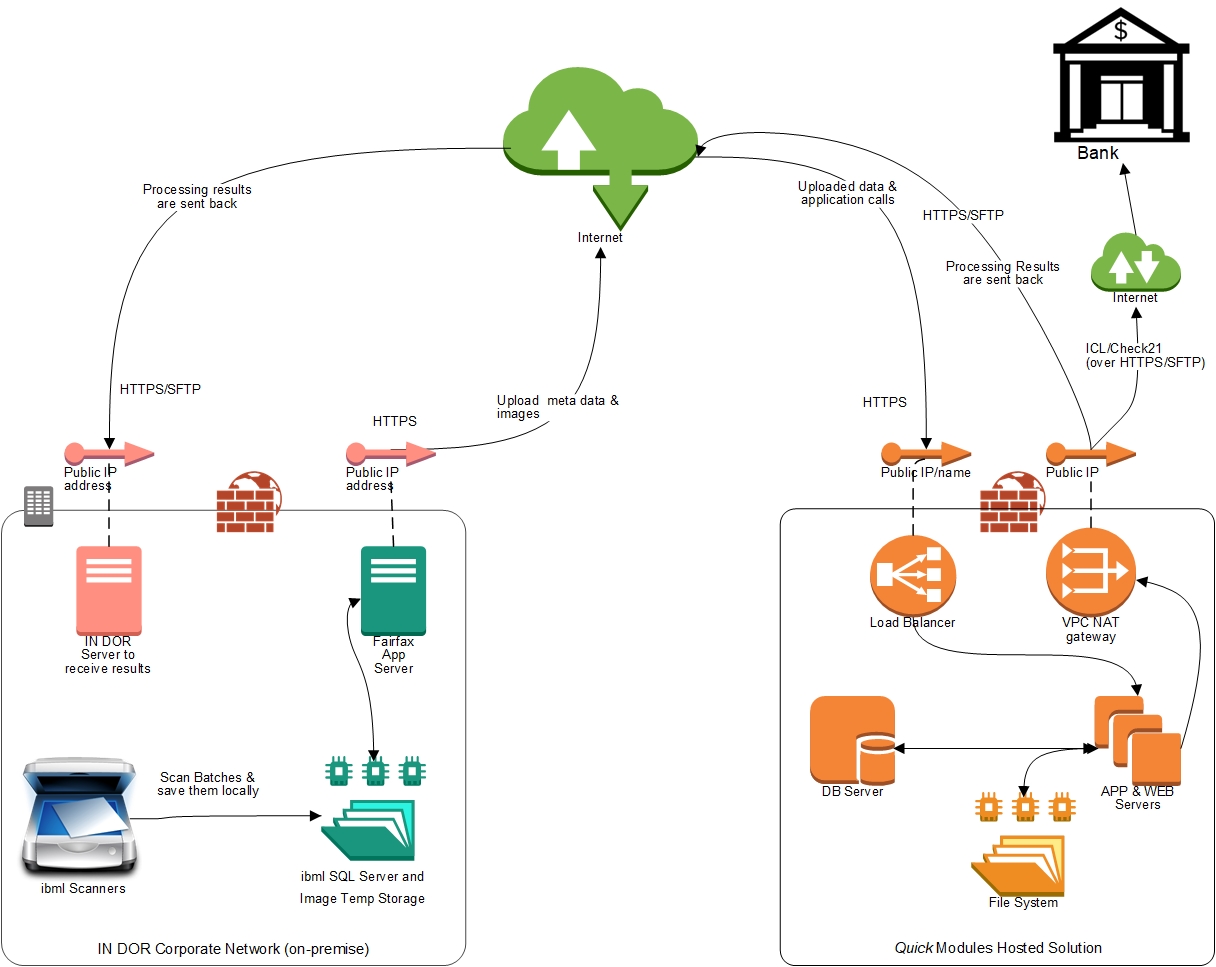
**RFP 21-1788 Clarification**

**INSTRUCTIONS**

***Instructions:*** *Please provide responses to the clarification question(s)/prompt(s) below. Information provided in the clarification responses will be considered as part of the respondent’s proposal. Where appropriate, supporting documentation may be referenced by specific page and/or paragraph number(s). If any of the responses contain confidential information, as defined by IC 5-14-3, please reference the attached confidential material and separate from the rest of this response document. Otherwise, a redacted version of this clarification document will need to be submitted.*

**DUE DATE: September 11, 2020 BY 12:00 PM EDT**

| **Section/Topic** | **Clarification Question** | **Respondent Response** |
| --- | --- | --- |
| Application Support | How do you manage version control? Or recovery from a failed rollout? | Fairfax Software uses Subversion (SVN) for version control.  For our Commercial-Off-The-Shelf (COTS) software, Fairfax Software follows procedures that are utilized corporate-wide in our software development environments. This procedure is:   * The first version of the software is developed, tested, and baselined. * Once a modification or an enhancement is identified, it undergoes rigorous testing by the QA/QC team. * Changes are assigned a level. This level can be one the following:   + 1. Major modification: This requires a new integer release number; for example, it would be upgraded from 2.1 to 3.0.     2. Minor modification: This requires a decimal release change, for example it would be upgraded from 2.1 to 2.2.     3. Bug fix: This is usually released as a patch or a service pack, and requires a sub-decimal change, which has the date included, for example it would be upgraded from 2.2 to 2.2.6.15.2008.   For our baseline and improvements, we follow a strict configuration management/version control methodology. This methodology consists of:   * Our systems are baselined and subjected to rigorous configuration management during development, implementation, and production. * The test environment and production environment are separate and distinct domains. * Changes and modifications are rigorously controlled, tested, and managed before they are released into our production environment. * Systems administration functions are clearly defined. * Documentation is updated and placed into libraries before the modifications are put into production. * Problem reports and resolutions are subject to the same configuration controls as large system changes and modifications.   Changes to the *Quick* Modules solution are performed within the *Quick* Modules Studio (QMS) administrative tool. QMS is also responsible for deploying any changes to the solution.  QMS is responsible for setting and configuring the entire *Quick* Modules system, in a highly intuitive, graphical, and user-manner. QMS serves as a centralized development environment that allows the development, testing, and deployment of applications within *Quick* Modules. Several features make QMS unique and tailor made for forms and remittance processing industry:   * The development of applications can occur outside the production environment of *Quick* Modules. This allows developers to maintain the system without the need to interrupt production activities. * They system allows the user to have multiple “builds” or environments. For example, oftentimes users require a development, test, and production environment. With QMS, the developer can easily maintain all three environments and at any time roll back to a previous build should the need arise. * Designed to be intuitive, QMS offers a graphical workflow setup and design. * Developers can maintain a library of user validations and rules that are common across all forms and/or applications. * Within QMS, the user is allowed to set up all fields needed for recognition, as well as test the accuracy of the system for feedback and optimization prior to deployment.   QMS is the single location for all job setup - from forms and remittance processing to security for users, test environments to designing workflows. Designed for administrators and non-developers, QMS is a separate program with tools incorporated to save time and provide a technical, safe environment for creating new builds. Each “build,” in turn, becomes a *Quick* Modules solution.  When a build is selected QMS informs the administrator of the build number loaded and not the current deployed solution. The administrator can examine the previous builds without affecting the deployed solution, in production, test, or development environments. This allows the administrator to freely examine previous forms or rules without deploying the solution. If required, any previous builds can be re-deployed to replace the current deployed solution, in order to recover from a failed rollout for example. |
| SLAs | Please provide a response to SLA400 and SLA600 in the Technical Proposal. | Response provided in the updated Attachment F – Technical Proposal spreadsheet. |
| Technical Proposal | Does your proposed solution have the capability to work/function in a virtual server environment? (Database, web server, and application) | Yes, the proposed solution is fully compatible with virtual solutions, such as VMware and MS Hyper-V. |
| Technical Proposal | Please provide additional information regarding the cloud hosed solution option and how the cloud hosted solution would differ from the on-premise solution as it relates to infrastructure, backup/recovery, and impact to interfaces. | There are two options available to DOR for maintaining and operating the infrastructure necessary to install and operate the system. One is to conduct the implementation within DOR’s IT environment. In this on-premise approach, all acquisition, maintenance, support, monitoring and updates to the IT infrastructure is the responsibility of DOR. The pricing provided to DOR included this on-premise approach.  The second approach is to use Fairfax Software’s hosted environment where all infrastructure, maintenance and monitoring of the components are provided by Fairfax Software thereby limiting DOR’s involvement. Should DOR desire this hosted approach, Fairfax Software can provide alternative pricing. Fairfax Software is offering DOR the following for the *Quick* Modules server infrastructure optional approaches:   1. **On-Premise Installation:**   An on-premise installation at DOR would consist of all related server hardware housed at the DOR location. DOR is responsible for installing, monitoring, support and maintenance of all related infrastructure hardware. The current *Quick* Modules solution is installed on-premise at DOR today.   1. **Fairfax Software Cloud-Hosted Solution**   Fairfax Software can provide DOR with a complete cloud-based hosted solution, fully managed and supported by Fairfax Software. Fairfax Software’s hosted services use Amazon Web Services (AWS). All virtual servers are located in the AWS cloud which is spread across multiple data centers throughout the country, ensuring high-availability and business continuity. The entire solution is hosted on Fairfax Software servers in the AWS cloud. AWS has a rigorous compliance and testing program that follows a number of security best practices, including FedRAMP.  For solutions that require the highest level of security AWS offers isolated regions designed to allow U.S. government agencies and customers to move sensitive workloads into the cloud by addressing their specific regulatory and compliance requirements.  SOC 2Fairfax Software follows industry best practices for protecting customer and company data, networks, and systems from any disaster. Fairfax Software ensures that DOR’s data is protected through the use of an enterprise backup solution.  Fairfax Software’s *Quick* Modules solution is SOC 2 Type 1 compliant. Independent auditors have examined the *Quick* Modules SaaS Application Services system as of January 15, 2019, based on the criteria for a description of a service organization’s system in DC section 200, *2018 Description Criteria for a Description of a Service Organization’s System in a SOC 2® Report* (AICPA, *Description Criteria*), and the suitability of the design of controls stated in the description as of January 15, 2019, to provide reasonable assurance that Fairfax’s service commitments and system requirements were achieved based on the trust services criteria relevant to Security, Availability, Processing Integrity, Confidentiality, and Privacy (applicable trust services criteria) set forth in TSP section 100, *2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy* (AICPA, *Trust Services Criteria*).  Fairfax Software engineers do not access customers’ sensitive data in the cloud, only test data is provided by our customers during the implementation phase. Fairfax Software does not use any subcontractors in our solutions.  All Fairfax Software personnel are screened prior to hire to minimize the risk of attacks from internal sources. Background checks are performed by Fairfax Software on members of the software development team. Additional vetting, as requested by our customers, are also performed.  All software maintenance fixes and releases are performed by Fairfax Software engineers. Moreover, Fairfax Software coordinates with DOR to manage the release of software fixes, and ensure that any update does not impact production. All updates will be performed after hours and will follow the same procedures for system implementation.  Any security related incident, or defect, and all related patches to resolve the defects are assigned ticket numbers and tracked in our internal tracking system called Request Tracker (RT). The RT system allows Fairfax Software and DOR to monitor progress on any RT ticket related to the proposed solution. The Fairfax Software QA team will vigorously test all patches and Service Packs internally before they are applied in the hosted solution.  **Hosted *Quick* Modules Solution:**  Fairfax Software provides the option for DOR to have Fairfax Software host the infrastructure needed to operate the entire *Quick* Modules 5.0 solution. The entire solution is hosted and managed by Fairfax Software. Fairfax Software engineers will be responsible for managing the entire solution, including any updates, maintenance, and backup of the solution.  The hosted *Quick* Modules solution works in a very similar fashion to an on-premise installation. Batches are scanned to a local file server; a service monitors the folder for any new batches and automatically uploads the batch to the cloud for processing. Transactions are then available in their dedicated queues for immediate processing.  The *Quick* Modules end-user applications are web-based, therefore, no software installation is required on end-users’ workstation. End-users access the web-based applications through a secure connection using their web browser. Transaction processing speed in the hosted solution will be similar to the speed for an on-premise solution. All processing takes place on servers located in the Fairfax Software cloud.  The Fairfax Software cloud solution uses secure protocols throughout the system to ensure the confidentiality and integrity of DOR’s data, both at rest and in transit.  The following are the only DOR requirements for the hosted solution:   * DOR will be responsible for all operator workstations. * DOR will provide on-premise storage where batches scanned by the scanners will be stored. This is required in order for the scanners to store the images locally. * DOR will provide an application server that will run Fairfax Software software responsible for transferring scanned data to the cloud based *Quick* Modules solution. * DOR will provide an interface that will be used to send output data generated by the system. If required, Fairfax Software will provide a static IP address from which communication will originate. * Internet access is required, in order to access the secure web applications in the cloud. Adequate Internet bandwidth/speed is required. If the Internet connection experiences any slowdown end-users will also experience slowdown in transaction processing speed.   *Quick* Modules is designed to collect images from any centralized, remote, or external scanning device and process these as transactions intermixed. The integrated workflow moves these transactions through our solution expediting those transactions with remittances based upon queues within the system. DOR scans the documents using scanners located on-site.  The *Quick* Modules solution will then upload the newly scanned documents using an encrypted tunnel to Fairfax Software’s cloud for processing. A dedicated application server at DOR’s site, running Fairfax Software software, is responsible for transferring scanned data to the hosted *Quick* Modules solution. The scanned data will be automatically cleaned up after a predefined number of days. The application server monitors the incoming batches from the scanners and securely uploads all images to the cloud for processing.  Once the batches are uploaded to the cloud the *Quick* Modules Workflow Manager begins processing the transactions through the workflow. The application of several recognition engines provides the best possible translation of image to data for both structured and unstructured forms. The validation and balancing step ensures the most accurate remittance processing possible for eventual electronic transmission to the bank via Check 21. Stringent and robust business rules are provided to clean the data captured from the wide variety of forms and transmit that data and images securely to downstream systems located at DOR’s site.  Once the images are processed and validated in the hosted *Quick* Modules solution, DOR’s end-users can securely access the data entry web-based application from DOR’s site using a web browser, for further processing and/or balancing.  All workflow monitoring and reporting can also be securely accessed by a supervisor through a web browser which will launch the dedicated web-based application located in Fairfax Software’s cloud.  **On-Premise Vs. Hosted Solution**  In an on-premise installation, DOR will be responsible for procuring all necessary new infrastructure hardware/software, such as:   * Servers * SAN * Network Switches * UPS/Power * All server-related software: MS Windows Server, MS SQL Server, VMware (recommended)   DOR is also responsible for installation and configuration of the entire infrastructure required for the *Quick* Modules solution. Once all servers and storage are up and running, and the SQL Server is installed and ready Fairfax Software can begin installing and configuring the new *Quick* Modules solution.  If DOR does not have the required server infrastructure to host the new *Quick* Modules solution, it could result in delays to get the new solution up and running. An order with the State’s server vendor must be placed to receive the necessary server infrastructure.  For the Fairfax Software hosted solution, the entire solution is hosted and managed by Fairfax Software. Fairfax Software engineers will be responsible for managing the entire solution, including any upgrades, software patches (both Fairfax Software and third party generated), updates, maintenance, and backup of the solution. Furthermore, Fairfax Software will be responsible for all AWS hosting and environment costs.  Deploying a new *Quick* Modules solution in the Fairfax Software cloud is a much simpler and quicker process than an on-premise installation at DOR. Procurement of new infrastructure hardware is not required and all solution-related servers can be easily deployed as virtual machines with the proper server resources in the AWS cloud. The entire infrastructure can be easily scaled to accommodate any increase/decrease in transaction volume. AWS instances (virtual servers) can be easily and quickly deployed in preparation for a new *Quick* Modules installation, no need to wait for any server hardware to be ordered and shipped from the server vendor.  Fairfax Software’s hosted solution provides a highly scalable solution with high availability, reliability, and the flexibility to enable DOR to grow based on their needs. The solution provides DOR with a secure environment that ensures the confidentiality, integrity, and availability of their data to meet stringent compliance requirements. |
| Technical Proposal | Where in the proposed infrastructure do the web servers, application servers, and other system components reside? Are there any additional firewalls? | For our hosted solution, all *Quick* Modules related servers are located in the Fairfax Software cloud, securely hosted in AWS.  Fairfax Software follows industry standards to ensure all data is secure. Data within the hosted solution is encrypted following Federal Information Processing Standard (FIPS) Publication 140-2 standards (FIPS PUB 140-2). Data at rest and in transit is encrypted, including the database and any data exchanged between modules within the proposed solution. All communication from client machines to the *Quick* Modules hosted environment will be encrypted over HTTPS utilizing TLS 1.2. *Quick* Modules is also NIST SP 800-53 compliant and is currently undergoing ADA 508 compliance testing.  Data is transmitted to/from the web servers over SSL with a minimum version of TLS 1.2. These servers have valid, not self-signed certificates installed. Data is encrypted at rest using Transparent Data Encryption (TDE) feature of SQL server. All server instances except VPN server are located in the private subnets in completely isolated VPC and traffic between instances is not encrypted. Web servers are in the same internal VPC with no external access. Traffic to VPN server is over HTTPS and VPN server is configured for MFA. All environment related management is performed through hardened jump server.  All data changes performed from outside the application are audited. This audit provides login information, date/time, IP address, old field value, and new field value.  **Network Perimeter Security**  The solution is hosted in AWS in isolated VPC that has no direct connectivity to Fairfax Software’s internal network. Services such as Network ACL and Security Groups are used to control traffic making sure that only allowed data enters and exists each server instance. Trend Micro's Deep Security protects against network attacks and the latest vulnerabilities with network security.  **IDS/IPS**  Fairfax Software uses Trend Micro's Deep Security Intrusion Prevention module. This module inspects incoming and outgoing traffic to detect and block suspicious activity. This prevents exploitation of known and zero-day vulnerabilities. Deep Security supports "virtual patching": you can use Intrusion Prevention rules to shield from known vulnerabilities until they can be patched, which is required by many compliance regulations. Deep Security is configured to automatically receive new rules that shield newly discovered vulnerabilities within hours of their discovery.  The Intrusion Prevention module also protects the web applications and the data that they process from SQL injection attacks, cross-site scripting attacks, and other web application vulnerabilities until code fixes can be completed.  **Anti-Virus**  Trend Micro anti-malware module eliminates threats while minimizing the impact on system performance. The anti-malware module can clean, delete, or quarantine malicious files. It can also terminate processes and delete other system objects that are associated with identified threats. Alerts are sent when any issue related to an instance protection are discovered. Both definitions updates and software updates are automatically downloaded and installed. Definitions updates are checked daily and installed on clients daily or as needed.  A diagram of Fairfax Software’s cloud hosted solution is provided at the end of this document. |
| Costs | Is peak processing hours support included within your cost proposal? See requirement P0300 and the State's answer to question #28 from the Q&A. If not, please incorporate into your cost proposal. | Yes, peak processing hours support is included in our cost proposal. |



**Figure 1 – Fairfax Software Cloud Hosted Solution**