encryption also helps protect against man-in-the-middle attacks and session hijacking. |
| SWS-14 | Will the Solution allow the user secure access to their account information free of charge from any Internet capable computer?  Please describe. | Y | The proposed solution is a citizen facing website or web-based application and will be accessible from any internet capable computer or device, by which a user can access their account information free of charge.  Administrative functionality will also be presented through the web-based front end, and will allow administrative users to securely access their user account information free of charge. |

| **Software and Web Services** | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-15 | Will the Solution present the user with information on account balances, history, statuses, and payments?  Please describe. | Y | The proposed solution will make use of secure web services and data files to retrieve data from system(s) of record allowing for the display of user specific information such as account balances, history, status and payments.   The screenshot below shows how the account balance, history, statuses and payments can be displayed.  For more information on the MyStafford Payment Portal:  https://vi.virginiainteractive.org/vi/success-mystafford.shtml.<br><br> |
| SWS-16 | Will the Solution interface with various COV enterprise systems using web services to update information in real time?  Examples might include applying for permits, filing use taxes, signing up for programs, and then making payment. Please describe. | Y | Based on the best practice of maintaining a single source of data, it is VI's desire to integrate with enterprise systems directly where integrations are available. To meet the customer's expectations of real-time updates, the connection from VI to the enterprise systems is most commonly by the use of secure web services or a direct database connection, via VPN. |
| SWS-17 | Will the Solution offer Single Sign On (SSO) functionality in case the user has to logon to multiple systems? Please describe. | Y | The proposed solution will have the ability to provide Single Sign on functionality, based on specific requirements provided by the Commonwealth website and application owners. VI currently utilizes and supports a variety of credentials and authentications to secure Commonwealth data and services and recognizes the importance of securing private information and will continue to adopt new security methods as they become preferred based on the needs of the Commonwealth. VI can integrate internally developed, centralized identity management systems with a Commonwealth single-sign-on solution.  VI can also integrate directly with authentication solutions already in place within the website owner's environment.  VI has specific examples of this type of integration, including but not limited to Fairfax County (ADFS) and Indigent Defense Commission (LDAP). |
| SWS-18 | Will the Supplier provide online support for any issue that requires website owner intervention for routing to the proper contact?  Please describe availability and process. | Y | Our experience has shown that a solution such as the one envisioned by VITA requires a comprehensive customer service program that encompasses multiple channels of support. VI provides an ITIL-based IT service management approach that includes trained eGovernment support specialists who have specific knowledge of the services delivered through our solutions which includes routing issues that require website owner intervention to the appropriate resource for resolution.  VI will establish an escalation process for each service and website owner so that our agents understand how and when to include website owners. |

| Software and Web Services | | | |
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| **SW/WebSvc** | **Specification** | **A** | **B** |
| **SWS-19** | Will the Solution be capable of producing an online bill/statement that is presented to the user/payer in a format similar to bills/statements that may be currently billed by the website owner? Will that statement be produced in a PDF format and have the option to print or save? Please describe. | Y | VI's proposed solution has the capability to provide online bill / statements viewable by the customer. These online bill statements are created through secure web services and will display information outlined in the requirements for the application. The layout and file format of the bill / statement is flexible with PDF format being the most common format if a user is downloading or printing. The user/payer would have functionality to view on screen, print or save the bill / statement locally, as needed. VI also has the functionality multiple options for payment of the bill should the website owner wish to utilize those features.<br><br>After securely logging into their account, users will be able to view their most recent bill in the same layout that would be presented to them if it were a paper copy. The proposed solution will also allow users to print and save a PDF of their bill. In Stafford County, this capability has led to a 40% decrease in customer service phone calls to the County, in addition, multiple awards have been garnered by the solution, including Bright Idea Award from the Harvard Kennedy Business School. For more information about the MyStafford solution: https://vi.virginiainteractive.org/vi/success-mystafford.shtml.<br><br> |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-20 | Will the Solution be deployed in a manner that allows customization for graphics/branding?  Please describe. | Y | Custom developed solutions include a custom design (branding, look and feel, user experience) with the deliverables of the proposed solution.  In the cases where VI proposes an existing solution or product, such as the Events Registration online service or payment processing checkout pages, branding and UI customization is available via configuration and certain solutions can utilize stylesheets that reflect the website owners branding and graphics standards.  VI believes in a cohesive experience for the end user and consistent branding and user experience is one aspect of that approach.<br><br>The images below represent two separate Event Registration implementations and were built and are hosted by VI.  While the underlaying structure of both applications is very similar, the flexibility of VI's solutions allows for customer graphics, colors, logos, and other branding.<br><br> |
| SWS-21 | Will the Solution allow any consistent business rule to be integrated, using configuration features and without any code changes, on behalf of the website owner?  Examples might include conditional payments, full but not partial payments, date/time related payments, etc.  Please describe. | Y | VI's solution includes many existing solutions that are designed to be configured, not custom developed, to implement the specific business rules of a website owner.  For instance, NIC's AppEngine solution, TPE Payment Engine, and licensing and permitting platform allows changes to business rules and the ability to customize payment needs, flow of funds and other considerations through administrative screens without the need to utilize a developer and perform a new release of the system code.<br><br>VI also has vast experience in the custom development of solutions for Commonwealth agencies and localities that are implemented using tools such as business rules engines and administrative pages that allow authorized administrators to make changes to the platform.  Through this experience, VI has learned that each implementation is different and business rules are unique to the processes and people of the Agency.<br><br>VI has established business rules with most Commonwealth partners. For example, in Stafford County citizens are able to set up reoccurring and scheduled payments based on dates and times established by the citizen. In another locality, the City of Hampton, there are established business rules that supports legislation requiring citizens to pay delinquent payments before they can make other payments.  For each project, administrative features and permissions are discussed and defined.  Specific configurable features, such as the ability to enable conditional payments and payment restrictions, will also be defined for each project. |
| SWS-22 | Will the Solution draw data from one and/or multiple data sources and hide or display data elements that the website owner desires?  Please describe. | Y | VI can access data sources and display or utilize the data elements in the specific manner that the website owner describes.  VI has a long history of working with Commonwealth agencies and other government entities to securely access their data, provide that data to users in the manner prescribed by the website owner, and securely complete the informational or transactional service with the end user.  VI's solution can support the ability to draw from one or more data sources through the interfaces available or through solutions provided by VI.   During the requirements and design phases of the project, screen mock ups and data structures will be discussed, including what data is presented along with where and how it should be displayed to the end users.  VI will also work with the website owner on a data governance approach for all data provided to and utilized by VI.<br><br>For the MyStafford Solution, VI draws in various data in various formats to be used within the application. Data is generated by systems within the County as well as by third party providers. Stafford County provides web services which VI consumes over secure channels.  Data is also deposited to VI via Secure FTP and is then validated, parsed and imported into the solution's database to be used as a data source. |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-23 | Can the Solution be linked to the website owner's web content management system for services such as document management services?  Please describe. | Y | VI has developed hundreds of solutions for Commonwealth agencies and many of them have required integrations with existing state systems and data sources.  VI's proposed solution can be integrated with the website owner's content management system. VI will work with the website owners to understand their integration needs for the specific project SOW.  VI will identify requirements for the integration and will work with the website owner to determine firewall rules, web service endpoints, or other technical details in order to enable the connection to their content management system, while paying specific attention to security.  Depending on the capabilities of the content management system, VI can support API and web service integration, batch integration, or a custom solution based on the specific integration requirements. |
| SWS-24 | Can the Solution be linked to the website owner's databases?  Please describe. | Y | VI's core competency is securely accessing government system data and provided that information directly or through an application to an end user.  Our solution can directly link to a website owner's databases and work in real-time with their systems.  For example, today VI has a direct VPN connection to Virginia Department of Agriculture and Consumer Services' (VDACS) Oracle Database. For more information about the VDACS application: https://vi.virginiainteractive.org/vi/success-vdacsrpt.shtml<br><br>VI's staff will work with the agency to understand the requirements and build the required integrations for a full-end-to-end solution that seamlessly collects, processes and transfers data to/from the connected systems.  VI is experienced at integrating with Commonwealth systems via multiple channels such as RESTful APIs using JSON, SOAP web services, and batch data files and will provide the best solution that matches the specific needs of the agency integration.  VI and its NIC affiliates have a long history of creating real solutions in bringing government information to the public's fingertips and can leverage solutions for linking data in other NIC state portals as potential options for any interface that requires a complex integration.<br><br>We believe digital government services should be built in a way that can be universally used - on a desktop, with a mobile device, or with a natural language assistant. Therefore, we have begun developing our services in an open-ended way using JSON Rest Endpoints and microservices. These are APIs that can be consumed the same way by multiple systems so that the services are built once and then used many times. APIs written this way provide the same service in multiple channels or as truly omnichannel. By building all technologies to utilize the same service, a user could begin a transaction on one device and finish it on another and then look up the receipt on a third. This approach simplifies bringing together Natural Language services, Chatbots, and web applications. The result is an Omnichannel enterprise experience with high cohesion and successful completion of transactions where the customer service experience provides streamlined access across every channel. |
| SWS-25 | Will the Solution provide the website owner with operational and financial activity reports in a mutually agreed format?  Please explain. | Y | VI has extensive experience in developing reporting for government services.  Our solution provides the flexibility and configurability to meet the varying requirements of the COV.  Custom reports, such as operational and financial activity reports, will be defined during the requirements phase of each project.  As the applications, user-base, and processes mature and evolve additional reports can be added and existing reports can be updated and modified based on emerging needs.<br><br>In addition, the VI TPE payment system has comprehensive reporting tools that support operational and financial agency needs.  Designed to automate and streamline the bank reconciliation processes, this solution reduces the amount of time it takes to complete reconciliation and provides financial transaction transparency. TPE's central repository of transactions allows the website owner to integrate efficiently with backend processes, as well as to adhere to industry-standard accounting and audit processes.   Within this module, all payment processing data is made available via a wide variety of reporting features. Reports range from summary reports to detail reports showing line item level data. NIC provides real-time online reconciliation reports to authorized staff through our secure web-based reporting interface. These reports can be filtered by day, week, month, year or custom date range.<br><br>The service can pass attributes such as GL codes, account numbers, and other identifiers, which will be tied to the unique TPE Order ID. This data can be integrated using web service/API which allows departments and third-party applications to make calls directly to tTPE. This module's wide variety of reports can be exported in XML, PDF, MHTML, Excel, TIFF, Word, CSV, CSV-Data Only, GL Service, CSV Text and Pipe Delimited format containing the website owner's unique identifiers to upload into backend financial systems. |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-26 | Will you provide user acceptance testing (UAT) in a separate TEST environment as part of site implementation? If yes, please provide a detailed explanation of the process and components of the UAT and include an example or a template. | Y | VI utilizes three (3) separate and distinct environments for development, staging / test, and production purposes.  All solutions are deployed into a staging / test environment where internal testing/QA occurs and is remediated. QA is followed by client User Acceptance Testing.  After all, UAT revisions and remediation occur, the solution is deployed into the production environment.<br><br>Based on the requirements and design documentation for an application, a test plan will be created that captures the testing objectives, methods, and key test cases for the project.  VI and the customer will evaluate the project to verify that the scope and content of each test plan meets stated specifications and validations for each testing iteration.<br><br>The user acceptance testing phase is performed on release candidate software that has successfully completed internal and QA testing.  UAT include training the customer on the service, allowing them to perform all test cases as outlined in the test plan for the project, and using tools like the one below to submit issues for remediation.  While VI staff will conduct various tests throughout the development process and will participate in testing with the agency, the final approval of testing and system sign-off comes from the customer through the UAT process.<br><br>For more information on this service:  https://vi.virginiainteractive.org/vi/success-hrsd.shtml |
| SWS-27 | Will you make changes based on UAT? Please describe past experience and results, including any changes made prior to go-live as a result of the UAT. | Y | UAT is a defined phase of VI's project lifecycle. UAT includes the integrated testing of the solutions as well as the remediation of any issues identified.  VI will work the website owners to identify, understand, and log issues and bugs discovered during the formal testing phase. VI will use the issue log to track and resolve all issues through an additional development and retesting cycle.  The User Acceptance Testing process continues until there are no issues identified that need resolution.  VI has found that with proper QA and testing procedures there are limited requirements issues that will be uncovered through UAT.  The most common issues from UAT are functionality that meets requirements but does not function in the manner that is expected.  However, with proper requirements gathering and documentation practices, an iterative development approach, and a use of visual tools such as porotypes and wireframes, we can minimize incorrect requirements or customer expectations.<br><br>For example, during the UAT testing for the Hampton Roads Sanitation District Website Redesign project, it was identified that the subscription module used for news alerts did not behave exactly as the website owner and testers.  While the functionality met the stated requirements and worked as designed, VI still worked with the users to understand their expectations and modify the functionality to ensure the best user experience possible.  Once changes were made, the features were retested and approved by HRSD for release. |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-28 | Will you provide a communication, governance, and project plan, including milestones? Please describe and provide examples. | Y | VI follows an overall project management plan that includes a communication plan, governance, and a project plan timeline with milestones.   Communication to all stakeholders and project participants is essential throughout highly visible projects such as those that would be implemented as part of this solution.  VI will develop a communication plan with the project owners, stakeholders and execute sponsors to ensure all individuals understand their roles, responsibilities, and the current state of the project.  VI's management personnel will assume clear channels for accountability, performance monitoring, and service delivery from inception to delivery, maintenance, and promotion of the project. Governance and role responsibilities will be identified and defined during the project initiation phase and captured in a RACI.<br><br>Project plans and milestones will be the product of analysis of the functional and non-functional requirements of the project. VI will create a step by step project plan specific to each project.  VI will work closely with the stakeholders to review and ensure that all steps are included. During this time the COV and VI will identify project milestones.  During the course of the project, tasks may be updated to reflect new understandings or changes in the project scope.<br><br>For the implementation of the Fairfax County public facing website, VI worked with project sponsors and executive stakeholders to ensure the appropriate level of communication, governance and feedback was achieved using formal project reporting and a well-defined communication and governance plan that was defined during the initiation phase of the project.  County leadership, as well as IT management was actively involved in the oversight of the project and was regularly updated by the project team and the project sponsors.  Additionally, during the engagement, VI and Fairfax promoted two-way communication with stakeholders through the implementation of Core Team meetings. |
| SWS-29 | Will you provide a detailed implementation plan for the website solution?  Please describe. | Y | As part of every project, individual details of the project and implementation are planned out according to the requirements of the project.  The Project Manager will work with the website owner and stakeholders to establish an agreed upon project plan. An example of a project implementation plan could include, but is not limited to the following steps:<br>**Solution Discovery**<br>• Detailed evaluation of scope, schedule and funding model<br>• Understand the user paths through the application (flow)<br>• Create prototype based on requirements (functional, non-functional, and technical requirements)<br>• Initiate Contract Agreement<br>**Planning & Requirements**<br>• Kickoff Meeting<br>• Stakeholder and User interviews<br>• Develop specific functional requirements<br>**Solution Design**<br>• Define the look, feel and user experience of the solution<br>• Define and document Information Architecture<br>• Define specific technical requirements, including but not limited to database establishment and integration processes with agency<br>• Write test plan, develop test cases, and conduct system integration tests to ensure the feature and its support processes will meet expectations<br>**Solution Build**<br>• Develop UI components<br>• Develop components of system in alignment with the functional and technical specifications<br>• Write test plan, develop test cases, and conduct system integration tests to ensure the features and its support processes will meet expectations<br>**Solution Testing**<br>• Internal VI testing of application to ensure service meets all the requirements and specifications<br>• Agency testing of application to ensure it meets their needs<br>• Security testing and scanning<br>• Development and approval of marketing materials identified in contract<br>**Solution Delivery**<br>• Deployment sign off<br>• Deploy system to production<br>• Implement training plan, as identified in contract<br>• Service is added to support channel<br>• Change management processes are followed for change requests<br>**Solution Promotion**<br>• Creation and publish press releases<br>• Provide social media marketing |
| SWS-30 | Will you define criteria for successful completion of planned deliverables? Please explain. | Y | VI will work with the Commonwealth at the beginning of the project to define, document, and walk through all customer needs and requirements.  The information gathered will go into the project requirements and design documents during the project specification phase.  Requirements will be included in a test plan, and these requirements will define the success criteria of each of the deliverables.  To signify that the success criteria is satisfied and the deliverable accepted, the website owner will sign a Letter of Acceptance (LOA). |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-31 | Will the Solution have the capability for a COV application administrator to easily add user defined fields and tables without code changes? Please describe. | Y | The solution provides a comprehensive set of tables and fields specific to each individual service.  During the discovery phase, VI will work with the website owner to confirm the data structure of the solution is flexible and meets requirements.  Additionally, VI offers App Engine as a no code to low code development platform alternative for instances where flexibility of business rules and work flows is imperative to the partner.  Within AppEngine a user can build and host enterprise class applications and is offered as a platform as a service bundled with secured infrastructure and hosting environment and provides full lifecycle support and maintenance.  AppEngine is designed to allow a non-technical resource to configure the application without the need to update code.  The user can add fields and use familiar techniques, such as drag and drop to rearrange the fields and sections of a page.  With AppEngine many types of applications can be built including: online forms, donation apps, look up apps, inspections, surveys, licenses renewals, tax payments, and utility payments to name a few.  VI will work with each individual partner to find the best approach for the service based on the SOW requirements. |
| SWS-32 | Will the Solution have the capability for a COV administrator to define custom work-flow for approvals, track the status for each step, and also define automatic escalation and notification process? Please explain how the Solution accomplishes this. | Y | The proposed solution has the option to be fully customizable as per the specific requirements set forth by the Commonwealth administrator. The configurations and business rules are defined for each application during the requirements and design phase of the project. The workflow is built during the development cycle and testing during UAT.  Role based securities are defined during the requirements phase, and include user types such as administrators, contributors and approvers in many cases. <br><br>Within the Fairfax County website solution, VI has implemented the Workbench Moderation Drupal module to provide the ability for authors to submit content to managers for approval.   Workbench Moderation also allow users with the appropriate access level the ability to create and modify approval workflows and notifications. The moderation states of content can be tracked, and reports can be generated for status and oversight of the overall content management workflow process.  The example below displays the form that a Content Manager would use to approve or reject the CMS content.  Fairfax Success Story --> https://vi.virginiainteractive.org/vi/success-fairfax.shtml <br><br>For the Stafford County Department of Public Utilities, VI created a customized workflow to handle ownership of tickets. Citizen-submitted changes and put into a queue that can be viewed and acted upon by administrators. Admins can either take ownership of a ticket or release a ticket for another admin to take ownership.  Once the ticket has been processed fully, the owner can close out the ticket, thus completing the workflow.   Success Story:  Read more here: https://vi.virginiainteractive.org/vi/success-mystafford.shtml <br><br> |
| SWS-33 | Will the Solution have the capability to allow a user to associate a document (as an attachment or a link - (i.e. email, xls, doc, txt, csv, pdf, XML, etc)) with any record at any step in the workflow so that it will be available to subsequent users? Please describe. | Y | The solutions built by VI are customizable and flexible and where requirements dictate, can allow document uploads as part of a structured business process as defined by the business owner.  These documents will be securely stored and can be made available to privileged authenticated users at the appropriate points in the work flow. <br><br>VI has developed an application for managing Private Postsecondary Education certifications and recertifications for the State Council of Higher Education for Virginia (SCHEV). The application collects data that is entered by the end user and it allows the user to upload necessary PDF files, at each step in the certification process. The application encrypts the PDF file and passes it to the SCHEV administrators (highest permission level) for review. Below is a screenshot where a user can upload a PDF file. <br><br> |

## Software and Web Services

| SW/WebSvc | Specification | A | B |
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| SWS-34 | Will the Solution have the capability to download selected data in a format usable on a PC application (i.e. MS Office, Excel, and Access)?  Please describe. | Y | The solution allows users to download data in standard formats, including in fomrats directly usable in Microsoft Office applications, PDF, XML, and images as defined by the requirements of the business owners.  One example is Amelia County's event registration application.  During the requirements-gathering phase, the need for the ability to pull class rosters, sign-in sheets, and table tents directly from the application into pre-determined MS applications and formats was defined.  VI's solution provided this capability.<br><br>Read more about the Amelia County Event Registration solution here:  https://vi.virginiainteractive.org/vi/success-amelia.shtml<br><br> |
| SWS-35 | Will the Solution include any pre-built (delivered "out of the box") reports for all solutions?   Please list and describe those reports. | Y | Regardless of processing method or application integration, it is imperative that agencies are able to access transaction-level financial data for internal purpose as well as customer support.  Within the NIC TPE Payment Engine administration site, all payment processing data is made available via a wide variety of reporting features out-of-the-box.  Reports range from summary reports to detail reports showing line-item level data.  In addition to generating reports, the Payment Engine provides a powerful order research tool that allows customer service representatives to quickly locate transactions.  The following are the standard TPE reports:<br><br>Invoice Detail - Shows order and invoice dates, invoice amounts, cost of sales, and total profit by Order ID.<br>Invoice Item Detail - Shows the dollar and volume of items invoiced by merchant/service and SKU.<br>Invoice Item Summary - Shows the sum of dollar and volume of items invoiced by merchant/service and SKU.<br>Invoice Summary - Shows volume of invoices generated, invoice amounts, cost of sales, and total profit (or loss).<br>Merchant Disbursements - Shows disbursements made to merchants listed by service.<br>Net Revenue - Shows the total revenue, merchant COS, and net profit for a selected merchant/service, as well as the total volume of invoices, refunds, and returns processed.<br>Order Detail - Detail of orders: Reference ID, payment type, invoice amounts, cost of sales, and total profit.<br>Order Item Summary - Shows the sum of dollar and volume of items ordered by merchant/service and SKU.<br>Order Summary - Shows the volume of orders generated, order amounts, invoice amounts, and total profit.<br>Refund Detail - Shows refunds made for a particular service or set of services.<br>Refund Summary - Shows volume of refunds processed, refund amount, and amount paid back to the merchant.<br>Returns Detail - Shows returns made for a particular service or set of services.<br>Returns Summary - Shows the volume of returns, the total return amount, and the amount the merchant paid back.<br><br>In addition, VI has deep experience in creating customized reports for clients for specific services and we would continue to provide this service based. |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-36 | Will the Solution provide features to allow for system configuration (where the Solution supports an administrator using built in editors to adjust the Solution without requiring coding changes to the application. e.g. translation codes, user permissions, views, reports, and workflow business rules)? Please describe. | Y | VI has experience delivering solutions that provide various levels of configuration by authorized users. For website solutions, many of our implementations are based on content management systems. These solutions are often based on frameworks that provide a vast array of configuration options out-of-the-box to allow an administrator to adjust and update the solution without the need for code changes. Commonly, users will employ these options to update embedded html, user permissions, views, reports and workflows.<br><br>VI has also developed online applications that provide an administrator the ability to configure various parts of the solution, without code changes. For example, in the Event Registration solution, an administrative user can create and delete events, create sub events, design emails (with substitution parameters), define prompts to users, configure the application to display additional information depending on previous input, and manage all users.<br><br>Additionally, most of our applications support the ability to create or modify user roles and permissions with in the solution. These applications provide the ability for administrators with the appropriate permissions levels to manage user accounts. For example, they can change user permissions, reset passwords, and add and delete users. These administrative changes happen within the application, without requiring code changes. |
| SWS-37 | Will the Solution provide inter-operability or compatibility with common versions of desktop operating software (i.e. Microsoft Windows, Mac OS), Web browser software (i.e. Internet Explorer, Firefox) and other third party applications (i.e. Adobe, Excel)?  If yes, please describe. If no, please identify any known issues, including the software (with version), and how this could impact the Solution. | Y | VI will assure that the proposed solution is browser-based and developed and actively maintained/tested to work on all major vendor supported OS versions if using major vendor supported web browsers with more than 5% of current market share.  Currently that includes supported releases of Google Chrome, Apple Safari, Microsoft Internet Explorer/Edge, and Firefox.  Where required per application requirements, compatibility with third party applications are also supported. For example, this may include the ability to downloading files as PDF's or downloading data in a format compatible to an OS specific spreadsheet application. |
| SWS-38 | Will the Solution have the capability to prevent multiple users from updating the same record simultaneously? If yes, please describe how this is done and any limitations.   If no, please explain what happens when multiple users are updating the same record. | Y | The proposed solution will have the ability to prevent multiple users from updating the same record simultaneously, through the use of record locking mechanisms.  This will be done at a transactional level, generally through SQL record locking, or at a programmatic level in which a transaction locks a set of data by the use of flags which the calling application will manage and honor. Limitations are specific to the mechanism used, where locking at the database transaction level may not account for data already retrieved from another user, where locking at a programmatic level may allow for an update to occur from outside of the given application. When applicable, VI will generally lock data at the programmatic level, and when this is done, prevent other users from saving data if it had been updated after the user had last retrieved it. |
| SWS-39 | Will the Solution provide the capability to dynamically (without code changes) include calculated fields on screens, including summary and derived fields? Please describe. | Y | As a best practice, VI proposes that with the exception of calculations that are strictly for display purposes, all calculations are performed within the system of record with the results displayed via the VI solution through web services or other real-time mechanism.  VI understands that modifying the system of record to create or update business rules is not always an option.  In these cases, VI will work with the website owner to define the necessary business rules and calculations needed to provide the end user with the proper information. Additionally, VI offers NIC's AppEngine as a configurable solution (with little to no-code) application platform to build and host Enterprise-Class Apps with minimal investment.  A non-technical resource can create a responsive web application to collect form data and/or accept payments.  AppEngine is offered as Platform–as–a-Service bundled with secured infrastructure and hosting environment and provides full lifecycle support and maintenance. |

| Software and Web Services | | | |
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| SW/WebSvc | Specification | A | B |
| SWS-40 | Will the Solution's test plan include:<br>a) Development of test data,<br>b) Development of test scripts,<br>c) Conducting the testing,<br>d) Analysis of test results including benchmarking,<br>e) Reporting of test results, and<br>f) Resolution of problems identified during testing?<br>Please describe. | Y | VI has an established testing process as part of our Software Development Life-Cycle that ensures the quality of the solution. The test plan provides the overall testing strategy for the application, including unit testing, integration testing and user acceptance testing.  Test cases are defined based on the defined requirements and will be used for testing both functional and non-functional aspects of the solution.  The agency will provide test data from the database to ensure the data and the user experience are similar to production. Test scripts will be created by the Partner and VI to ensure all aspects of the application are tested thoroughly. VI's developers, project managers, and system administrators will be involved in the first rounds of testing, then the customer will have the ability to complete user acceptance testing.  After each phase of testing is completed, VI will analyze the results and perform updates to resolve any failed test cases.  Retesting, issue identification, and issue resolution will repeat until all issues are resolved.  For each of the testing phases, all testers, internal and external, will log and track the status of all identified issues.  Metrics will be captured, and reports will be generated to ensure status is communicated to the business owner and stakeholders. |
| SWS-41 | Will the Solution provide a feature for users to setup custom notification and alerts?  Please describe. | Y | The proposed solution will feature options to setup custom notifications and alerts.  In cases where a user subscribes to notifications, an opt in and out of website and applicaiton notifications and alerts will be in compliance with Commonwealth and state privacy laws. The use of notifications and alerts will be defined in the requirements phase and outlined in the project plan for each service.  User account management pages will provide a section that shows what notifications and alerts the user has subscribed to and allow them to easily opt-out.<br><br>In addition, VI offers an innovative mobile application and platform, NIC's Gov2Go®, an expandable mobile platform that connects users to their government with information, notifications, transactional services, and one-touch payments.  Gov2Go's configurable notifications can be sent using multiple methods, including email, in-app messages, SMS, and push notifications.  Any use of Gov2Go in the COV will be defined in the requirements phase and outlined in the project plan.<br><br>How Gov2Go will serve Virginians:<br>**Learns -** Through its startup wizard, Gov2Go asks users a few simple questions and maps their responses to the services integrated into the platform. Based on the information provided, Gov2Go creates a personal profile that tells the user what government services are being tracked that are relevant to them.▯<br>**Notifies -** For each government deadline Gov2Go tracks, users can opt to receive email reminders and messages when a deadline is approaching. Reminders are written in plain language and include helpful instructions and links for quickly taking care of things online.<br>**Tracks -** The Gov2Go timeline plots each user's government deadlines and key dates for the year in sequential order, counting down the remaining days as each deadline approaches.▯<br>**Completes -** An intuitive interface offers one-click payments that resemble familiar online retail experiences. Payment information is conveniently stored for future use, enabling users to complete their transactions quickly. |
| SWS-42 | Can the Solution "punch-out" to the Commonwealth's payment processor? Please explain. | Y | VI currently passes transactions to the Commonwealth's payment processor and is able to "punch out" to this processor or a future processor using our robust payment processing solution and its APIs and web service integration capabilities.  VI / NIC uses a secure product called Common Checkout, CCP, to gather payment information. Payments are handled through a highly configurable, highly secure backend Payment Engine, TPE. TPE handles multiple types of payment processors, either directly or indirectly through the use of a third-party payment interface. For the Commonwealth, TPE will indirectly connect to Elavon, through a third-party payment interface, Monetra. This process will authorize a payment before processing it.   All components of this architecture are maintained within NIC's secure, PCI compliant financial network. While Monetra is used for credit card payments, TPE can be configured to work with any banking institution for ACH payments. |

| Security & Authentication | | | |
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| Sec/Auth | Specification | A | |
| SEC-1 | Will the Solution comply with all provisions of the current Commonwealth of Virginia security procedures (published by the Virginia Information Technologies Agency (VITA) at<br><br>http://www.vita.virginia.gov/library/default.aspx?id=537<br><br>or a successor URL(s)) as pertinent to your operation ? | Y | VI has a security first approach and takes pride in stating that our solutions currently comply with all VITA Security Policies and is confident that the proposed solution is compliant with these standards. VI architects it's applications in a manner to maximize security, operate the infrastructure platform using modern DevSecOps practices, and oversee the security of the solutions through a mature security program that is continuously assessed both internally and externally by a third-party security assessor. Additionally, we have prior experience developing web applications and websites for the Commonwealth of Virginia and have a first-hand understanding and history of success complying with the VITA's security policies. |
| SEC-2 | (M) This is MUST HAVE #2 - The Solution's information system components, services, data and system information associated with the information system components and services shall remain within the continental United States. Please describe. | Y | All solution components are located at physical locations within the United States, including, but not limited to the data centers, infrastructure, network, hardware, and software. This includes our two data centers and our development and operation team locations. VI will not allow administrative or developer access to the Solution from outside the continental United States.<br><br>Alternatively, VI also provides the ability for VI-supported public cloud hosting solutions with Microsoft Azure. VI will utilize only continental US based cloud regions and architect any solution using the public cloud solutions to only replicate to regions/availability zones that are located within the United States. |
| SEC-3 | Will the Solution provide audit trail capability as required by COV security standards? Please describe. | Y | VI will work with the Commonwealth to capture audit trail data from relevant systems, as required. VI utilizes a security information and event management (SIEM) tool for storing security and log related information. Typical system level logging for a service would include the following, but this is typically customized to the specific application:<br><br>a.        Type of event (i.e., event id),<br>b.        When (date and time) the event occurred (i.e., time stamp),<br>c.         Where the event occurred (i.e., destination IP address),<br>d.        The source of the event (i.e., source IP address),<br>e.        The outcome (success or failure) of the event,<br>f.        The identity of any user/subject associated with the event (i.e., user id/process id), and<br>g.        File names involved and access control or flow control rules invoked.<br><br>If additional data is required to be logged, VI will work with the Commonwealth and internal systems to collect this data. |
| SEC-4 | Will the Solution include security procedures when a breach occurs? Please describe. | Y | VI follows NIC's Corporate Security Policies for Incident Response. NIC maintains a comprehensive and confidential Incident Response Plan at a corporate level that includes active participation by NIC's Corporate Security Team and documents the necessary steps and actions required to be taken in the event of a security incident. Contained within this plan are the necessary steps and requirements for notification of state partners, law enforcement entities, affected parties, as well as others where appropriate, and in accordance with applicable state and federal standards, policies, and laws for security breaches. In the event of a security incident, VI will call upon NIC's security team to assist the local team with the breach management process and activities. |
| SEC-5 | Will the Solution include website owner access to all security breach reports and corresponding logs? Please describe. | Y | VI continually tests and monitors portal operations to protect the Commonwealth's and its constituents' data assets. All necessary security activity is logged and reviewed on a regular basis and is appropriately reported in compliance with the NIC Incident Response Plan. In the case of a security event (involves successful unauthorized electronic access to VI services) the incident is escalated to the appropriate Commonwealth resource. All data related to a confirmed breach is retained for research and investigation, and then captured in a report illustrating what traffic, including application type attempted the breach. Website owners will be made aware of any breach which may occur and will be provided with reports from our security team and corresponding logs as approved by our security team concerning the event. |

| Security & Authentication | | |
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| **Sec/Auth** | **Specification** | **A** | |
| SEC-6 | Will the Solution include authentication and authorization controls that align with COV standards linked above? Please describe how the Solution manages user accounts and authentication for public facing web applications. | Y | Authentication and authorization controls are considered first and foremost within all aspects of the Solution and will continue to be maintained to meet Commonwealth as well as NIC's internal standards.<br><br>Implementations may differ based on the requirements of each application, but in all scenarios, authentication is handled securely between the client, server and any other approved system external to the immediate environment, such as an Active Directory instance. Authorization controls are specific per application as well, but in all scenarios are designed to limit data and actions available to the user to only those which are required.<br><br>The creation of user accounts is limited to administrative users as defined by the owner of the application, or are limited to users who can provide validating information as defined by the owner of the application in the cases where users can create their own accounts.<br><br>VI has controls for identifying and disabling unused IDs for the solution and can provide VITA with reports on disabled accounts. |
| SEC-7 | Will the Solution ensure secure and encrypted data sharing with the Commonwealth data center?  Describe the methods that can be deployed. | Y | All applications will use TLS transport stream encryption.  This protects the information as it transits from the user's browser to the project's servers preventing interception by intermediate parties.  Tokens associated with authentication sessions will always be transmitted over secured connections (e.g., TLS).  VI will utilize both Virtual Private Network (VPN) technology and secure batch file Extract-Transform-Load (ETL) processes to securely connect the NIC provided hosting environment to the remote Virginia networks. |
| SEC-8 | Will the Solution provide for the separation of data from the web services?  Please describe how the web server protects application data. | Y | VI uses an n-tier application architecture.  This architecture separates the functions of an application into discrete functional layers to provide adequate isolation and protection at logical security boundaries.  This layered application architecture will complement the segmented network architecture of the hosting environment.<br><br>Each server instance in the environment is allowed to perform only one primary function.  By defining a single primary role for each server instance, it is possible to appropriately segregate the servers based on their function.  Servers that act as the presentation layer are the only servers that are configured with HTTP or HTTPS access to the internet.  Servers acting as application or middleware servers are not permitted direct access to the internet, but rather are configured to connect to the presentation server and the database server.  The database servers, due to their obviously important function, are prohibited from any internet connectivity and can only transmit data to the application or middleware layer.  Presentation servers are not permitted direct access to database servers. |
| SEC-9 | Will you, as part of the Solution, provide VITA and the website owner with security vulnerability testing/scanning and results every 30 days?  Please describe. | Y | VI is an approved ECOS provider for a number of applications currently in production in the Commonwealth. As part of this VITA administered program, VI is required to provide a monthly security and vulnerability scan and provide results to the ECOS team. VI will continue to provide VITA and the website owner with security vulnerability testing/scanning and results every 30 days, or as specified under this contract.<br><br>VI utilizes several tools for security vulnerability testing/scanning, including web application firewalls, web application scanning tools and network vulnerability scanning tools (including a PCI DSS approved scanning vendor (ASV)). |

| Security & Authentication | | |
|---|---|---|
| **Sec/Auth** | **Specification** | **A** | |
| SEC-10 | Will the Solution have an established process to address discovered security vulnerabilities?  Please describe. | Y | VI follows a rigid process of scanning applications for common vulnerabilities during the testing phase of a new application and after any modifications to an application.  Additionally, VI proactively maintains a secure environment by continuously screening applications deployed in production.  VI uses a leading application security testing tool that allows for an automated and thorough scan of all written code rather than relying on a user to set up a test through the tool's user interface.  VI is committed to and currently conforms to the VITA ECOS requirements of scanning each application every 30 days.  Vulnerabilities are remediated prior to deployment to production following Commonwealth Security and Risk Management (CSRM) Standards.  Vulnerabilities found in production services will be remediated based on the risk ranking and may be taken out of service until the vulnerability can be remediated. |
| SEC-11 | Will you, as part of the Solution, provide different types of security audits and reports? Please explain types and how often they are completed. | Y | NIC's enterprise offerings undergo several technical and financial reviews based on our parent company, NIC Inc., being a public company in order to maintain our security posture.  NIC performs the following audits/assessments across our programs:<br><br>•Third-Party Security and Compliance Assessment (annual)<br>•Sarbanes Oxley Internal Control Audit (NIC Inc. Consolidated) (annual)<br>•SSAE SOC 1 Type II Audit for NIC's Payment Processing and Billing Systems (annual)<br>•SSAE SOC 2 Type II Audit for NIC's Payment Processing and Billing Systems (annual)<br>•PCI Level 1 Service Provider Audit for NIC's Payment Processing and Billing Systems (annual, with quarterly scans) |
| SEC-12 | Will you, as part of the Solution, allow website owner access to Solution security and audit reports? Please explain. | Y | VI will provide the Commonwealth with reasonable access to security and audit reports as required in the applicable SOW or order.  Currently, we provide ECOS with the reports and they provide them to the agency.  We propose to continue operating under the ECOS model. |
| SEC-13 | Will the Solution ensure the security and confidentiality of any and all financial information that the Solution obtains from users? Please describe. | Y | Security and privacy are primary concerns when processing government transactions.  VI / NIC recommend and implement industry best practices for security.  Due to the increasing number of intrusions into web sites that use credit card payments, the Payment Card Industry (PCI) has established a rigorous set of Data Security Standards that credit card merchants must implement.  This compliance program is commonly referred to as PCI DSS compliance. NIC has worked diligently with financial institutions to ensure our payment solution complies with the PCI and NACHA guidelines for credit card, debit card, and ACH (e-check) processing.<br><br>NIC operates PCI DSS compliant financial systems and processes in each of the contracts it operates.  Compliance activities include, but are not limited to the following:<br><br>•The financial environment undergoes a PCI Level 1 Service Provider assessment by a Qualified Security Assessor<br>•Periodic self-evaluation surveys<br>•Quarterly perimeter security scans from an approved security firm<br>•Implementing data retention and logging in compliance with PCI requirements<br>•Ensuring that in-house applications involved in the collection of payments adhere to PCI standards<br>•Using key management processes that provide split-knowledge and dual-control<br>•Rigorous application security testing during application development and as part of the release process |

| Security & Authentication | | |
|---|---|---|
| Sec/Auth | Specification | A | |
| SEC-14 | Will the Solution, including systems, software, hardware, processes, and partners, adhere to the requirements of the Cardholder Information Security Program (CISP) and maintain full PCI Security Standards Council compliance? Please describe. | Y | VI utilizes NIC's TPE transaction payment engine, a fully hosted, Software-as-a-Service (SaaS), enterprise-class payment processing solution to support all of the payment needs of the Commonwealth.  The solution undergoes a SSAE SOC 1 Type II Audit and SSAE SOC 2 Type II Audit on the NIC TPE payment system, and NIC is certified as a PCI DSS Level 1 Service Provider annually.  NIC has worked diligently with third party Quality Security Assessors (QSA) and financial institutions to ensure our payment solution complies with the PCI SSC and NACHA guidelines for credit card and ACH processing.  VI will maintain PCI compliance for itself, the solution and any VI partners that work with the solution during the period of performance. |
| SEC-15 | Will the Solution provide a password protected administrative area allowing the website owner to assign internal users roles to search and view user account history, reset logins/passwords, issue refunds, etc.? Please describe business owner admin access capabilities. | Y | Administrative functionality is handled at several levels within the solution. Within the user interface, the website owner will be provided with a secure web interface which will provide appropriate users with functionality necessary to perform their specific jobs within the system including but not limited to: search and view user account history, reset logins/passwords, issue refunds, approve submissions, assign permissions/user roles. |
| SEC-16 | Will the Solution require multi-factor authentication of administrative access?  Please describe. | Y | Administrative functionality is handled at several levels within the solution. Within the user interface, the website owner will be provided with a secure web interface which will provide approved users with the appropriate permissions to perform their specific duties within the system, including application administrative duties.<br><br>VI system administrator's access the environment by personal VPN connection only.  VPNs use an RSA key tok+C18:E18en assigned to an individual for authentication of the administrator.  Once connected to the environment, system access is controlled via the internal directory services. |
| SEC-17 | Will the Solution include website owner access to all security breach reports?  Please describe. | Y | VI continually tests and monitors portal operations to protect the Commonwealth's and its constituents' data assets. All necessary security activity is logged and reviewed on a regular basis and is appropriately reported in compliance with the NIC Incident Response Plan. In the case of a security event (involves successful unauthorized electronic access to VI services) the incident is escalated to the appropriate Commonwealth resource. All data related to a confirmed breach is retained for research and investigation, and then captured in a report illustrating what traffic, including application type attempted the breach.  Website owners will be made aware of any breach which may occur and will be provided with reports from our security team and corresponding logs as approved by our security team concerning the event. |
| SEC-18 | Will the Solution have the capability to provide auditing and reporting of system administration functions?  Please describe. | Y | VI will work with the Commonwealth to capture audit trail data from relevant systems, as required. VI utilizes a security information and event management (SIEM) tool for storing security and log related information. Typical system level logging for a service would include the following, but this is typically customized to the specific application:<br><br>a.      Type of event (i.e., event id),<br>b.      When (date and time) the event occurred (i.e., time stamp),<br>c.       Where the event occurred (i.e., destination IP address),<br>d.      The source of the event (i.e., source IP address),<br>e.      The outcome (success or failure) of the event,<br>f.       The identity of any user/subject associated with the event (i.e., user id/process id), and<br>g.      File names involved and access control or flow control rules invoked.<br><br>If additional data is required to be logged, VI will work with the Commonwealth and internal systems to collect this data. |

| Security & Authentication | | | |
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| Sec/Auth | Specification | A | |
| SEC-19 | Will the Solution have the capability to maintain a log of reports that have been run, by name, date and time, and user?  Please describe. | Y | VI's solution supports logging of activities to our logging solution. As SOW requirements dictate, applications developed by VI will enable report logging mechanisms, including the logging of reports run by name, date/time, and user. |
| SEC-20 | Will the Solution ensure that passwords are never viewable in clear text in any part of the application or database?  Please describe. | Y | VI has provided hundreds of solutions to Virginia over the years that meet this requirement.  The solution will hide all text containing passwords, password confirmation, or password verification.  All passwords are encrypted with a irreversable hash before they are stored in the solution database.  The solution conforms to Commonwealth of Virginia password management standards for users.  This includes the ITRM Guideline for Information Technology Logical Access control, and Commonwealth Information Technology Security Policy and Information Technology Security Plan. |
| SEC-21 | Will the Solution have the capability to automatically disable and report user accounts that have been inactive for a specified period (i.e. 90 days)?  Please describe. | Y | The proposed solution will have the capability to automatically disable accounts after any timeframe specified by VITA and reporting on these disabled accounts can be provided.  VI already complies with VITA's standards for account suspension and disables accounts due to inactivity.  VI can provide periodic reports based on the standards set forth by the Commonwealth. |
| SEC-22 | Will the Solution include self service capabilities  for users to reset and recover their own passwords?n  Please describe. | Y | Users will have the ability to reset their password through a login interface or the account management console.  The account authentication and management component of the solution requires complex passwords which are stored with irreversible hashing.  This will only allow for resetting as passwords are never retrievable. All data is transmitted over a secure https channel. User accounts will lock out after three invalid attempts, forcing the user to reset their password via an email to their predefined email account and/or via security questions. |
| SEC-23 | Will the Solution have the ability for the system administrator to lock and unlock user accounts and track all login attempts - both successful and unsucessful?  Please describe. | Y | The solution will contain the ability for system administrators to lock and unlock a user's account.  The system will log system access and login attempts, all logs are written to our SIEM log management platform for reporting and analysis. |

| Application Maintenance | | | |
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| AppMaint | Specification | A | B |
| APP-1 | Will the Solution include a testing/release process? Please describe. | Y | VI has an established testing process as part of our Software Development Life-Cycle and a release management processes aligned with the Information Technology Infrastructure Library (ITIL) framework to ensure the quality and effectiveness of development, test, and release of applications.  Additionally, VI has compartmentalized development, staging, and production environments to allow the seamless transition from development to production. All initial unit, integration, and system testing occur within the development environment.  Once system testing is complete, applications are migrated to the staging environment for customer testing.  Using industry best practices, a completed application is only moved into the production after it has passed quality assurance, user acceptance, stress, load, security, and accessibility testing.  There will be a release plan for each planned deployment that includes a rollback plan. |
| APP-2 | Will the Solution include a test environment that mirrors production system functionality and performance?  Please describe. | Y | To properly test applications, VI  deploys the application into a staging environment which mirrors the production environment, including a separate staging database. VI prefers to capture a copy of the same information that will be used in the production system. If there is private or sensitive information, test data is sanitized to convert private data as appropriate,  such as by converting personal data into a random set of values.<br><br>When a web application connects to a data source hosted and controlled directly by an agency, we recommend that the agency create a test version of the data source within their environment, so we can properly test against information that will closely mirror the production system. |
| APP-3 | Will the Solution ensure testing of all components on all applicable platforms in a test environment? Please describe. | Y | VI and NIC fully automates the build process of all applications through the use of a centralized build server within Team Foundation Server (TFS) .  Upon each check-in of source code to the revision control system, the build server checks out the code and analyzes it for appropriateness through automated testing.  The build server runs all integrated unit tests in the project, validates the structure of the code against the coding standards for projects, and evaluates the usage of third-party packages for appropriateness.  If the code base passes all automated build tests, the compiled project is packaged and published to the internal VI artifacts repository. Testing tools and manual testing are both utilized to ensure that all components are validated on all supported browsers and operating systems. |
| APP-4 | Will the Solution  include the use of any 3rd party tools or services in the testing/release process? Please describe. | Y | VI utilizes the following tools in the testing and release process:<br>•Microsoft Visual Studio is used for both unit testing and load testing.  A unit test can be created for each test case and run every time that source code is changed to make sure that no bugs are introduced with changes to the code. The tool allows different use cases to be tested in parallel to more realistically simulate load and identify performance issues related to multifactor entanglement.<br>•We currently use the NetSparker tool for vulnerability scanning, which is performed during the testing phase of projects and after deployment on an ongoing basis.  Reports are generated identifying potential risks and VI's staff then investigates and corrects any possible points of risk.<br>•VI uses Microsoft Team Foundation Server (TFS) to manage the build and release process for .NET projects. VSTS Build Agent is a TFS product which VI Release Managers will use to perform complete builds of the release candidate versions of software contained in source control.  A similar release process is followed for non-Windows systems.  All completed changes are stored in the Concurrent Versioning System (CVS).  VI Release Managers create release packages in CVS which are then moved to production.<br>•Standards-based accessibility compliance testing is conducted using automated testing tools and manual testing methods with screen readers, policy experts, and persons with disabilities when possible. |

| Application Maintenance | | | |
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| **AppMaint** | **Specification** | **A** | **B** |
| **APP-5** | Will the Solution have the ability to manage web servers/app servers, etc.?  Please explain, to include redundancies, expandability, capacity management, monitoring, etc. | Y | The NIC/VI Private Cloud is run within an NIC virtualized environment allowing for full infrastructure management capabilities. This allows VI to provide complex and customized architectures to support the specific needs of a project.  VI's experience managing infrastructures including web servers and application servers spanning our 22 years of operating IT systems on the Commonwealth's behalf. <br><br> Our highly skilled and experienced technical personnel are uniquely qualified to continue to manage, support, and improve these applications and specifically understand how to provide redundancies, expandability, capacity management, and monitoring for these critical services. <br><br> VI can provide redundancies and scalability by utilizing redundant DNS, Global Traffic Managers, clustered and mirrored database servers and load balanced web and application servers.  Applications can be mirrored and load balanced between multiple hosting locations.  VI is skilled and experienced at creating web, database, and application monitors to provide real-time system performance metrics and notifications. <br><br> VI also has the technical capabilities and experience to host with other Cloud Service Providers as needed. NIC/VI has relationships with Microsoft Azure for cloud hosting options which are used by other NIC state contracts for various government services and solutions.  NIC also uses Microsoft Azure to host several of NIC's enterprise SaaS solutions.  We will work with the Commonwealth throughout the contract to determine if hosting at a public cloud service provider is the best solution for a specific service. |

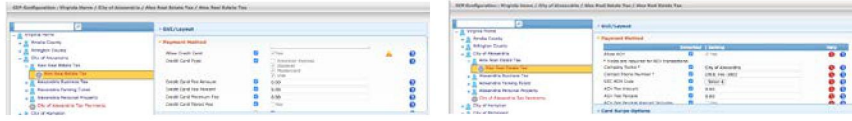| Application Maintenance | | | |
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| **AppMaint** | **Specification** | **A** | **B** |
| APP-6 | Will the Solution include a process for code and change management?  Please describe. | Y | VI will follow a structured change management process, as a core component of the overall service management approach.  The objectives of VI's service management approach are to (1) meet the business objectives of the Commonwealth customer, (2) align services with current and future business and customer needs, (3) improve the quality of services, and (4) reduce the cost of service provision.  The approach proposed by VI integrates VITA business owner review and approval of changes, and is aligned with Information Technology Infrastructure Library (ITIL) best practice delivery model.<br><br>The change management processes will support and include checkpoints to gain business owner approval, determine any potential or required change control procedures, and include a process of controlling changes to the infrastructure or any aspect of services, in a controlled manner, enabling approved changes with minimum disruption. Process activities within the change management approach will include (1) Request for Change (RFC) submission, (2) RFC analysis, (3) classification (prioritize and categorize) of change, (4) approval, and (5) planning (build-test review and schedule change).<br><br>VI uses Team Foundation Server (TFS) for code management.   TFS allows VI to integrate related processes and allow easier collaboration and communication across project management, development, testing, and systems administration. TFS allows VI teams to do parallel development and use features including branching/merging, shelving, labeling, concurrent check-outs, establish check-in policies, and associating check-ins with work items.  Visualization tools allow for simpler branching and merging allowing changes, to be easily identified, tracked, and managed.<br><br>These capabilities allow for the execution of the VI Code Management Policy, in which aspects of are handled either inherently by TFS or required by the developer. These aspects include:<br><br>•Authenticated access<br>•Revision history<br>•Versioning<br>•Atomic commits of multiple files<br>•Frequent check-ins with comments<br>•Associating updates to defined requirements<br>•Appropriate branching |
| APP-7 | Will the Solution include an escrow process? Please describe. | Y | The proposed solution will include an escrow process in accordance with the contract. |
| APP-8 | Will the Solution include a process for archiving data?  Please describe. | Y | VI ensures records are accessible for the length of time cited in applicable records retention and disposition schedules.<br><br>Data should only be retained on the hosting infrastructure for the period of time for which it serves a useful business purpose.  This is critically true for sensitive data.  VI will create and adhere to a defined Data Retention Policy which dictates the retention schedule for different types of data stored at various layers of the system.<br><br>VI will implement data governance policies and procedures for this program that align with Commonwealth specific inputs and industry best practices.  These data governance policies will specifically address the classification of data.  For each data classification, policies will dictate how the data is protected, how long it is retained, and how it is destroyed or archived.  On at least an annual basis, systems will be thoroughly audited to uncover data governance deficiencies.  Remediation plans will be developed for any deficiencies uncovered by these audits. |

| Application Maintenance | | | |
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| AppMaint | Specification | A | B |
| APP-9 | Will the Solution include a methodology for troubleshooting issues, coordinating help desk, and tracking status of issues?  Please describe | Y | VI will provide IT Service Management services — at performance levels agreed to by the Commonwealth and VI — for all the applications, services, technologies, tools, interfaces, and integration points that are within the contractually determined control and responsibility of VI.  For issues regarding services, technology, policy, or other components outside of VI's control, VI will escalate to the appropriate agency, department, or third-party personnel.  VI will follow an IT Service Management approach based on ITIL.  VI will track all incidents, problems, and status in an IT Service Management tool that will support all support and maintenance efforts.<br><br>Once a defect is determined to be the responsibility of VI, the VI team will follow a problem resolution process, as outlined in the thumbnail image below.<br><br> |
| APP-10 | Will the Solution include a  process for managing upgrades and maintenance?  Please describe. | Y | Mature processes have been developed over VI's 22 year history operating and maintaining applications on behalf of the Commonwealth.  Commercial, off-the-shelf software is kept up to date with the latest service packs and version upgrades.  VI plans for upgrade as part of our annual technology planning and roadmap for the solution.<br><br>VI will monitor all patch releases and schedule a maintenance period to update the relevant software after full system and regression testing to assure that a particular patch remedies the problem, does not cause other issues, and is stable.<br><br>Upgrades are carefully tested before they are applied.  Upgrades are first tested in a virtual test lab environment.  They are then applied to Test and Development and thoroughly verified.  Finally, upgrades are applied to Production code during a predetermined maintenance window.  Team Foundation Server 2015 is the tool used to manage the code versioning processes. |
| APP-11 | Will the Solution include downtime notification to the website owner and general public via email and posting on the Solution website?  Please describe. | Y | All scheduled release and configuration changes will be conducted during prescheduled maintenance periods approved by the Commonwealth and all website owners will be notified of the possible downtime.  If scheduled maintenance will impact service availability VI will provide a notice on the website about the downtime.<br><br>In the event of unscheduled downtime, VI will follow the notification structure defined in the escalation procedures for the impacted service. |

| Application Maintenance | | | |
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| **AppMaint** | **Specification** | **A** | **B** |
| APP-12 | Will Database Administrator support be offered as part of the Solution?  Please detail what types (ex. Oracle, MS, Sybase, etc.) and describe how the types are supported. | Y | VI has DBA support expertise in Oracle database administration, Microsoft SQL Server database administration, and IBM Informix database administration. Our data center is staffed with five additional database administrators, with resources on call for database emergencies 24x7x365.  Additionally, VI draws on our extensive NIC family of companies' database administrator resources from NIC's over 850 employees to address database systems and experience not provided by the local O&M team, including database solutions provided by cloud service providers.  Finally, VI has a professional services contract with a leading database support company for issues and troubleshooting that require additional emergency resources.<br><br>VI's database administrators maintain and manage the current database systems supporting all of VI's services.  They also assist with the design and programming of new databases utilizing SQL scripts, while ensuring that proper conventions and standards are followed.  These resources are responsible for data transfer, replication, backup, and recovery services, as well as ensuring database integrity and security.  They will monitor performance and enhance speed by implementing query optimization techniques such as fine-tuning indexes and utilizing query analysis.  They control database user accounts and access, and assist staff with database reporting. |
| APP-13 | Will the Solution provide tools to migrate to and/or from another provider? Please explain. | Y | VI and NIC have experience transitioning thousands of services from other providers and vendors onto NIC's platforms and/or NIC's operation and maintenance program.  VI will work with the Commonwealth to analyze and estimate the cost for the items needing to be transitioned as defined in the corresponding SOW.  VI will utilize tools where appropriate such as content migration tools, database management tools, and our Atlassian project management tools to capture and track the migration.  Tool usage will depend on the type of system the data is being migrated from and the structure and defined relationships of the data.  For some datasets it may be more expedient to get an extract and import into our systems for normalization and import into the final system.<br><br>Based on our prior experience transitioning similar-scale systems across the country, the following management tactics may be used to enable project visibility, maintain the transition schedule, manage risk, and ensure success for all parties involved.  Some of these tasks may not be needed and there may be more tasks depending on the final scope of the SOW.<br><br>• Establish entry/exit criteria for gathering, identihahafying, and analyzing the scope of the transition.<br>• Determining transition effort, schedule, dependencies, and resources to identify the critical path.<br>• Determine availability of tools and how those tools will be utilized in the migration effort.<br>• Coordinating across all workstreams, including team ramp up and enablement to provide visibility and transparency through status reports, metrics, and meetings.<br>• Providing transparency into the achieved progress through regular meetings, reporting, and access to the NIC's work management tools.<br>• Using status meetings to enable prompt escalation of issues.<br>• Utilizing experience-informed processes and standard tools for storage, management, access, and distribution of documents and deliverables associated with the project.<br>• Conducting service readiness reviews at pre-determined milestones with an extended stakeholder group to provide awareness of progress and issue management.<br>• Conducting final transition completion review prior to transition operations, maintenance, and support |
| APP-14 | Will the Solution provide for additional data storage on demand for a given application? Please explain. | Y | VI's solution operates in a virtualized environment where data storage is allocated from a pool of resources.  The solution can provide additional data storage on demand for a given application by coordinating with VI. VI will use best practices for capacity management to ensure the underlying SAN storage for all services has the necessary capacity for current and future growth trends.  Our data center staff closely monitor capacity of the underlying storage array and can scale the storage directly as needed.  VI also has the ability to leverage public cloud storage solutions when the needs of the service might be best served from a cloud storage solution. |

| Application Maintenance | | | |
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| **AppMaint** | **Specification** | **A** | **B** |
| **APP-15** | Will the solution include a repository for source code and source code controls?  Please describe. | Y | VI will maintain the version of code in production for applications in a secure source code repository and quarterly in a source code escrow. This repository is hosted on a high availability system that VI can reliably access and utilize for changes, recovery, and review.  In terms of toolsets, VI uses Microsoft Team Foundation Server (TFS) for code management.  TFS is Microsoft's premier code management suite of tools. TFS allows VI to integrate related processes and allow easier collaboration and communication across project management, development, testing, and systems administration.<br><br>VI uses Microsoft Visual Studio  for application development and testing.  TFS integrates directly with Visual Studio for version control.  It allows VI teams to do parallel development and use features including branching and merging, shelving, labeling, concurrent check-outs, establishing check-in policies, and associating check-ins with work items.  Visualization tools allow for simpler branching and merging and changes can be |

| Payment Processing | | | |
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| **PayProc** | **Specification** | **A** | **B** |
| PMT-1 | Will the Solution be Payment Card Industry Data Security Standards (PCI DSS) compliant? Please describe. | Y | NIC's TPE payment engine and Common Checkout service is a fully hosted, Software-As-A-Service, web-based, enterprise-class payment processing solution. The solution supports multiple payment types, sales channels, and payment processors. It is fully compliant with federal, state, local, and industry standards, and our payment processing environment undergoes an annual Level One Service Provider audit under the PCI DSS and an annual SOC 2 Type II assessment. NIC's TPE payment solution is PCI Level 1 compliant. |
| PMT-2 | Will the Solution be IAT (International ACH (Automated Clearing House) Transaction) compliant? Please describe. | Y | VI can support IAT compliant transactions if requested to do so, however VI's parent company NIC has made a business decision not to accept ACH payments specifically funded by a foreign source (bank or company), an International ACH Transaction ("IAT"). |
| PMT-3 | Will the Solution be NACHA (National Automated Clearing House Association) compliant? Please describe. | Y | VI uses NIC's TPE payment solution is compliant with all banking standards, including all ACH standards as defined by NACHA. VI has been NACHA compliant since we implemented our first ACH customer in 2003. All of the ACH payments processed through our payment portal for current services are NACHA compliant. |
| PMT-4 | Will the Solution have the ability to use batch processing? Please describe. | Y | NIC's TPE payment solution can perform batch capture for credit card transactions, but the default scenario for most services is real-time capture which are settled daily. For batch transactions, Credit Card payments are first authorized, and then stored. The payment capture is done at a later time using a batch capture jobs that runs on the backend. |
| PMT-5 | Will the Solution have the ability to use ACH Batch processing? Please describe. | Y | VI has the ability to use ACH batch processing through our payment portal. NACHA files with ACH transactions are created and submitted through NIC's TPE payment solution and sent to the bank. VI can work with the agency requesting the service to determine the rules and process for receiving, submitting, and managing ACH batches. |
| PMT-6 | Will the Solution have a process to track and monitor transactions, including potentially fraudulent activities? Please describe. | Y | VI is committed to ensuring citizens' privacy through the use of state-of-the-art information security and the adoption of appropriate privacy policies and procedures. VI has implemented the following measures to maintain the security and integrity of our payment processing customers including transaction tracking:<br><br>• Uses TLS encryption<br>• Network scanning to identify potential vulnerabilities<br>• Regular monitoring for duplicate transactions and unavailability of credit card gateways<br>• IP monitoring to detect and restrict fraudulent activities<br>• Offers 24x7x365 monitoring of VI's payment portal and associated applications<br>• Provides access to password protected payment transaction log tools<br>• Detailed logs are kept for every financial transaction, including all communication between VI and the credit card payment processing and ACH processing vendors. This includes all successful and failed transactions.<br>• Tripwire file integrity systems are installed and configured to monitor all data files controlling payment processing. If these files are modified, alerts are generated notifying both administrators and management, that an unauthorized modification has taken place.<br>• All information requests must pass through multiple hardware and software security firewalls as well as sophisticated intrusion detection and prevention systems<br>• NIC monitors chargeback activitiy, which includes refunds and returns, through TPE. Any red flags are escalated for further review.<br>• NIC also offers optional additional fraud prevention solutions, including Early Warning services for ACH transactions and AVS validation for credit card transaction. |
| PMT-7 | Will the Solution have a typical process/methodology for payment processing? Please describe, and include what you require to complete your process, assumptions, etc. | Y | VI understands payment processing in the Commonwealth and comes prepared to determine the proper implementation of a payment processing solution for that customer. An important question is whether the customer wishes to (1) implement an existing VI enterprise solution, (2) create a custom solution that meets their needs, or (3) use the VI web service for payment processing. VI provides enterprise solutions for services such as shopping carts, event registrations, and over-the-counter payments. These solutions are easy to set up and often have administrative components that allow the agency to manage functions like content control, order fulfillment, and reporting. However, these solutions may not be ideal for specialized business processes. In those cases, VI can build custom solutions that includes the interface to the payment processing component. Alternatively, a secure web service interface to the VI payment portal exists. Using this interoperable interface, entities across the Commonwealth can collect payment information in their own systems and securely communicate via XML to VI to handle the processing. The web service approach eliminates the need for customized development by VI. VI works diligently with the customer to determine which approach will best suit their requirements, existing solutions, deadlines, and capabilities. |
| PMT-8 | Will the Solution support electronic payments? Please describe which types you support (i.e. echecks, ACH, credit card, etc.) | Y | The proposed solution can accept the following payment types: electronic check (ACH), credit and debit cards, and PayPal. VI can support American Express, Discover, MasterCard, and Visa credit cards depending on the specific needs of the agency, the transaction, and the capabilities of the Commonwealth's payment processor. VI can support real-time and batch capture models for credit cards.<br><br>NIC also offers an electronic wallet, called eGov Express. Payments can be taken through Over the Counter using NIC's OtC solution or through NIC's IVR payment solution.<br><br>Monthly accounts are typically established for businesses that interact with government frequently. TPE supports these monthly accounts through NIC's Customer Database module. Functionality exists in the Customer Database to allow for the extended storage of sensitive credit card and ACH data to facilitate recurring and subscription-based payments in full compliance with PCI DSS.<br><br>TPE is also able to process drawdown (escrow) payments for all monthly account subscribers. Subscribers' pre-payments will be validated and stored in the Customer Database so as subscriber's login and transact business online, relevant fees will be deducted from their account and their balance will be drawn down. Once an account is drawn down, customers will get a notice asking them to replenish their account before further transactions can be processed. |
| PMT-9 | Will the Solution give customers the option to make either partial and full payments on accounts? Please describe. | Y | VI will build in the ability for the user to pay full or partial balance payments on their accounts for services that allow these types of payments. The website owner will be able to specify whether partial payments are allowed based on transaction type. |
| PMT-10 | Will the Solution allow the website owner to designate when partial payments are allowed? Please describe. | Y | The website owner will be able to specify whether partial payments are allowed based on transaction type. |

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| **PayProc** | **Specification** | **A** | | **B** |
| PMT-11 | Will the Solution give customers the ability to make a single payment for multiple services (i.e. shopping cart)? Please describe. | Y | If a service chooses to support this feature, customers will be able to add products to a shopping cart, and the customer will have the opportunity to check out with a single payment. During check out, the customer will proceed to a secure online payment interface where they will complete the transaction. TPE supports comprehensive business rules for splitting payments received and will do the splitting of the transaction into the defined accounts in the daily settlement file. The example below is of the MyStafford Payment Portal and the concept of a shopping cart, where you can make a single payment for multiple service is highlighted.<br><br>Read more here: https://vi.virginiainteractive.org/vi/success-mystafford.shtml<br><br> | |
| PMT-12 | Will the Solution give the website owner the ability to designate what type of payment is allowed by transaction type (i.e. tax payments may only be made by electronic check while fishing licenses may be made by any electronic payment method) Please describe. | Y | VI understands that not all payment methods are appropriate for all types of transactions, nor all government entities. VI works directly with each partner to ensure that the proper payment methods are offered for each payment processing service. Credit cards (and debit cards with the Visa/MasterCard Logo) are well suited for Internet payments because they allow the merchant to obtain a real-time authorization that validates that the card is in good standing and has the adequate funds available. With ACH/echeck there are limited methods to perform real-time authorization checks to ensure that a customer's bank account is in good standing and has sufficient funds but there is a much smaller fee for larger ticket items. Many times, in fact, the merchant does not even know whether the account number provided actually exists until after the money is received by the merchant. This can lead to a high return rate for certain types of services, which can present operational challenges.<br><br>The NIC TPE administrative site allows administrators to set what payment types (credit cards or ACH payments) or processors (PayPal, Elavon, Monetra, etc.) are allowed for each individual service. If a user is paying more than one bill at a time, with different method of payment requirements they will receive a detailed explanation stating the method of payments available for each transaction type.<br><br>The below screenshot shows the current payment configuration for the City of Alexandria tax payments. A TPE admin is able to enable and disable specific payment types for individual services by selecting the appropriate options.<br><br> | |
| PMT-13 | Will the Solution give an authorized business user the ability to change the types of payments allowed at any time? Please describe. | Y | The authorized business user will be able to customize the method of payment (i.e. electronic check, credit card) by transaction type. This will be configured in the NIC TPE Payment Engine. A TPE administrator can change the the types of payments allowed for each service at any time.<br><br> | |
| PMT-14 | Will the Solution allow for voluntary donations/contributions to specified funds? Can these voluntary donations/contributions be made free of fees? Please explain. | Y | The proposed solution has the ability to accept donations or contributions during the payment processing. The system is capable of setting a particular item to not charge convenience or transaction fees when specified and agreed to in a statement of work. | |

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| **PayProc** | **Specification** | **A** | **B** |
| PMT-15 | Will the Solution conspicuously and clearly state all applicable fees (i.e. convenience, credit card, etc.) charged to a customer for conducting a payment?  Please explain. | Y | The proposed solution will clearly list all applicable fees associated with making a payment online for each service.  VI will work with the Commonwealth on the agreed upon wording to meet industry and state requirements.  In the example below, help text is shown that clearly states all applicable fees (i.e. convenience, credit card, etc.) charged to a customer for conducting a payment.<br><br>Read more here:  https://vi.virginiainteractive.org/vi/success-mystafford.shtml<br><br> |
| PMT-16 | Will the Solution payment process make known all applicable fees during the session, prior to confirmation of payment, and require that the customer affirmatively consent to the confirmation of payment before processing the payment transaction?  Please describe. | Y | The proposed solution will clearly expose all fees with a description associated with the transaction.  Convenience and statutory fees will be clearly delineated with appropriate  details.  The customer will be presented with an opportunity to confirm understanding or cancel the transaction prior to processing the payment transaction.  Once the user has selected payment(s) they wish to process during the transaction, the payment(s) are listed as line items, along with any applicable service fees.  The user must provide an affirmative confirmation before submitting payment, as can be seen in the example below.<br><br>Read more here:  https://vi.virginiainteractive.org/vi/success-vasap.shtml<br><br> |
| PMT-17 | Will the Solution clearly state that convenience and/or credit card fees are not associated with the website owner?  Please describe. | Y | The proposed solution will clearly state all fees associated with the payment and include descriptions and explanations such as the fees are not associated with the website owner.  VI can customize the wording on the checkout page to meet the website owner's needs.  The informational text in the screenshot below, states that the convenience and/or credit card fees are not associated with the website owner which displays when a user clicks the "What is this?" link.<br><br>Read more about the Alexandria Payment Portal here:  https://vi.virginiainteractive.org/vi/success-alexandria.shtml<br><br> |
| PMT-18 | Will the Solution provide payment processing of credit card, e-check, and ACH payments at rates/fees that are comparable to those offered by other national payment processors?  Please describe. | Y | VI provides NIC's payment processing solution (in use in the Commonwealth today) that includes payment processing fees that are comparable to those offered by other national payment processors for similar offerings.  VI offers a low-risk pricing strategy that has resulted in NIC providing payment services across the country resulting in over $18 Billion government funds processed in 2018. Our pricing model includes:<br><br>• Simple, no-nonsense, per transaction fee (% and/or flat fee) regardless of card type or channel.<br>• No additional fees for payment service set-up, implementation, training, support, chargebacks, return items, monthly minimums, address verification fee, and ongoing replacement of all current equipment is covered under this simple financial model.  No additional change orders for items reflected and required in the SOW.<br>• Proposal includes an in-state executive, team and office focused exclusively on engaging and supporting Commonwealth payment services and the successful deployment and use of the NIC payment processing suite. |

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| **PayProc** | **Specification** | **A** | **B** |
| PMT-19 | Will the Solution provide statements and/or receipts with fees states separately and distinctly? Describe. | Y | The proposed solution will provide a payment receipt that clearly itemizes the individual fees separately and distinctly and also provides the total paid by the customer. The example below is from the Amelia County Parks & Recreation application and is representative of our payment solutions receipts which breaks out fees separately and distinctly.<br><br>Read more about Amelia's Parks & Recreation application here: https://vi.virginiainteractive.org/vi/success-amelia.shtml<br><br> |
| PMT-20 | Will the Solution require customer approval of fees prior to initiating credit authorizations? Describe. | Y | The proposed solution will clearly expose all fees with a description associated with the transaction. The customer will be presented with an opportunity to confirm understanding or cancel the payment prior to completing the transaction. This intent is confirmed by successfully completing the CAPTCHA challenge, as highlighted in the screenshot below.<br><br>Read more here: https://vi.virginiainteractive.org/vi/success-mystafford.shtml<br><br> |
| PMT-21 | Will the Supplier seek review and approval of VITA and the website owner prior to changing any convenience fees? Please describe. | Y | VI will establish a process for changes to convenience fees that will include all pertinent parties including VITA and the website owner. VI will not modify convenience fees to customers without written agreement from VITA and the website owner that specifies the exact amount and circumstances when convenience fees will be applicable. |
| PMT-22 | Will the Solution include the ability for a website owner to be the merchant of record? Describe. | Y | The proposed solutions will allow for the website owner to be the merchant of record. This is the normal approach for payment processing services provided by VI in the Commonwealth today. The solution has the flexibility of allowing the website owner to have VI to be the merchant of record if the situation should arise for that model to be employed. VI's payment solution is used under both scenarios for governments across the United States. |
| PMT-23☐ | Will the Solution provide all equipment and software for the purpose of accepting credit card, debit card and e-check payments? Please describe. | Y | The proposed solution will include all equipment and software required to accept credit card, debit card and e-check payments online. VI will also provide over-the-counter services through NIC's Payment Suite. NIC's Payment Suite comes out of the box with support for MagTek USB credit card swipe readers and/or check readers. These readers are injected with a custom NIC encryption key prior to being shipped out, so that all transactions have end-to-end encryption to secure the data in transit. The NIC Payment Suite comes with real-time cashiering reports and is integrated with TPE to provide daily, weekly, monthly, and yearly financial reports for reconciliation. |
| PMT-24 | Will the Solution provide Interactive Voice Response (RVR) payment options? Please describe. | Y | The proposed solution can include IVR as a payment option. VI leverages an IVR provider to operate VI's IVR services. VI can provide IVR scripts, application development, payment processing, voice recording, and other IVR services for the Commonwealth. |
| PMT-25 | Will the Solution provide foreign language payment options? Please describe | Y | The proposed solution can utilize real-time translation services to provide translation of customer facing content. VI has successfully utilized Google Translate which allows for up to 85 languages. Our recommendation would be to enable the most common languages for the state of Virginia - English, Spanish, Chinese, Dutch, French, German, Italian, Japanese, and Korean. |
| PMT-26 | Will the Solution supply real time reporting capabilities to identify and confirm payments made through the system? Please describe. | Y | It is imperative that agencies are able to quickly access transaction-level financial data for internal purpose as well as customer support. Within the NIC Payment Engine, all payment processing data is made available via a wide variety of reporting features out-of-the-box. Reports range from summary reports to detail reports showing line-item level data. In addition to generating reports, the Payment Engine provides a powerful order research tool that allows authorized representatives to quickly locate transactions. This tool allows staff to search and filter transactions based on a number of criteria, and once a search is executed, additional detail is available by selecting an individual transaction from the search results screen. The full details of a selected transaction include:<br>• Payment status information<br>• Full financial history of the transaction including refunds and returns<br>• Customer contact information<br>• Payment method with masked account information<br>• Line-item details of the transaction<br>• Comments from other administrators regarding the transaction<br><br>The Payment Engine also provides a rich set of configurable reports. These reports are targeted towards common audit points in the funds flow process to facilitate financial audit processes. These standard reports include:<br>• Summary reports, rolled up by agency and service<br>• Detail reports at a transaction level<br>• Detail reports at a line-item level<br>• Reports on refunds and returns (such as chargebacks)<br>• Settlement batch and deposit reports<br>• Disbursement reports<br><br>Once a report is generated, it can be printed or exported into multiple file formats. |

| PayProc | Specification | A | B |
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| PMT-27 | Will the Solution provide the website owner with a specified account number or identifier to allow proper posting of payments by website owners to accounts receivable? Please describe. | Y | VI's payment solution allows a service to specify the account that the funds should be settled to. This information can be configured by service and disbursements can be split across accounts. All of these features can be implemented by an administrator through the admin interface. |
| PMT-28 | Will the Solution be interfaced with existing billing information as provided by the website owner? Please describe. | Y | The proposed solution will include the ability to integrate with existing systems provided by the website owner including existing system that hold billing information. VI typically integrates with external systems through APIs, Web Services, and file transfers. VI will work with the website owner to determine the appropriate integration method for getting the information to the solution and completing the payment transaction. |
| PMT-29 | Will the Solution include a process/file to update data in existing systems as an automated posting transaction? Please describe. | Y | VI provides file transfer services over all of the main secure file transfer protocols. SFTP (file transfer over SSL), FTPS (file transfer over SSH) and SSH-2 are included in our proposed solutions. VI currently uses custom data file exchanges with a number of localities and agencies for system integration purposes. All payment formats can be separated and suitably formatted for integration with the website owner's current billing software. |
| PFM-30 | Will the Solution ensure electronic deposit of payments into website owner defined bank accounts within 24 hours of payment? Please explain. | Y | The solution will ensure electronic deposit of payments into the owner defined bank account within 24 hours of payment if the following conditions remain true:<br><br>For ACH Payments - VI can continue to process funds through the Commonwealth's bank account via ACH Express. Payment files will be processed nightly and the funds are deposited the following business day.<br><br>For Credit Card Payments - The Commonwealth partner is the Merchant of Record and the Commonwealth's processor agrees to a 24 hour settlement timeframe.<br><br>If VI is Merchant of Record the funds will be disbursed within 48 hours. |