



Department of Health

Request for Proposals

RFP # 17786

Maintenance and Enhancement of the Web-Based New York State Immunization Information System

Issued: May 7, 2018

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1.0 CALENDAR OF EVENTS

RFP #17786-NYSIIS Maintenance and Enhancement	
EVENT	DATE
Issuance of Request for Proposals	May 7, 2018
Deadline for Submission of Written Questions	May 30, 2018 by 3:00 p.m. ET
Responses to Written Questions Posted by DOH	On or About June 20, 2018
Deadline for Submission of Proposals	July 9, 2018 by 3:00 p.m. ET
Anticipated Contract Start Date	May 1, 2019

2.0 OVERVIEW

Through this Request for Proposals (“RFP”), the New York State (“State”) Department of Health (“DOH”) is seeking competitive proposals from qualified, responsive and financially sound vendors that will assume responsibility for system maintenance, enhancements, technical support, user support, including Tier 3 help desk support, of the New York State Immunization Information System (NYSIIS), as further detailed in Section 4.0 (Scope of Work). It is the Department’s intent to award no more than one (1) contract from this procurement.

2.1 Introductory Background

NYSIIS is a confidential, secure, web-based system that collects and maintains demographic, immunization, and blood lead test information in one consolidated record for persons of all ages in New York State (excluding New York City). As of April 17, 2018, NYSIIS contains 8.28 million patients, 103 million immunizations, and 3.0 million blood lead test results. There are more than 29,650 users from an estimated 5,500 health care provider organizations, 1,939 pharmacies, 29 health plans and 4,090 schools. As of April 1, 2018, 93.6% of NYS children (outside of NYC) less than six years of age have two or more immunizations recorded in NYSIIS.

The NYSIIS application has been in production since 2008 and is currently in the maintenance and operations phase. The NYSIIS application still requires completion of a significant number of updates to become fully compliant with federal recommendations and NYSDOH business requirements. In addition the vendor shall implement ongoing activities that include expanding the scope of NYSIIS to collaborate with other NYSDOH health information exchange initiatives, such as the Immunization Bi-Directional Information Exchange Project (working to connect NYSIIS to the Universal Public Health Node to facilitate health information exchange with Regional Health Information Organizations (RHIOs) and participating providers), and the Child Health Information Integration, (focused collaborative effort to develop a feasible solution for the seamless integration of the health information of New York’s children). Overall, the vendor shall support and maintain the NYSIIS.

The NYS Office of Information Technology Services (ITS) was established in November 2012 to provide centralized IT services to NYS and its governmental entities, with the awareness that NYS residents are reliant on those services. ITS sets technology policy for all state government agencies and monitors all large technology expenditures, seeking efficiencies, lower costs, and innovative solutions. For this project, ITS will work collaboratively with the NYSDOH and the selected contractor, provide data center hosting services, including hardware, operating system and network services, and oversight for information security policies and technical architecture.

2.2 Important Information

The Bidder is required to review, and is requested to have legal counsel review, Attachment 8, the Sample DOH Contract as the Bidder must be willing to enter into an Agreement substantially in accordance with the terms of Attachment 8 should the Bidder be selected for contract award. Please note that this RFP and the awarded Bidder's proposal will become part of the contract as Appendix B and C, respectively.

It should be noted that Appendix A of Attachment 8 contains important information related to the contract to be entered into as a result of this RFP and will be incorporated, without change or amendment, into the contract entered into between DOH and the successful Bidder. By submitting a response to the RFP, the Bidder agrees to comply with all the provisions of Appendix A.

Note, Attachment 7, the Bidder's Certifications/Acknowledgements, should be submitted and includes a statement that the Bidder accepts, without any added conditions, qualifications or exceptions, the contract terms and conditions contained in this RFP including any exhibits and attachments. It also includes a statement that the Bidder acknowledges that, should any alternative proposals or extraneous terms be submitted with the proposal, such alternate proposals or extraneous terms will not be evaluated by the DOH.

Any qualifications or exceptions proposed by a Bidder to this RFP should be submitted in writing using the process set forth in Section 6.2 (Questions) prior to the deadline for submission of written questions indicated Section 1.0 (Calendar of Events). Any amendments DOH makes to the RFP as a result of questions and answers will be publicized on the DOH web site.

2.3 Term of the Agreement

This contract term is expected to be for a period of five (5) years commencing on the date shown on the Calendar of Events in Section 1.0, subject to the availability of sufficient funding, successful contractor performance, and approvals from the New York State Attorney General (AG) and the Office of the State Comptroller (OSC).

3.0 BIDDERS MINIMUM QUALIFICATIONS TO PROPOSE

NYSDOH will accept proposals only from organizations which meet the following experience requirement as a prime contractor:

- A minimum of three (3) years of experience modifying the Wisconsin Immunization Registry (WIR) to meet other state Immunization Information Systems (IIS) requirements OR
- Five years general IIS experience. This may include development and/or support of an operational system.

For the purposes of this RFP, a prime contractor is defined as one who has the contract with the owner of a project or job and has full responsibility for its completion. A prime contractor undertakes to perform a complete contract and may employ (and manage) one or more subcontractors to carry out specific parts of the contract.

Failure to meet these Minimum Qualifications will result in a proposal being found non-responsive and eliminated from consideration.

4.0 SCOPE OF WORK

This Section describes the services that are required to be provided by the selected Bidder. The selected Bidder must be able to provide all of these services throughout the contract term.

PLEASE NOTE: Bidders will be required to provide responses that address all of the requirements of this RFP as part of its Technical Proposal.

The terms “bidders”, “vendors” and “proposers” are used interchangeably. For purposes of this RFP, the use of the terms “shall”, “must” and “will” are used interchangeably when describing the Contractor’s/Bidder’s duties.

4.1 Expectations

Upon execution of the contract, the vendor will assume maintenance responsibility for all NYSIIS fixes, updates and enhancements.

4.2 Operational General Maintenance Deliverables

The guiding principles for the development, implementation, and ongoing maintenance and enhancement of the immunization information system reflect national and state standards, specifications, and measures related to providing an accurate, secure, interoperable infrastructure that will support the appropriate use and sharing of health information by the immunization community and beyond. These include sound public health informatics development practices as described by the Public Health Informatics Institute (<https://www.phii.org/>), National Vaccine Advisory Committee (<https://www.hhs.gov/nvpo/nvac/reports-and-recommendations/index.html>), National IIS Strategic Plan (<https://www.cdc.gov/vaccines/programs/iis/strategic.html>), Modeling of Immunization Registry Operations Workgroup guides (<https://www.cdc.gov/vaccines/programs/iis/activities/mirow.html>), Office of the National Coordinator for Health Information Technology (<https://www.healthit.gov/HIE>), and Healthy People 2020 goals and objectives.

To maintain and enhance one unified statewide immunization information system is a multifaceted and substantial undertaking. To ensure success of the program, the selected vendor will be required to assist or be responsible for the following support components of the NYSIIS Software Application:

- Critical system performance measures (4.2.1)
- Normal system availability (4.2.2)
- Production Data interfaces and loading (4.2.3)
- Problem response (4.2.4)
- Production Performance monitoring (4.2.5)
- Hardware and software support (4.2.6)
- Status Reports and Project Management Requirements (4.2.7)
- System Maintenance and Operations Documentation (4.2.8)
- Releases during Maintenance and Operations (4.2.9)
- Disaster Recovery Plan (4.2.10)
- General Maintenance Staffing Requirement (4.2.11)
- Other tasks as identified elsewhere in this RFP or inherent in the performance of the services solicited by this RFP.

Please refer to **Attachment A: NYSIIS Infrastructure Description** for details on how the NYSIIS Application is configured.

4.2.1 Critical Production Performance Requirements

The NYSIIS production software environments must be available on business days, from 8:00 am to 5:00 pm Eastern Standard Time (EST), Monday through Friday. During this time, access to the NYSIIS production software environments must be available for users to update or view client and immunization information via the Web-based user interface or data exchange, as well as process NYSIIS reports.

Application interfaces must operate as scheduled with no error attributable to the NYSIIS code or processes.

A monthly average application response time of 20 seconds or less from the internet must be maintained. The monitoring will occur from the time the application receives the request until a response is sent back to the requestor. Latency issues related to the Health Commerce System (HCS) or NYS Directory Services segments will be referred to the responsible support teams for investigation and resolution as described in the ITS Enterprise Operations Incident Management Process & Policy.

Response to outages or problems will be reported within the prescribed time limit and assigned priority (see section 4.2.5 Production Performance Monitoring for more detail). Restoration of system operations will be achieved within the time frames required for help desk program error requirements.

Vendor will document all interruptions of application service availability during the hours of normal system availability that exceed 15 minutes in an operational incident report (OIR). The OIR will be created and delivered by the vendor and the NYSIIS Project Manager by the next business day to both NYSDOH and NYSITS.

Regression testing must be performed with each change of hardware and system maintenance release, including coordination between vendor and NYSIIS on user acceptance testing (UAT).

4.2.2 Normal System Activity

Vendor/NYSIIS maintenance and operations team will keep the Production, Training and Quality Assurance (QA) application environments appropriately up to date and provide support for those environments during regular business hours for the duration of the contract. "Appropriately" is defined as the version that is needed for the necessary functions required of the environment such that Training and Production environments should typically reflect the most current released version of NYSIIS. The QA region may have a different version as needed for appropriate testing or other necessary functions. The vendor shall ensure the NYSIIS Production, Training, and QA environments will be available from 8:00 am to 5:00 pm EST, Monday through Friday, with the following exceptions:

- Scheduled System Outage for the Production System - The application may not be available during periods of system maintenance or application upgrade. These time periods will be pre-approved by NYSIIS and the vendor, five working days prior to the scheduled outage. Five working days is the desired notification time period; however, there may be time that hardware or software problems warrant correction within a shorter time period. These scheduled system outages shall not count against the Service Level Agreement (SLA).
- Emergency System Outage for the Production System - These should be reported through escalation procedures and OIRs as appropriate and follow ITS Enterprise Operations Incident Management Process & Policy.

4.2.3 Production Data Interfaces and Loading

The NYSIIS application must support data exchanges from providers, vital records and other partners. The vendor help desk will assist NYSDOH in the processing of initial provider data exchange files for data quality verification. The responsibility of managing communication in regard to the data loads will fall to NYSDOH. The vendor help desk will work with the providers and software vendors to review and accept the initial files for submission through the data exchange module.

4.2.4 Problem Response

The vendor will provide system support for the normal hours of business operations. The vendor will provide on-call support 24 hours a day, 365 days a year to resolve critical and high system defects or to run selected jobs.

The vendor will provide on-call, after the normal hours of business production support between the hours of 6:00 pm to 7:00 am during the processing of daily, weekly, monthly, quarterly and annual jobs and to respond to critical and high-level system defects. A response outside of normal business hours should be initiated within 1 hour of an issue being reported. A critical or high system defect that would require after-hours support includes any defect that would prevent users from accessing the NYSIIS production environment by 8:00 am the next business day.

Problems that result in the NYSIIS Production and/or Training environments becoming unavailable or causing significant performance issues to users, which NYSIIS help desk staff cannot resolve, will be immediately escalated by telephone to the vendor team. The vendor team will be responsible for notifying the NYSDOH NYSIIS Program Manager within 15 minutes by telephone and follow the ITS incident management process according to ITS Enterprise Operations Incident Management Process & Policy. In the event the NYSDOH staff member cannot be contacted in person, a voice-mail message and an email message will be sent. If an outage occurs lasting more than 15 minutes, the vendor must generate an Operational Incident Report (OIR) and proceed with the notification process for a production outage documenting the following:

- Cause of outage
- The solution (fix)
- Amount of downtime relevant to each component of the NYSIIS
- Number of help desk calls received and answered due to the outage.

Following the initial notification of a problem:

- The vendor must verify system status based on notification from system monitoring equipment and software or information from the NYSIIS help desk.
- The vendor must initiate the contingency plan in place and immediately notify the NYSIIS help desk of the issue and its status. If the system failure is determined to be hardware or network related, following specific testing to rule out application related problems, the vendor will follow the ITS incident management process according to ITS Enterprise Operations Incident Management Process & Policy.
- Upon initial notification, the vendor and NYSDOH program managers will determine a frequency interval for ongoing communications for the specific incident. Notifications will continue to the NYSDOH NYSIIS Program Manager until resolution and the problem level will dictate the frequency of these notifications.
- The NYSDOH will determine what and how notifications will be made to the NYSIIS providers.

4.2.5 Production Performance Monitoring

Vendor maintenance and operations staff are responsible for monitoring the system for system up-time and responses and will report these statistics in a monthly performance report for the previous month. These statistics may have to be modified depending upon NYSDOH network restrictions.

The following statistics will be collected monthly by the vendor related to the NYSIIS production system:

- System availability
- Average response time for requests from the time one enters the NYSIIS User Interface (UI) until a reply is returned to the requester
- Number of visits and unique visitors

- Visit durations and last visit
- Authenticated users and last authenticated visit
- Pages viewed most often
- Rush hours – Shows the average activity over a 24-hour period
- Domains and countries of host visitors
- Host list, last visit, and unresolved IP addresses list
- Browsers used – Identifies each browser type, number of hits per browser type, and the specific browser version
- Operating system used – Identifies each operating system and number of hits per operating system
- Visits of robots – Tracks the different robots and spiders that have hit the site
- Search engines and keywords used – Reports the number of search engines or keywords used to find the site
- Cyber security incidents
- HTTP errors – Reports the number of errors, by error type (for example, page not found)
- Graph of user activity by day of the month

The vendor will also compile weekly reports detailing system availability and any problems experienced during the month. These reports will include help desk call statistics, a problem log summary, and the following counts:

- New immunizations
- New patients
- Current immunizations
- Current patients
- Provider organizations broken down by organization type and total
- Users broken down by organization type and total
- New provider organizations
- New users

4.2.6 Hardware and Software

NYS Office of Information Technology Services (ITS) is responsible for the maintenance and upkeep of all servers, storage, backup, network and operating systems for the application. The vendor maintenance and operations team will be responsible for providing maintenance support for changes in the application, including those relating to all hardware and operating system upgrades performed by ITS, and ensuring that application and software vulnerabilities are addressed according to NYS Vulnerabilities Scanning and Patch Management Standards, found at <https://its.ny.gov/eiso/policies/security>. The vendor maintenance and operations team should advise ITS and NYSDOH when a proposed major software upgrade may negatively impact the NYSIIS software application performance so that the NYSIIS software application impacts can be evaluated and accommodated. NYSDOH will provide all applicable software licenses. The vendor is responsible for all software installation, including database and middleware, in all NYSIIS environments, including the Disaster Recovery. The vendor is also responsible for software operation monitoring including database backup and replication.

4.2.7 Status Reports and Project Management Requirements

The vendor will perform the following throughout the contract term:

- Conduct weekly status meetings to discuss pertinent issues/problems and results from previous week's activities, plans for the next week, and anticipated problems with suggested solutions or alternatives. The vendor's Project Manager will be required to participate, which can be accomplished by teleconference call or on-site as appropriate.
- The vendor shall prepare weekly status reports. These status reports should clearly indicate the status of each action item and any expected changes to the time, quantity, or quality of the fix or

deliverable. The status report should include details about the status of tasks and project deliverables that are completed, in process, planned, delayed, or added.

- Status Reporting by the vendor every week will start at the onset of the contract and be due one (1) business day prior to the next scheduled weekly status meeting.
- Prepare and distribute the status reports for the weekly status meetings. Distribute with the weekly status report a summary of outstanding problems.
- The vendor is responsible for preparing weekly meeting agendas and reports, and other materials deemed appropriate and delivering them to the NYSIIS Program Manager for review and comments one (1) day prior to the status meetings.
- Distribute status meeting minutes documenting the outcome of the meeting for future reference as well as action items. The vendor is responsible for producing and distributing meeting minutes within three business days following the meeting.
- The vendor Project Manager and/or appropriate vendor assigned staff, will be required to have an onsite presence at least quarterly or more frequently, depending on the needs of the project.
- Conduct or participate in other meetings as requested by the NYSIIS Program Manager (e.g. meetings with NYS ITS).
- Maintain and support a web-based problem log tracking system to track and log NYSIIS software problems identified through the help desk, monitoring programs, or NYSDOH staff.
- Maintain a centrally managed and accessible digital, historical repository of documents produced as part of NYSIIS maintenance activities or system enhancements.
- The vendor’s proposal should contain a detailed draft Project Schedule The vendor shall update the schedule every month thereafter for the life of the contract or as requested by the NYSIIS Program Manager.
- Prepare reports or data extracts upon request by the Bureau of Immunization for NYSDOH or CDC reporting needs (e.g. new grant submissions).
- Participate in internal and external audits and reviews of NYSIIS as required by the State.

4.2.8 System Maintenance and Operations Documentation

The vendor will maintain NYSIIS system documentation as outlined in the following table:

DOCUMENTATION DELIVERABLE	OVERVIEW
User Manual	User documentation to coincide with all software releases. The vendor will deliver updated documentation the day the release is in production, and will upload it to the NYSIIS application. The vendor shall identify the user documentation as a deliverable on each software release project plan.
System Documentation	Update system documentation within 20 working days of a software release, coordinate updates that overlap during milestones and identify the system documentation as a deliverable on each software release project plan.
Operations Manual	Update the operations manual at least twice per year and after each major software release.
Data dictionary/database structure	Update the NYSIIS data dictionary and database structure as changes are made to the system involving the database.

4.2.9 Releases during Maintenance and Operations

The vendor will establish release dates jointly with the NYSDOH. Releases will be defined as a result of enhancements and/or fixes prioritized through the change control process (see section 4.5 Change Management Requirements for more details). The vendor will provide upgrades, enhancements and bug fix

services as prioritized by NYSDOH. The vendor will create a project plan to help define expectations on scheduling and timelines for the appropriate release.

The vendor must follow current software development methodology, including all applicable parts of the NYS Secure Software Development Lifecycle (SSDLC) as defined at <https://its.ny.gov/eiso/policies/security>, as part of any release. Documentation will be made available and reviewed by NYSDOH, additional proper development and testing methodologies will be followed prior to presenting a new release to NYSDOH for testing and acceptance.

The vendor maintenance and operations team will report on the progress of releases during the weekly status meetings. Changes resulting from program errors may require modifications to the release schedule in order to complete resolution as required. The vendor and NYSDOH will need to coordinate with the appropriate entities on implementation activities based on specific system areas that will be affected.

The vendor will conduct performance acceptance testing of new versions of applications or of significant enhancements that are ready for production. The vendor will provide bug/issue tracking. The vendor will install and maintain application upgrades.

Any change related to the NYSIIS infrastructure supported by ITS such as servers, storage, backup, network and operating systems will need to follow ITS Enterprise Operations Change Management Process & Policy.

4.2.10 Disaster Recovery Plan and Testing

The vendor shall maintain the NYSIIS Disaster Recovery Plan to maximize provisions for continuous availability (warm site) or timely recovery and resumption of service during times of disaster. The vendor shall work with the State to submit updates to the NYSDOH for review and approval annually and prior to any significant system update.

The vendor shall conduct or participate in annual disaster recovery tests and update the Disaster Recovery Plan to improve on identified issues. These tests may be required in conjunction with an ITS Disaster Recovery exercise.

The vendor shall have all systems and system databases recovered within 48 hours after a disaster occurs once ITS makes available the appropriate hardware and operating system.

4.2.11 General Maintenance Staffing

Minimum Technical staff positions for maintenance of NYSIIS are defined as follows:

Developer/System Engineer (vendor should respond with the appropriate number of developer/system engineer staff they need to support the requirements of the RFP):

Required Skills: Degree in Computer Engineering, Computer Science, or related field.

- Three to five years' experience in a software engineering environment
- Technical and functional experience designing, analyzing, integrating, tailoring, and/or implementing software using Java, C++, or .NET
- Able to work in RDBMS and ODBC/JDBC
- Knowledgeable in SOAP/REST

Preferred Skills:

- Software Design, Development and Testing experience
- Performance and Stress Testing experience
- Requirements Management

- Software Configuration Management
- Software Release Management
- Two to five years' experience as an IIS developer
- Masters degree in Computer Science, Engineering, or related field

Lead Business Analyst (1)

Required Skills:

- Degree in Administration, Computer Engineering, Computer Science, or related field
- Strong health care business and technology background/experience
- Excel proficiency
- Strong analytical and product management skills, including a thorough understanding of how to interpret customer business needs and translate them into application and operational requirements

Preferred Skills:

- Unit, System and User Acceptance Testing experience
- Requirements Management
- Business Analysis (BA) experience
- Software Release Management
- Two to five years' experience as an IIS BA
- Knowledge or Certification in computer languages like C#, Java, and SQL

Database Administrator (1)

Required Skills:

- Degree in Administration, Computer Science, Management Information Systems, or related field
- Knowledge of business functions
- Experience in programming, particularly knowledge of structured query language (SQL), Unix and database management systems (DBMS).

Preferred Skills:

- Database Support experience
- Requirements Management
- Software Release Management
- Two to five years' experience as an IIS Database Administrator

Project Manager (1)

The vendor will be required to assign a Project Manager to the project who will act as the single point of contact with the NYSDOH and who will have authority over all of the selected vendor's resources assigned to the project. The vendor's assigned Project Manager must be fully engaged in managing the project and will be required to have a presence at the NYSDOH. The extent and frequency of on-site presence of the selected vendor's Project Manager will be based on the needs of the project and the requirements of the organization issuing this RFP; this decision will be made by the NYSDOH and will be binding to the selected vendor.

Required Skills:

- Degree in Administration, Computer Science, Engineering or a related major
- Five years of business development experience is required; business development experience should include: creating business plans, managing relationships, conducting presentations, and meeting goals.
- Hands on experience in managing projects utilizing the product development lifecycle or a systems development lifecycle
- Good working knowledge of project management tools (e.g. MS Project, Clarity)
- Ability to navigate within a deadline driven matrix organization

Preferred skills:

- Project Management Institute certification as a Project Management Professional
- Five years of IIS experience or ability to demonstrate a comprehensive understanding of the WIR system and open-source code
- Requirements Management
- Software Configuration Management
- Software Release Management
- Policy, technical, and operational discussions to better understand the priorities and related project management tasks
- Lead/facilitate discussions related to project planning, milestones tracking, and other project related implementation considerations
- Establish project milestones, work breakdown structures, resource requirements, and priorities for the assigned projects
- Document project objectives, goals, scope, approach, and potential costs and track them to completion
- Prepare high quality reports to provide update on project progress including critical path items, decisions required, issues, risks and constraints.

4.3. NYSIIS Help Desk and User Support Deliverables

The vendor will provide the following support:

- Help Desk Support (4.3.1)
- User Support (4.3.2)

4.3.1 Help Desk Support

The vendor shall support the NYSIIS user community and NYSIIS Program staff, including the following:

- Availability and use of product-trained technicians
- Ticket response time standards (follow-up and resolution)
- Ticket escalation and resolution model
- Ticket status reporting
- Schedule of help desk hours of operation and availability
- Toll-free help desk phone number
- Help desk email address
- Weekly reports of all calls received
- HL7 Data exchange support
- Assistance with patient reduplication (merges)

Help Desk Support Services: Help desk personnel will provide answers to NYSIIS user inquiries relating to problem resolution and product information, as well as assist users with specific organization level reports and data exchange set up. Tier 1 and Tier 2 help desk support services will be available on State business days, Monday – Friday, 8:00 am to 5:00 pm, EST. Exceptions to this will be made for NYSDOH holidays or when prior approval has been obtained from the NYSDOH Program Manager. System users shall have direct access to help desk support through a toll-free number and email provided by the vendor. All calls will be documented and tracked by the help desk with a call tracking system provided by the vendor. Regular call activity reports will be produced and provided to NYSDOH on a routine basis or as requested by the NYSIIS Program Manager. There will be a three-tiered response process with every call or email generating a ticket.

- Tier 1: This tier will track and disseminate calls to the appropriate group for resolution. Basic user assistance and issues will be resolved at Tier 1. Any calls requiring specific business knowledge will be forwarded to the vendor's Application Support Team. Calls requiring application changes or possible hardware/system software issues will be escalated to Tier 2.

- Tier 2: Vendor help desk staff at this tier will research and examine issues and resolve them if possible. These tickets will relate to more complex user issues than the basic assistance covered in Tier 1. Help desk staff will determine whether the issue is related to user error, lack of training or a hardware or software problem. If the issue is related to hardware or operating software, the issue will be forwarded to the vendor Project Manager. If the issue is related to the NYSIIS application, the issue will be escalated to Tier 3.
- Tier 3: Vendor help desk staff at this tier will provide diagnostic help or interface with the vendor team as needed to resolve questions and problems and to track the final resolution. Application fixes shall be completed by the vendor team as high-level priority tasks. If the issue is attributed to the hardware or system operating software, the issue will be forwarded to the vendor Project Manager. The vendor shall follow the approved Change Management Plan for all calls resulting in a need for application changes.

Help desk personnel will log calls and emails in a call-tracking application and report statistics weekly. Expectations are that 95% of all inquiries will be responded to within the course of one business day. Inquiries not responded to within the course of one business day will be reported to the Project Manager and the NYSDOH for further investigation.

Expectations are that 90% of all calls or emails will be resolved during the point of initial contact. Calls or emails not responded to during the initial contact will be reported to the Project Manager and the NYSDOH for further investigation. Emails and telephone messages will be replied to within 24 hours of receipt within normal business working days.

Call/email volume, call length, call/email trends, open call/email inquiries will be reported and reviewed as part of the ongoing project status meeting with NYSDOH.

Help Desk staff requirements are defined as follows (the vendor should respond with the appropriate number of FTE's they feel they need to support the requirements of the RFP):

Required Skills:

- Associate's or bachelor's degree, or technical institute degree/certificate in Computer Science, Information Systems, or other related field.
- Three to five years' experience working in a Service Desk/Help Desk environment
- Must be detailed oriented, have strong people skills, and able to communicate ideas and results effectively in both oral and written form.

Preferred Skills:

- Requirements Management
- Software Release Management
- Tier 1, 2, & 3 Help Desk Support experience
- Three to five years' experience working in a Service Desk/Help Desk environment with demonstrated working knowledge of basic IIS hardware and software products and problem solving/troubleshooting skills

4.3.2 User Support and Training

The vendor shall work with NYSIIS users to define priorities, understand business needs, and provide technical and functional support. The vendor is expected to review existing self-guided online training videos and develop new videos to include enhancements to existing functionality and new functionality. Six videos (new and updates) will be due during the contract period, approximately two per year, as needed and requested by the NYSIIS Program Manager.

The vendor will be responsible for coordination and support of one set of annual user group meetings, including securing venue contracts, in each of the six regions of New York State (Western, Finger Lakes,

Central, North/Capital, Lower Hudson Valley and Long Island).

The vendor will provide appropriate training to ITS and NYSDOH staff members as needed to enable them to provide appropriate support for the system.

Client Problem Resolution – the vendor will provide support to research user questions about clients such as incorrect birth dates received from vital loads and potential duplicate clients. This is release-independent.

The vendor will provide NYSIIS testing team with training as needed for major system updates and maintenance, or as requested by the NYSIIS Program Manager. This includes, but is not limited to, clearing the data exchange queue and Oracle updates.

4.4. Blood Lead Support Deliverables

Blood Lead Support is the provision of core project team resources to support the blood lead module of the NYSIIS system. The Blood Lead module in NYSIIS allows users to view, manage, and add blood lead test results if authorized. All NYSIIS standard and administrative users, as appropriate by law, are able to view lead test results. Users can add blood lead test results only if their organization has Clinical Laboratory Improvement Amendments certification by NYSDOH's Physician Office Laboratory Evaluation Program and approval by the NYSDOH Lead Poisoning Prevention Program (LPPP). Individual blood lead test results can be printed using the Blood Lead Report. The following Blood Lead Reports are also available for authorized users; Follow-Up List Reports, Test Due List Reports, Age Exceeded List Reports, Aggregate Clinical Performance Reports, Performance List Reports, and Limited History Reports.

4.4.1 Blood Lead Maintenance

The Blood Lead Module requires the following of the selected vendor beyond NYSIIS General Maintenance Requirements (see section 4.2 Operational General Maintenance Deliverables for more details):

- Help desk support for Blood Lead System Users
- Support of the Lead User Interface and Data Exchange
- Perform merging of historical and current blood lead test as needed by the Blood Lead Program (average of 25 merges per month)

4.4.2 Blood Lead Changes and Enhancements

During the life of the contract, changes and enhancements will need to occur in the Blood Lead Module that go beyond routine maintenance. These changes and enhancements will follow the contract Change Management Requirements (see section 4.5) and the New & Ongoing Development process (see section 4.6). The vendor will perform systems changes and enhancements, pending funding availability, including but not limited to:

- Continued improvement and updates of the Lead Test Scheduler
- Blood Lead Module upgrades, enhancements and bug fix services as prioritized by NYSDOH, examples include:
 - i) Create a read only environmental health investigation summary for authorized users
 - ii) Create new quality assurance reports to monitor blood lead reporting
 - iii) Create the mechanism to electronically upload blood lead tests files from POLs to NYSIIS
- Blood Lead specific status report(s)

4.5 Change Management Requirements

During the life of the contract, changes will need to occur that warrant special processing. Some changes will have impacts on the scope, budget, contract and/or timeline of other enhancements or bug fixes. The vendor shall deliver a Change Management Plan within 90 calendar days of contract execution for review and approval by the NYSIIS Program Manager. This plan is the guide on how to handle these types of changes through a controlled process. The Change Management Plan may be updated with the agreement

of both parties. The plan will identify the process, procedures and tools utilized to execute Change Management for software, systems, plans, procedures, requirements and enhancements for NYSIIS.

The Change Management Plans should contain, but not be limited to, the following concepts:

- Review, creation, and approval process for Change Request Forms, which should include at a minimum, a description of the business requirements, the technical specifications required to satisfy the request, fixed hour estimates, estimated timeframe and appropriate approval signatures for each enhancement request or change request.
- Review and creation of a Change Request Log, which should include at a minimum, the change request number, a link to the Change Request Form, a description of the enhancement or change, the priority (high, medium, low), the status and the date of delivery.
 - (a) The vendor should deliver a draft of the Change Request Log and the Change Request Form as part of the Change Management Plan and maintain the Change Request Log on an ongoing basis for the term of the contract.
- Identification and coordination with the appropriate third-party vendor (e.g. Oracle) for operational versions, upgrades, new releases, and emergency fixes to NYSIIS-specific software. NYSDOH may also identify what upgrades are needed and work with NYSDOH staff to coordinate installation.
- Installation and maintenance of application upgrades in the Production, Training, QA environments as well as the Dataguard and Disaster Recovery Box.
- The work identified in the change requests will be provided by the selected vendor at the rates agreed upon in the contract, with adjustment to project schedules and required timeframes and milestones as appropriate.
- The price of change requests initiated after contract execution will be determined by the summation of the level of effort for each labor category required to perform the change multiplied by the hourly rate for that labor category. Errors by vendor in fulfilling detailed solution requirements will be the fiscal responsibility of the vendor.
- All change requests are to be provided in exchange for a fixed or "not-to-exceed" compensation. The vendor is solely responsible for any costs in excess of the specified compensation.
- Procedures through which the Parties interact to propose, refine and, if agreement is reached, execute documentation binding them to proposed changes or enhancements.
- All change requests must be represented on all project reports, clearly indicating progress and their status.
- As part of each release the vendor will provide, upon request, a copy of all current software, database schema, source code, and installation instructions.
- As part of each release, the vendor will provide, upon request, detailed test plans (DTPs)

The vendor will perform systems changes including but not limited to:

- Changes necessary for continued operations of the system. This includes interface changes, bug corrections, and changes to look-up tables.
- Changes to vaccines, rules for vaccine recommendations and administration, and coverage criteria for state-supplied vaccines. As new vaccines are developed, modifications to the NYSIIS scheduler will be required to access the completeness of the administration of the series and to calculate the date the next shot is due. This information will need to be included in the data exchange messages and modifications to the NYSIIS User Interface (UI).
- Changes necessary to support upgrades to the hardware platform as identified by NYSDOH and NYSITS, analyzing impact; defining changes; coding changes required for compatibility with new hardware; reinstalling the current application; and unit, integration, and regression testing.
- Upgrades to the software platform, analyzing impact; defining changes; coding changes required for compatibility with new software; coordinating implementation with NYSDOH and NYSITS; and unit, integration, and regression testing.
- Gap analysis, requirement definition, and detailed specifications, necessary coding changes and all aspects of testing for modules received from other states that use the Wisconsin Immunization Registry (WIR).

The NYSIIS staff will prioritize all change requests against ongoing enhancement requests and outstanding incidents through the weekly NYSIIS status meetings. The timeframe for resolution of incidents will depend on the nature of the system problem or issue to be addressed.

Changes related to the NYSIIS infrastructure impacting services supported by ITS, such as servers, storage, backup, network and operating systems, will follow ITS Enterprise Operations Change Management Process & Policy.

Additional data center resource and ITS services will need to follow ITS Enterprise Operations Service Request Management Process & Policy.

4.6 New and Ongoing Development (System Enhancement)

The vendor will provide a system evolution process for software development including the development of enhancement design documents, estimates, test plans, and acceptance testing. The vendor should deliver a draft of the Enhancement Request Log and the Enhancement Request Form and maintain the Enhancement Request Log on an ongoing basis for the term of the contract.

The Enhancement Request Form should include, at a minimum, a description of the business requirements, the technical specifications required to satisfy the request, fixed hour estimates, an estimated timeframe and appropriate approval signatures for each enhancement request. The vendor will also provide the following development services:

- Upgrades, enhancements, and application modifications to meet additional New York State requirements as prioritized by NYSDOH.
- Changes required by federal or state statutes, regulations and/or rule changes and reporting, including specifically but not limited to, the Centers for Disease Control and Prevention (CDC) <http://www.cdc.gov/vaccines>, Office of the National Coordinator for Health Information Technology, Advisory Committee on Immunization Practices (ACIP) <http://www.cdc.gov/vaccines/recs/ACIP/default.htm>, and WIR updates as appropriate.
- NYSDOH will pursue partnerships with other groups that include the exchange of data that the NYSIIS application can support. Upon recognized needs of the program, the vendor will need to develop new specifications following the enhancement process.
- Performance acceptance testing of new versions of applications or of significant enhancements that are ready for production.
- The work enhancement work identified will be provided by the selected vendor at the rates agreed upon in the contract, with adjustment to project schedules and required timeframes and milestones as appropriate.
- The price of enhancements initiated after contract execution will be determined by the summation of the level of effort for each labor category required to perform the change multiplied by the hourly rate for that labor category.
- All system enhancements are to be provided in exchange for a fixed or “not-to-exceed” compensation. The vendor is solely responsible for any costs in excess of the specified compensation.
- Procedures through which the Parties interact to propose, refine and, if agreement is reached, execute documentation binding them to proposed changes or enhancements.
- All enhancement work must be represented on all project reports, clearly indicating progress and their status.
- As part of each release the vendor will provide upon request a copy of all current software, Database schema, source code, and installation instructions.
- As part of each release the vendor will provide upon request detailed test plans (DTPs)

Enhancements to NYSIIS currently under consideration:

- Updates and enhancements to how NYSIIS manages Nation Drug Codes (NDC)
- IIS to IIS Data Exchange, including but not limited to updates to the NYSIIS User Interface for the submission of manual queries to another IIS and the redirection of HL7 queries received by NYSIIS to the appropriate IIS if the address indicates the person resides in another IIS geopolitical area.

- Development of electronic VFC Provider Profiles
- Routine, non-manual, addressing cleaning
- Consuming VIS and vaccine fund source indicator (public/private) via HL7
- Enhancements to Data Exchange Messaging Standards.
Although CDC recently had IIS adopt HL7 2.5 as the messaging standard, it is expected that other changes will come. Current discussions are going on around the use of the Continuity of Care Document (CCD) in the IIS community. At a minimum, once a standard presentation format is developed, the IIS community would be expected to create and present CCD to the user community. At the most, there may be an expectation for IIS to receive and consume the relevant information from a CCD into the IIS. Upgrades to versions higher than Version 2.5.1 of the Implementation Guide for Immunization Data Transactions of the Health Level 7 (HL7) Standard may also likely occur.
- Integration of DOH Program Information
NYSIIS has already developed a module for the recording and presentation of lead screening test results. Recently NYSIIS partnered with the NYS Early Hearing Detection and Intervention Program for the recording and presentation of hearing screening data. It is expected that other DOH programs (i.e blood screening, Body Mass Index) may wish to participate in NYSIIS

4.7 Transitional and Operational Requirements

The transitional and operational responsibility for the NYSIIS System by the selected vendor will consist of four (4) distinct phases:

- Phase I Assessment of the current environment by the selected vendor
- Phase II System support transition to the selected vendor
- Phase III Full systems support by the selected vendor
- Phase IV Transition of Ownership

The actions and deliverables required of the vendor from each phase are described in detail below. The vendor's Cost Proposal should identify costs for each Phase.

4.7.1 Phase I – Assessment of Current Environment

Timeframe: Two (2) Calendar Month:

The vendor shall conduct a full assessment of the business, software, and hardware and infrastructure environments of the NYSIIS System and develop a transition plan for subsuming the Immunization Information System Support activities from the Bureau of Immunization's existing incumbent vendor. Project-specific technical documentation and source code will be made available to the vendor for review to gain a technical understanding of the system and the associated technical architecture. Representatives of NYSIIS and NYS ITS will be available to meet with the vendor to provide an understanding, from NYSDOH's business perspective, of the requirements for application support of the NYSIIS System. The vendor will prepare a Transition Plan for NYSIIS support during this Phase for the Bureau of Immunization's approval. The Transition Plan should document the approach and tasks to be executed during Phase II - Systems Support Transition. The Bureau of Immunization will maintain basic operational control of the NYSIIS System during Phase I.

Phase I will not end until the Bureau of Immunization approves the Transition Plan. The vendor will not receive additional reimbursement for any efforts or time as a result of delays during this Phase.

4.7.2 Phase II - Systems Support Transition

Timeframe: Two (2) Calendar Months following completion of Phase I.

During Phase II, support for NYSIIS will be incrementally transitioned to the vendor from the Bureau of Immunization as defined in the Phase I Transition Plan. The vendor shall prepare and deliver a weekly report of the status of each task in the Transition Plan.

The Bureau of Immunization maintains operational oversight during Phase II while the vendor's Team assumes responsibilities for NYSIIS tasks according to the Transition Plan. Before the end of Phase II the vendor shall submit an updated project schedule reflecting all tasks, start and finish dates and assigned resources for the next 12 month period. This updated project schedule shall be completed by the vendor with input from the NYSIIS Stakeholders. Once all transition tasks are complete, the vendor will be solely responsible for support of all NYSIIS functions and shall adhere to the signed contract.

Should the vendor not fully complete, to the NYSIIS Program Managers satisfaction, all tasks in the Transition Plan by the end of Phase II, the NYSDOH may at its discretion extend the time for Phase II. The vendor will receive no additional reimbursement for the additional time to complete Phase II. The Phase III transition period shall not begin until all tasks in the Transition Plan have been completed and an approved Service Level Agreement (SLA) has been signed by both parties. The initial SLA draft will be completed by the successful bidder. The NYSIIS Program Manager will modified and update. The SLA defines NYSDOH's service requirements and its expectations as to how the vendor will meet these requirements. This includes collaboration of the State and the contractor; Attachment F – NYSIIS Roles and Responsibilities Matrix outlines the NYS ITS, NYSIIS Program, the contractor and Shared / Joint responsibilities.

4.7.3 Phase III – Full System Support

Timeframe: Beginning after the completion of Phase II.

The vendor shall provide full system support for the NYSIIS System. This support must meet or exceed the requirements defined in this RFP and any addition requirements in the SLA, which shall be finalized and approved by the Bureau of Immunization during Phase II. The vendor will be required to commit fully qualified professional resources to the maintenance support and enhancement of NYSIIS; the NYSDOH must approve key personnel (minimum technical staff positions for maintenance of NYSIIS as defined in section 4.2.11) prior to their having any responsibility with the NYSIIS project for the duration of the contract.

4.7.4 Phase IV - Transition of Ownership

To ensure the NYSDOH success in continuing the support and maintenance of NYSIIS, NYSDOH has the following requirements:

- The selected vendor will be required to define and execute a knowledge transfer plan for transitioning NYSIIS knowledge to key staff or new vendor identified by the NYSDOH.
- The plan should include a process by which the vendor's system can be fully migrated
- The plan should include walk-throughs with key staff (NYSDOH and/or new vendor) of the fully configured system and documentation, as installed in the NYSDOH production environment.
- The plan should include all aspects of system and user administration, roles and responsibilities, software installation, and configuration.
- The plan should also include full conveyance of knowledge of the software and its implementation and execution.
- The plan will be subject to NYSDOH approval and satisfaction.
- This phase will begin, at minimum, four months before the end of the contract.

5.0 NYSDOH Critical Information for Bidder

5.1 Acceptance of Work Products

The NYSDOH will define quality and acceptance criteria to each iteration and final release of all new functionality released to NYSIIS.

Note: The NYSDOH is unable to define these criteria in detail *prior* to vendor selection due to the variability in technical solution proposals. Once defined, the quality criteria and goals must be executed by the selected vendor *before* delivery of any iteration or the final release.

The NYSDOH will define specific, measurable quality criteria for these general areas of inspection:

- Achievement of requirements
- System architecture
- System security
- System reliability
- System performance
- Technical system and user documentation

5.1.1 Iterative and Final Release Validation

The NYSDOH will verify and validate every iterative release of functionality from the selected vendor. The NYSDOH will verify and validate the achievement of requirements and/or tasks and associated quality goals. The NYSDOH retains the right to reject any iterative milestone and/or the final release as presented by the selected vendor. The specific procedures and durations of iterative and final reviews will be determined at the start of the project or per release. The NYSDOH, with input from the selected vendor, will establish a reasonable timeframe for iterative milestones and final release review.

5.1.2 Achievement of Requirements

The “achievement of requirements” quality goal is: delivery to and acceptance by the NYSDOH of 100% of all requirements, as defined in this RFP and any additional requirements identified and mutually agreed upon during each functional release.

5.1.3 System Security

The “system security” quality goal is: a positive security risk assessment with no critical findings. Specific goals per iteration and final release may vary but always need to conform to all applicable NYS Information Security Policies and Standards found at <https://its.ny.gov/eiso/policies/security>, including, but not limited to, Vulnerability Scanning and Secure System Development Life Cycle (SSDLC) Standards. NYSDOH requires quarterly web application security scans and in-depth application security scans of the application before being deployed into production for each release. All vulnerabilities found during scans must be addressed as per the NYS Vulnerability Scanning Standard.

In addition, periodic independent assessment of system security by the NYS ITS Enterprise Information Security Officer or designated staff; this assessment may include, but not be limited to, discussions highlighting weaknesses, unaddressed risks, or questionable areas of the solution in the context of exploit and security breach.

5.1.4 System Reliability

The “system reliability” quality goal is: 99.0% passing tests with no critical incidents outstanding. Specific goals per iteration may vary.

Note: A passing test is one that can be run in its entirety without error. A test that cannot be run because it or the feature it tests is not implemented or fully implemented will be counted as a failure.

The NYSDOH expects to follow these general rules within any given iteration:

Passing	Indication
< 80.0%	Not ready for NYSDOH acceptance.
> 80.0% < 99.0%	Ready for open issues review and discussion with the NYSDOH; review of critical issues with the NYSDOH. The NYSDOH may, at its discretion, not accept the iteration or final release.
> 99.0%	NYSDOH acceptance (excepting critical incidents).

5.1.5 System Performance

The “system performance” quality goal is: positive assessment proving demonstrated achievement of system performance goals and requirements. Per iteration goals may vary.

5.1.6 Technical Systems and User Documentation

The documentation assessment may generally follow this guidance: (1) Achievement of specific documentation test plans and (2) Independent review and assessment of documentation deliverables by NYSDOH staff; this assessment may include, but not be limited to, discussions highlighting strengths, weaknesses, missing or incomplete information, accuracy, adherence to style or other guidelines, and visual presentation.

5.2 Overall System Security and Privacy

The vendor must comply fully with all current and future updates of the security procedures of NYSDOH, as well as with all applicable State and Federal requirements, in performance of the contract. This includes, but is not limited to, all applicable IT policies and standards maintained at <https://its.ny.gov/tables/technologypolicyindex>.

The vendor must not, without prior written authorization from NYSDOH, divulge to third parties any information obtained by the vendor or its agents, distributors, resellers, subcontractors, officers or employees in the course of performing contract work, including, but not limited to, security procedures, business operations information or commercial proprietary information in the possession of NYSDOH, Protected Health Information (PHI), or other data.

To ensure confidentiality, the vendor must take appropriate steps as to personnel, agents, and subcontractor education in specific security requirements as applied to this contract, explaining its responsibilities in maintaining security, and reviewing all policies, processes and procedures that will be used for this project.

All activity covered by this RFP must be fully secured and protected by satisfactory security arrangements approved by NYSDOH. The vendor must treat all information obtained through its performance under the contract as confidential information and will not use any information so obtained in any manner except as necessary for the proper discharge of its obligations and securing of its rights, or as otherwise provided. State or Federal officials, or representatives of these parties as authorized by State or Federal law or

regulations, will have access to all confidential information in accordance with the requirements of State and Federal laws and regulations. NYSDOH will have absolute authority to determine if, and when, any other party is allowed to access application information. Confidentiality is the concept that data will be viewable by those who are explicitly permitted to view it.

5.5.1 Data Security

Data Security is the concept that data will be viewable by those who are explicitly permitted to view or receive it.

For contractor staff performing services off-site, NYSITS will provide remote access to the necessary systems through one of the approved methods of remote access to NYS systems in NYS Remote Access Standard. NYSITS will be responsible for ensuring:

1. That the network and systems comply with specifications required by the contractor and agreed to by the NYSDOH;
2. That all components of the environment related to the solution are accessible through the remote access solution; and
3. The remote access is provided in a timely manner for the contractor to perform the services.

NYSDOH and NYSITS will be responsible for acquiring and maintaining any equipment and performing any labor and/or activities necessary to set-up and maintain network connectivity at and to the software environment. The NYSITS will provide and maintain user accounts for, and access to, the remote access solution for the contractor's team members, including but not limited to, the contractor's onsite and remote resources.

5.2.2 Security and Privacy Approach

All provisions of the Vendor's approach to ensuring Security and Privacy must be compliant with:

1. All policies and standards defined in the New York State ITS security policies and standards (<http://its.ny.gov/eiso/policies/security>);
2. Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy, Security and Breach Notification Rules;
3. Health Information Technology for Economic and Clinical Health (HITECH) Act (<http://www.healthit.gov/policy-researchers-implementers/health-it-legislation>);
4. The classification of the data to be managed and used in this database is considered sensitive PII and PHI therefore all NIST 800-53 Risk controls must also be followed; and
5. All applicable State and federal laws and regulations related to privacy protections.

5.3 Wisconsin Immunization Registry (WIR) Limited License Agreement and Additional Terms

New York may from time to time acquire new system functionality from other states that use the Wisconsin Immunization Registry (WIR) under the WIR Limited License Agreement (LLA). All such new system functionality will be acquired pursuant to the terms of the WIR LLA (see Attachment B).

NYSDOH is participating in the WIR consortium group, whose purpose is to facilitate sharing of requirements and code development of the WIR system. According to the WIR LLA, NYSDOH is required to notify Wisconsin of all modifications made to the WIR and to release written documentation and code to Wisconsin. The vendor selected under the NYSIIS contract is required as part of maintenance support to provide any services required to fulfill New York's obligations under the WIR LLA (Attachment B). By submitting a bid under this solicitation, the vendor acknowledges that it has read and understood the WIR

LLA and will, if it is the Awarded Vendor, to the extent its activities and duties hereunder come within the terms of such license or affect the licensed code, comply with the WIR LLA.

The intention of this solicitation is that the NYSDOH will exclusively own and be able to use the Deliverables apart from any claim or right of the vendor, except as stated in "Vendor Technology" immediately below. Subject to the "Vendor Technology" paragraph immediately below, the vendor releases to the NYSDOH, all right, title and interest in and to the copyright, and all other rights, in and to any and all software, technical information, specifications, drawings, records, documentation, data and other work products first originated and prepared by the vendor for delivery to the NYSDOH hereunder (the "Deliverables").

Vendor Technology:

The vendor has created, acquired or otherwise has rights in, and may, in connection with the performance of Services for the NYSDOH, employ, provide, create, acquire or otherwise obtain rights in various concepts, ideas, methods, methodologies, procedures, processes, know-how, techniques, models, templates and general purpose consulting and software tools, utilities and routines ("Vendor Technology"). To the extent that any Vendor Technology is contained in any of the deliverables, the vendor hereby grants the NYSDOH a royalty-free, fully paid, worldwide, perpetual, non-exclusive and transferable license to use such Vendor Technology in connection with the deliverables and NYSIIS for the NYSDOH's purposes and in accordance with and to comply with the applicable terms of the WIR license. The vendor shall not acquire any right, title and interest in and to the copyrights for goods, any and all software, technical information, specifications, drawings, records, documentation, data or derivative works thereof, or other work products provided by the NYSDOH to the vendor.

Additionally, if code that meets a NYSDOH requirement for the NYSIIS can be obtained from Wisconsin or another state that uses the WIR, then the vendor is required to acquire that code and related materials for the NYSDOH under licenses and terms acceptable to the NYSDOH from those other states to be implemented in NYSIIS. The effort to retrofit the code to the NYSIIS system is considered a maintenance support activity and not an enhancement.

6.0 ADMINISTRATIVE INFORMATION

The following administrative information will apply to this RFP. Failure to comply fully with this information may result in disqualification of your proposal.

6.1 Restricted Period

"Restricted period" means the period of time commencing with the earliest written notice, advertisement, or solicitation of a Request for Proposals ("RFP"), Invitation for Bids ("IFB"), or solicitation of proposals, or any other method for soliciting a response from Bidders intending to result in a procurement contract with DOH and ending with the final contract award and approval by DOH and, where applicable, final contract approval by the Office of the State Comptroller.

This prohibition applies to any oral, written, or electronic communication under circumstances where a reasonable person would infer that the communication was intended to influence this procurement. Violation of any of the requirements described in this Section may be grounds for a determination that the Bidder is non-responsible and therefore ineligible for this contract award. Two violations within four years of the rules against impermissible contacts during the "restricted period" may result in the violator being debarred from participating in DOH procurements for a period of four years.

Pursuant to State Finance Law §§ 139-j and 139-k, the Department of Health identifies a designated contact on face page of this RFP to whom all communications attempting to influence this procurement must be made.

6.2 Questions

There will be an opportunity available for submission of written questions and requests for clarification with regard to this RFP. All questions and requests for clarification of this RFP should cite the particular RFP Section and paragraph number where applicable and must be submitted via email to BidderforNYSIIS@health.ny.gov. It is the Bidder's responsibility to ensure that email containing written questions and/or requests for clarification is received at the above address no later than the Deadline for Submission of Written Questions as specified in Section 1.0 (Calendar of Events). Questions received after the deadline may **not** be answered.

6.3 Right to Modify RFP

DOH reserves the right to modify any part of this RFP, including but not limited to, the date and time by which proposals must be submitted and received by DOH, at any time prior to the Deadline for Submission of Proposals listed in Section 1.0 (Calendar of Events). Modifications to this RFP shall be made by issuance of amendments and/or addenda.

Prior to the Deadline for Submission of Proposals, any such clarifications or modifications as deemed necessary by DOH will be posted to the DOH website.

If the Bidder discovers any ambiguity, conflict, discrepancy, omission, or other error in this RFP, the Bidder shall immediately notify DOH of such error in writing at BidderforNYSIIS@health.ny.gov and request clarification or modification of the document.

If, prior to the Deadline for Submission of Proposals, a Bidder fails to notify DOH of a known error or an error that reasonably should have been known, the Bidder shall assume the risk of proposing. If awarded the contract, the Bidder shall not be entitled to additional compensation by reason of the error or its correction.

6.4 Payment

The contractor shall submit invoices and/or vouchers to the State's designated payment office:

Preferred Method: Email a .pdf copy of your signed voucher to the NYS Business Services Center (BSC) at: AccountsPayable@ogs.ny.gov with a subject field as follows:

Subject: **Unit ID 3450249 Contract # C032993**

Alternate Method: Mail vouchers to BSC at the following U.S. postal address:

**NYS Department of Health
Unit ID 34502249
c/o NYS OGS BSC Accounts Payable
Building 5, 5th Floor
1220 Washington
Ave. Albany, NY
12226-1900**

Payment for invoices and/or vouchers submitted by the CONTRACTOR shall only be rendered electronically unless payment by paper check is expressly authorized by the Commissioner, in the Commissioner's sole discretion, due to extenuating circumstances. Such electronic payment shall be made in accordance with ordinary State procedures and practices. The CONTRACTOR shall comply with the State Comptroller's procedures to authorize electronic payments. Authorization forms are available at the State Comptroller's website at www.osc.state.ny.us/epay/index.htm, by email at epayments@osc.state.ny.us or by telephone at 518-474-6019. CONTRACTOR acknowledges that it will not receive payment on any invoices and/or vouchers submitted under this Contract if it does not comply with the State Comptroller's electronic payment procedures, except where the Commissioner has expressly authorized payment by paper check as set forth

above.

In addition to the Electronic Payment Authorization Form, a Substitute Form W-9 must be on file with the Office of the State Comptroller, Bureau of Accounting Operations. Additional information and procedures for enrollment can be found at <http://www.osc.state.ny.us/epay>.

Completed W-9 forms should be submitted to the following address:

NYS Office of the State
Comptroller Bureau of
Accounting Operations
Warrant & Payment Control
Unit
110 State Street, 9th Floor
Albany, NY 12236

Payment of such invoices and/or vouchers by the State (NYS Department of Health) shall be made in accordance with Article XI-A of the New York State Finance Law. Payment terms will be:

In order to obtain payment for services rendered under the Contract, the CONTRACTOR will be required to submit monthly vouchers to the STATE's designated payment office and a submit a weekly report of activities being conducted in accordance with the work plan to the following address:

New York State Department of Health
Bureau of Immunization
Corning Tower, Room 678
Empire State Plaza
Albany, NY 12237-0627
Telephone: 518-473-2839

nysiis@health.ny.gov

The CONTRACTOR shall be paid monthly to provide **service based** NYSIIS general maintenance and support, blood lead support, NYSIIS transitional and operational responsibility and NYSIIS Change Management. This monthly payment will be based on the single, current contract year total for service provided (not including hourly based service) divided by twelve (12). One-time deliverables will occur in contract year years 1 & 5., The one-time deliverables which will be paid upon completion and include:

Year 1

- Phase I (Section 4.10.1: Assessment of Current Environment)
- Phase II (Section 4.10.2: Systems Support Transition, this includes completion of SLA)
- Phase III (Section 4.10.3: Full System Support)

Year 5

- Phase IV (Section 4.10.4: Transition of Ownership)

The CONTRACTOR will also provide an estimate for **hourly based** services (Change Requests and System Enhancements) by Position Titles to be utilized for all change requests and subsequent system enhancements. Any estimate for system change/enhancement from the successful bidder must use the hourly rates for the specific titles as quoted in the Cost Sheet Bid Form (Attachment D). The CONTRACTOR will be paid the estimate amount upon the NYSDOH's acceptance and approval of all change requests and subsequent system enhancements.

6.5 Minority & Woman-Owned Business Enterprise Requirements

Pursuant to New York State Executive Law Article 15-A, the New York State Department of Health (“DOH”) recognizes its obligation to promote opportunities for maximum feasible participation of certified minority-and women-owned business enterprises and the employment of minority group members and women in the performance of DOH contracts.

In 2006, the State of New York commissioned a disparity study to evaluate whether minority and women-owned business enterprises had a full and fair opportunity to participate in state contracting. The findings of the study were published on April 29, 2010, under the title “The State of Minority and Women-Owned Business Enterprises: Evidence from New York” (“Disparity Study”). The report found evidence of statistically significant disparities between the level of participation of minority-and women-owned business enterprises in state procurement contracting versus the number of minority-and women-owned business enterprises that were ready, willing and able to participate in state procurements. As a result of these findings, the Disparity Study made recommendations concerning the implementation and operation of the statewide certified minority- and women- owned business enterprises program. The recommendations from the Disparity Study culminated in the enactment and the implementation of New York State Executive Law Article 15-A, which requires, among other things, that DOH establish goals for maximum feasible participation of New York State Certified minority- and women – owned business enterprises (“MWBE”) and the employment of minority groups members and women in the performance of New York State contracts.

Business Participation Opportunities for MWBEs

For purposes of this solicitation, DOH hereby establishes an overall goal of **30%** for MWBE participation, 15% for Minority-Owned Business Enterprises (“MBE”) participation and 15% for Women-Owned Business Enterprises (“WBE”) participation. A contractor (“Contractor”) on the subject contract (“Contract”) must document good faith efforts to provide meaningful participation by MWBEs as subcontractors or suppliers in the performance of the Contract and Contractor agrees that DOH may withhold payment pending receipt of the required MWBE documentation. For guidance on how DOH will determine “good faith efforts,” refer to 5 NYCRR §142.8.

A contractor (“Contractor”) on the subject contract (“Contract”) must document good faith efforts to provide meaningful participation by MWBEs as subcontractors or suppliers in the performance of the Contract and Contractor agrees that DOH may withhold payment pending receipt of the required MWBE documentation. For guidance on how DOH will determine “good faith efforts,” refer to 5 NYCRR §142.8.

The directory of New York State Certified MWBEs can be viewed at: <https://ny.newnycontracts.com>. The directory is found in the upper right hand side of the webpage under “Search for Certified Firms” and accessed by clicking on the link entitled “MWBE Directory”. Engaging with firms found in the directory with like product(s) and/or service(s) is strongly encouraged and all communication efforts and responses should be well documented.

By submitting a bid, a bidder agrees to complete an MWBE Utilization Plan (Attachment 5) of this RFP. DOH will review the submitted MWBE Utilization Plan. If the plan is not accepted, DOH may issue a notice of deficiency. If a notice of deficiency is issued, Bidder agrees that it shall respond to the notice of deficiency within seven (7) business days of receipt. DOH may disqualify a Bidder as being non-responsive under the following circumstances:

- a) If a Bidder fails to submit a MWBE Utilization Plan;
- b) If a Bidder fails to submit a written remedy to a notice of deficiency;
- c) If a Bidder fails to submit a request for waiver (if applicable); or
- d) If DOH determines that the Bidder has failed to document good-faith efforts;

The Contractor will be required to attempt to utilize, in good faith, any MBE or WBE identified within its MWBE Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract Award may be made at any time during the term of the Contract to DOH, but must be made no later than prior to the submission of a request for final payment on the Contract.

The Contractor will be required to submit a Contractor's Quarterly M/WBE Contractor Compliance & Payment Report to the DOH, by the 10th day following each end of quarter over the term of the Contract documenting the progress made toward achievement of the MWBE goals of the Contract.

If the Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such finding will constitute a breach of Contract and DOH may withhold payment from the Contractor as liquidated damages.

Such liquidated damages shall be calculated as an amount equaling the difference between: (1) all sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and (2) all sums actually paid to MWBEs for work performed or materials supplied under the Contract.

New York State certified Minority- and Women-Owned Businesses (M/WBE) may request that their firm's contact information be included on a list of M/WBE firms interested in serving as a subcontractor for this procurement. The listing will be publicly posted on the Department's website for reference by the bidding community. A firm requesting inclusion on this list should send contact information and a copy of its NYS M/WBE certification to BidderforNYSIIS@health.ny.gov before the Deadline for Questions as specified in Section 1.0 (Calendar of Events). Nothing prohibits an M/WBE Vendor from proposing as a prime contractor.

Please Note: Failure to comply with the foregoing requirements may result in a finding of non-responsiveness, non-responsibility and/or a breach of the Contract, leading to the withholding of funds, suspension or termination of the Contract or such other actions or enforcement proceedings as allowed by the Contract.

6.6 Equal Employment Opportunity (EEO) Reporting

By submission of a bid in response to this solicitation, the Bidder agrees with all of the terms and conditions of Attachment 8, Appendix A including Clause 12 - Equal Employment Opportunities for Minorities and Women. Additionally, the successful Bidder will be required to certify they have an acceptable EEO (Equal Employment Opportunity) policy statement in accordance with Section III of Appendix M in Attachment 8.

Further, pursuant to Article 15 of the Executive Law (the "Human Rights Law"), all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor and sub-contractors will not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

The Contractor is required to ensure that it and any subcontractors awarded a subcontract over \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work"), except where the Work is for the beneficial use of the Contractor, undertake or continue programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, equal opportunity shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, and rates of pay or other forms of compensation. This requirement does not apply to: (i) work, goods, or services unrelated to the Contract; or (ii) employment outside New York State.

To ensure compliance with this Section, the Bidder should submit with the bid or proposal an Equal Employment Opportunity Staffing Plan (Attachment 5, Form #4) identifying the anticipated work force to be utilized on the Contract. Additionally, the Bidder should submit a Minority and Women-Owned Business Enterprises and Equal Employment Opportunity Policy Statement (Attachment 5, Form # 5), to DOH with their bid or proposal.

6.7 Sales and Compensating Use Tax Certification (Tax Law, § 5-a)

Section 5-a of the Tax Law, as amended, effective April 26, 2006, requires certain contractors awarded state contracts for commodities, services and technology valued at more than \$100,000 to certify to the Department of Tax and Finance (DTF) that they are registered to collect New York State and local sales and compensating use taxes. The law applies to contracts where the total amount of such contractors' sales delivered into New York State are in excess of \$300,000 for the four quarterly periods immediately preceding the quarterly period in which the certification is made, and with respect to any affiliates and subcontractors whose sales delivered into New York State exceeded \$300,000 for the four quarterly periods immediately preceding the quarterly period in which the certification is made.

This law imposes upon certain contractors the obligation to certify whether or not the contractor, its affiliates, and its subcontractors are required to register to collect state sales and compensating use tax and contractors must certify to DTF that each affiliate and subcontractor exceeding such sales threshold is registered with DTF to collect New York State and local sales and compensating use taxes. The law prohibits the State Comptroller, or other approving agencies, from approving a contract awarded to an offeror meeting the registration requirements but who is not so registered in accordance with the law.

The successful Bidder must file a properly completed Form ST-220-CA with the Department of Health and Form ST-220-TD with the DTF. These requirements must be met before a contract may take effect. Further information can be found at the New York State Department of Taxation and Finance's website, available through this link: <http://www.tax.ny.gov/pdf/publications/sales/pub223.pdf>.

Forms are available through these links:

- ST-220 CA: http://www.tax.ny.gov/pdf/current_forms/st/st220ca_fill_in.pdf
- ST-220 TD: http://www.tax.ny.gov/pdf/current_forms/st/st220td_fill_in.pdf

6.8 Workers' Compensation and Disability Benefits Certifications

Sections 57 and 220 of the New York State Workers' Compensation Law (WCL) provide that DOH shall not enter into any contract unless proof of workers' compensation and disability benefits insurance coverage is produced. Prior to entering into a contract with DOH, successful Bidders will be required to verify for DOH, on forms authorized by the New York State Workers' Compensation Board, the fact that they are properly insured or are otherwise in compliance with the insurance provisions of the WCL. The forms to be used to show compliance with the WCL are listed below. Any questions relating to either workers' compensation or disability benefits coverage should be directed to the State of New York Workers' Compensation Board, Bureau of Compliance at (518) 486-6307. Failure to provide verification of either of these types of insurance coverage by the time contracts are ready to be executed will be grounds for disqualification of an otherwise successful Proposal.

The successful Bidder must submit the following documentation to the Department within 10 calendar days of notification of award.

A. Proof of Workers' Compensation Coverage:

ONE of the following forms as Workers' Compensation documentation:

1. **Form C-105.2** – Certificate of Workers' Compensation Insurance issued by private insurance carrier (or

- Form U-26.3 issued by the State Insurance Fund); or
2. **Form SI-12** – Certificate of Workers’ Compensation Self-Insurance (or Form GSI-105.2 Certificate of Participation in Workers’ Compensation Group Self-Insurance); or
 3. **Form CE-200** – Certificate of Attestation of Exemption from New York State Workers’ Compensation and/or Disability Benefits Coverage.

B. Proof of Disability Benefits Coverage:

ONE of the following forms as Disability documentation:

1. **Form DB-120.1** – Certificate of Disability Benefits Insurance; or
2. **Form DB-155** – Certificate of Disability Benefits Self-Insurance; or
3. **Form CE-200** – Certificate of Attestation of Exemption from New York State Workers’ Compensation and/or Disability Benefits Coverage.

Further information is available at the Workers’ Compensation Board’s website, which can be accessed through this link: <http://www.wcb.ny.gov>.

6.9 Subcontracting

Bidders may propose the use of a subcontractor. The Contractor shall obtain prior written approval from NYSDOH before entering into an agreement for services to be provided by a subcontractor. The Contractor is solely responsible for assuring that the requirements of the RFP are met. All subcontracts shall contain provisions specifying that the work performed by the subcontractor must be in accordance with the terms of the prime contract, and that the subcontractor specifically agrees to be bound by the confidentiality provisions set forth in the agreement between the DOH and the Contractor. DOH reserves the right to request removal of any bidder’s staff or subcontractor’s staff if, in DOH’s discretion, such staff is not performing in accordance with the Agreement. Subcontractors whose contracts are valued at or above \$100,000 will be required to submit the Vendor Responsibility Questionnaire upon selection of the prime contractor.

6.10 DOH’s Reserved Rights

The Department of Health reserves the right to:

1. Reject any or all proposals received in response to the RFP;
2. Withdraw the RFP at any time, at the agency’s sole discretion;
3. Make an award under the RFP in whole or in part;
4. Disqualify any Bidder whose conduct and/or proposal fails to conform to the requirements of the RFP;
5. Seek clarifications and revisions of proposals;
6. Use proposal information obtained through site visits, management interviews and the state’s investigation of a Bidder’s qualifications, experience, ability or financial standing, and any material or information submitted by the Bidder in response to the agency’s request for clarifying information in the course of evaluation and/or selection under the RFP;
7. Prior to the bid opening, amend the RFP specifications to correct errors or oversights, or to supply additional information, as it becomes available;
8. Prior to the bid opening, direct Bidders to submit proposal modifications addressing subsequent RFP amendments;
9. Change any of the scheduled dates;
10. Eliminate any mandatory, non-material specifications that cannot be complied with by all of the prospective Bidders;
11. Waive any requirements that are not material;
12. Negotiate with the successful Bidder within the scope of the RFP in the best interests of the state;
13. Conduct contract negotiations with the next responsible Bidder, should the Department be unsuccessful in negotiating with the selected Bidder;
14. Utilize any and all ideas submitted in the proposals received;

15. Every offer shall be firm and not revocable for a period of three hundred and sixty-five days from the bid opening, to the extent not inconsistent with section 2-205 of the uniform commercial code. Subsequent to such three hundred and sixty-five days, any offer is subject to withdrawal communicated in a writing signed by the offerer; and,
16. Require clarification at any time during the procurement process and/or require correction of arithmetic or other apparent errors for the purpose of assuring a full and complete understanding of an offerer's proposal and/or to determine an offerer's compliance with the requirements of the solicitation.

6.11 Freedom of Information Law ("FOIL")

All proposals may be disclosed or used by DOH to the extent permitted by law. DOH may disclose a proposal to any person for the purpose of assisting in evaluating the proposal or for any other lawful purpose. All proposals will become State agency records, which will be available to the public in accordance with the Freedom of Information Law. **Any portion of the proposal that a Bidder believes constitutes proprietary information entitled to confidential handling, as an exception to the Freedom of Information Law, must be clearly and specifically designated in the proposal as directed in Section 7.1(D) of the RFP.** If DOH agrees with the proprietary claim, the designated portion of the proposal will be withheld from public disclosure. Blanket assertions of proprietary material will not be accepted, and failure to specifically designate proprietary material may be deemed a waiver of any right to confidential handling of such material.

6.12 Lobbying

Chapter 1 of the Laws of 2005, as amended by Chapter 596 of the Laws of 2005, made significant changes as it pertains to development of procurement contracts with governmental entities. The changes included:

- a) made the lobbying law applicable to attempts to influence procurement contracts once the procurement process has been commenced by a state agency, unified court system, state legislature, public authority, certain industrial development agencies and local benefit corporations;
- b) required the above mentioned governmental entities to record all contacts made by lobbyists and contractors about a governmental procurement so that the public knows who is contacting governmental entities about procurements;
- c) required governmental entities to designate persons who generally may be the only staff contacted relative to the governmental procurement by that entity in a restricted period;
- d) authorized the New York State Commission on Public Integrity, (now New York State Joint Commission on Public Ethics), to impose fines and penalties against persons/organizations engaging in impermissible contacts about a governmental procurement and provides for the debarment of repeat violators;
- e) directed the Office of General Services to disclose and maintain a list of non-responsible Bidders pursuant to this new law and those who have been debarred and publish such list on its website;
- f) required the timely disclosure of accurate and complete information from offerers with respect to determinations of non-responsibility and debarment; (Bidders responding to this RFP should submit a completed and signed Attachment 1 "Bidder's Disclosure of Prior Non-Responsibility Determination".)
- g) increased the monetary threshold which triggers a lobbyist's obligation under the Lobbying Act from \$2,000 to \$5,000; and
- h) established the Advisory Council on Procurement Lobbying.

Subsequently, Chapter 14 of the Laws of 2007 amended the Lobbying Act of the Legislative Law, particularly as it related to specific aspects of procurements as follows: (i) prohibiting lobbyists from entering into retainer agreements on the outcome of government grant making or other agreement involving public funding; and (ii) reporting lobbying efforts for grants, loans and other disbursements of public funds over \$15,000.

The most notable, however, was the increased penalties provided under Section 20 of Chapter 14 of the Laws of 2007, which replaced old penalty provisions and the addition of a suspension option for lobbyists engaged in repeated violations. Further amendments to the Lobbying Act were made in Chapter 4 of the Laws of 2010.

Questions regarding the registration and operation of the Lobbying Act should be directed to the New York State Joint Commission on Public Ethics.

6.13 State Finance Law Consultant Disclosure Provisions

In accordance with New York State Finance Law Section 163(4)(g), State agencies must require all contractors, including subcontractors, that provide consulting services for State purposes pursuant to a contract to submit an annual employment report for each such contract.

The successful Bidder for procurements involving consultant services must complete a "State Consultant Services Form A, Contractor's Planned Employment From Contract Start Date through End of Contract Term" in order to be eligible for a contract.

The successful winning Bidder must also agree to complete a "State Consultant Services Form B, Contractor's Annual Employment Report" for each state fiscal year included in the resulting contract. This report must be submitted annually to the Department of Health, the Office of the State Comptroller, and Department of Civil Service.

State Consultant Services Form A: Contractor's Planned Employment and Form B: Contractor's Annual Employment Report may be accessed electronically at:

<http://www.osc.state.ny.gov/procurement>.

6.14 Debriefing

Once an award has been made, Bidders may request a debriefing of their proposal. Please note the debriefing will be limited only to the strengths and weaknesses of the Bidder's proposal, and will not include any discussion of other proposals. Requests must be received no later than fifteen (15) calendar days from date of award or non-award announcement.

6.15 Protest Procedures

In the event unsuccessful Bidders wish to protest the award resulting from this RFP, bidders should follow the protest procedures established by the Office of the State Comptroller (OSC). These procedures can be found in Chapter XI Section 17 of the Guide to Financial Operations (GFO). Available on-line at:

<http://www.osc.state.ny.us/agencies/guide/MyWebHelp/>

6.16 Iran Divestment Act

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, Bidder/Contractor (or any assignee) certifies that it is not on the "Entities Determined To Be Non- Responsive Bidders/Offerers Pursuant to The New York State Iran Divestment Act of 2012" list ("Prohibited Entities List") posted on the OGS website (currently found at this address:

<http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>) and further certifies that it will not utilize on such Contract any subcontractor that is identified on the Prohibited Entities List. Additionally, Bidder/Contractor is advised that should it seek to renew or extend a Contract awarded in response to the solicitation, it must provide the same certification at the time the Contract is renewed or extended.

During the term of the Contract, should DOH receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, DOH will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation,

then DOH shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, seeking compliance, recovering damages, or declaring the Contractor in default. DOH reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

6.17 Piggybacking

New York State Finance Law section 163(10)(e) (see also <http://www.ogs.ny.gov/purchase/snt/sflxi.asp>) allows the Commissioner of the NYS Office of General Services to consent to the use of this contract by other New York State Agencies, and other authorized purchasers, subject to conditions and the Contractor's consent.

6.18 Encouraging Use of New York Businesses in Contract Performance

Public procurements can drive and improve the State's economic engine through promotion of the use of New York businesses by its contractors. New York State businesses have a substantial presence in State contracts and strongly contribute to the economies of the state and the nation. In recognition of their economic activity and leadership in doing business in New York State, Bidders/proposers for this contract for commodities, services or technology are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles. All Bidders should complete Attachment 6, Encouraging Use of New York Businesses in Contract Performance, to indicate their intent to use/not use New York Businesses in the performance of this contract.

6.19 Diversity Practices Questionnaire

Diversity practices are the efforts of contractors to include New York State-certified Minority and Women-owned Business Enterprises ("MWBEs") in their business practices. Diversity practices may include past, present, or future actions and policies, and include activities of contractors on contracts with private entities and governmental units other than the State of New York. Assessing the diversity practices of contractors enables contractors to engage in meaningful, capacity-building collaborations with MWBEs.

6.20 Participation Opportunities for New York State Certified Service-Disabled Veteran-Owned Businesses

Article 17-B of the New York State Executive Law provides for more meaningful participation in public procurement by certified Service-Disabled Veteran-Owned Businesses ("SDVOBs"), thereby further integrating such businesses into New York State's economy. DOH recognizes the need to promote the employment of service-disabled veterans and to ensure that certified service-disabled veteran-owned businesses have opportunities for maximum feasible participation in the performance of DOH contracts.

In recognition of the service and sacrifices made by service-disabled veterans and in recognition of their economic activity in doing business in New York State, Bidders/Contractors are strongly encouraged and expected to consider SDVOBs in the fulfillment of the requirements of the Contract. Such participation may be as subcontractors or suppliers, as protégés, or in other partnering or supporting roles.

For purposes of this procurement, DOH conducted a comprehensive search and determined that the Contract does not offer sufficient opportunities to set specific goals for participation by SDVOBs as subcontractors, service providers, and suppliers to Contractor. Nevertheless, Bidder/Contractor is encouraged to make good faith efforts to promote and assist in the participation of SDVOBs on the Contract for the provision of services and materials. The directory of New York State Certified SDVOBs can be

viewed at: <https://ogs.ny.gov/veterans/>

Bidders are encouraged to contact the Office of General Services' Division of Service-Disabled Veteran's Business Development at 518-474-2015 or VeteransDevelopment@ogs.ny.gov to discuss methods of maximizing participation by SDVOBs on the Contract.

6.21 Intellectual Property

Any work product created pursuant to this agreement and any subcontract shall become the sole and exclusive property of the New York State Department of Health, which shall have all rights of ownership and authorship in such work product.

7.0 PROPOSAL CONTENT

The following includes the requested format and information to be provided by each Bidder. Bidders responding to this RFP must satisfy all requirements stated in this RFP. All Bidders are requested to submit complete Administrative, Technical, and Cost proposals. A proposal that is incomplete in any material respect may be rejected.

To expedite review of the proposals, Bidders are requested to submit proposals in separate Administrative, Technical, and Cost packages inclusive of all materials as summarized in Attachment C, Proposal Documents Checklist. This separation of information will facilitate the review of the material requested. No information beyond that specifically requested is required, and Bidders are requested to keep their submissions to the shortest length consistent with making a complete presentation of qualifications. Evaluations of the Administrative, Technical, and Cost Proposals received in response to this RFP will be conducted separately. Bidders are therefore cautioned not to include any Cost Proposal information in the Technical Proposal documents.

DOH will not be responsible for expenses incurred in preparing and submitting the Administrative, Technical, or Cost Proposals.

7.1 Administrative Proposal

The Administrative Proposal should contain all items listed below. A proposal that is incomplete in any material respect may be eliminated from consideration. The information requested should be provided in the prescribed format. Responses that do not follow the prescribed format may be eliminated from consideration. All responses to the RFP may be subject to verification for accuracy. Please provide the forms in the same order in which they are requested.

A. M/WBE Forms

Submit completed Form #1 **and/or** Form #2, **and** Form #4 **and** Form #5 as directed in **Attachment 5**, "Guide to New York State DOH M/WBE RFP Required Forms & Forms."

B. Bidder's Disclosure of Prior Non-Responsibility Determinations

Submit a completed and signed **Attachment 1**, "Prior Non-Responsibility Determination."

C. Vendor Responsibility

Complete, certify, and file a New York State Vendor Responsibility Questionnaire. DOH

recommends that vendors file the required Vendor Responsibility Questionnaire online via the New York State VendRep System. To enroll in and use the New York State VendRep System, see the VendRep System Instructions at www.osc.state.ny.us/vendrep/vendor_index.htm or go directly to the VendRep System online at <https://portal.osc.state.ny.us>.

Vendors must provide their New York State Vendor Identification Number when enrolling. To request assignment of a Vendor ID or for VendRep System assistance, contact the OSC Help Desk at 866-370-4672 or 518-408-4672 or by email at ciohelpdesk@osc.state.ny.us.

Vendors opting to complete and submit a paper questionnaire can obtain the appropriate questionnaire from the VendRep website, www.osc.state.ny.us/vendrep, or may contact the Office of the State Comptroller's Help Desk for a copy of the paper form. Bidder's should complete and submit **Attachment 3**, "Vendor Responsibility Attestation".

D. Freedom of Information Law – Proposal Redactions

Bidders must clearly and specifically identify any portion of the proposal that a Bidder believes constitutes proprietary information entitled to confidential handling as an exception to the Freedom of Information Law. See Section 6.11, (Freedom of Information Law).

E. Bidder's Certified Statements

Submit **Attachment 7**, "Bidder's Certified Statements", which includes information regarding the Bidder. Attachment 7 must be signed by an individual authorized to bind the Bidder contractually. Please indicate the title or position that the signer holds with the Bidder. DOH reserves the right to reject a proposal that contains an incomplete or unsigned Attachment 7 or no Attachment 7.

F. Encouraging Use of New York Businesses in Contract Performance

Submit **Attachment 6**, "Encouraging Use of New York State Businesses" in Contract Performance to indicate which New York Businesses, you will use in the performance of the contract.

G. References

Provide references using **Attachment 9**, "References", from **three** business references; at least two should be current clients running a comparable IIS or that demonstrate an understanding of the WIR system. These references should describe the Bidder's experience in the past five years in the areas for which services are being offered. Each reference should include the name, address and phone number of the client organization, a brief description of the services performed, and the name of the responsible Project Manager at the client organization (See Attachment 9). If subcontractors or similar entities are included, the Bidder's experience in working with such entities on similar projects should be described. Similar references should be provided for any proposed subcontractors.

H. Conflict of Interest or Detrimental Effect

Submit Attachment 4, Vendor's Assurance of No Conflict of Interest or Detrimental Effect, which includes information regarding the Bidder, members, shareholders, parents, affiliates or subcontractors. Attachment 4 must be signed by an individual authorized to bind the Bidder contractually.

7.2 Technical Proposal

The purpose of the Technical Proposal is to demonstrate the qualifications, competence, and capacity of the Bidder to perform the services contained in this RFP. The Technical Proposal should demonstrate

the qualifications of the Bidder and the staff to be assigned to provide services related to the services included in this RFP.

A Technical Proposal that is incomplete in any material respect may be eliminated from consideration. The following outlines the required information to be provided, in the following order, by Bidders. The information requested should be provided in the prescribed format. Responses that do not follow the prescribed format may be eliminated from consideration. All responses to the RFP may be subject to verification for accuracy.

While additional data may be presented, the following should be included. Please provide the information in the same order in which it is requested. Your proposal should contain sufficient information to assure DOH of its accuracy. Failure to follow these instructions may result in disqualification.

Pricing information contained in the Cost Proposal cannot be included in the Technical Proposal documents.

A. Title Page

Submit a Title Page providing the RFP subject and number; the Bidder's name and address, the name, address, telephone number, and email address of the Bidder's contact person; and the date of the Proposal.

B. Table of Contents

The Table of Contents should clearly identify all material (by section and page number) included in the proposal.

C. Documentation of Bidder's Eligibility.

Documentation of Bidder's eligibility responsive to Section 3.0 of RFP Technical Proposal Narrative. This should be clearly addressed using Attachment E.

- Minimum Qualifications: Three (3) years of experience modifying the Wisconsin Immunization Registry (WIR) to meet other state IIS requirements OR five years general IIS experience.

D. Organization Background, Experience, and Capacity

The Bidder should describe their organizational structure, business mission, headquarters, and branch office locations, parent and subsidiary organizations, and the relationships between Bidder's organization and any parent or subsidiary. The Bidder should include the number of years the organization has been in business, and a description of the organization's ability to meet the performance requirements, specifically the technologies, the special techniques, skills or abilities of the organization. A high level plan of the personnel necessary to accomplish the contract requirements should be provided with a discussion of the duties, responsibilities, relevant credentials, and expertise. In addition, the Bidder should describe the ability to recruit qualified staff, how the Bidder will assure availability of these staffs at the time of award, and how they promote staff retention.

Bidders should provide evidence that the bidding entity has the organizational experience and capacity to provide the services requested in the RFP by submitting relevant information regarding past projects. Project descriptions should include the client name, description of services provided and a description of the project components that are similar to the services outlined in the RFP.

E. Technical Proposal Narrative

The Technical Proposal should provide satisfactory evidence of the Bidder's experience and ability to meet, and expressly respond to, each requirement and information requested in this RFP. For all activities and tasks to be undertaken by the vendor in fulfilling the requirements of this RFP, Bidders should:

- Describe a detailed approach and understanding of the deliverables as outlined in the RFP; addressing, in order, all subsections under Scope of Work 4.2; 4.3; 4.4; 4.5; 4.6; and 4.7. Label each subsection by its corresponding letter/number in the scope of work.
- Clearly describe in detail your approach to supporting the system security and privacy requirements listed in the RFP; 5.2.
- Include examples of all document deliverables
 - (a) Weekly and Monthly Statistic Reports
 - (b) Weekly Status Reports
 - (c) Draft Project Schedule
 - (d) Change Request Form
 - (e) Change Request Log
 - (f) Enhancement Request Form
 - (g) Enhancement Request Log
- Describe the specific techniques and steps that will be applied while accomplishing all tasks of this RFP;
- Outline the proposed methodology for guiding performance of the technical requirements identified in the RFP; and
- Present a logical sequence of tasks that will be performed to accomplish RFP deliverables (Recommend including a Work Plan using MS Project.)
- Propose sufficient staffing levels to appropriately perform the activities and tasks described in this RFP.

7.3 Cost Proposal

The NYSDOH seeks a cost-effective bid. Bid price must reflect all costs, including those associated with personnel, fringe, indirect costs, travel, materials, and miscellaneous expenses. For purposes of this RFP, the bid prices should be submitted on an annual basis for each service and on a deliverable basis for those items described in Section 4.7, as outlined in the bid form contained in Attachment D, Cost Proposal. Change request effort and system enhancement effort should be bid as an hourly rate and must also reflect all associated costs. No cost information should be submitted in the technical proposal.

Actual reimbursement will be based on a fixed price per deliverable or service, based on the Bidder's bid price per deliverable or service. Change request effort and system enhancement effort will be based on a fixed price per hour of effort. NYSDOH reserves the right to adjust the mix and duration of the type of staff secured during this project dependent upon the needs of the project throughout the project lifecycle and the life of the contract, provided that the allocated budget is not exceeded. The actual number of hours required per Position Title and which Titles will be needed will be determined throughout the life of the project, dependent on the work being prioritized by NYSDOH.

The NYSDOH reserves the right to request a best and final offer. To maintain the competitive nature of this solicitation NYSDOH will not release the dollar amount of the funding available.

Cost Proposals should be accurate, clear and concise. Submit a completed and signed Attachment D– **Cost Proposal**. The Cost Proposal shall comply with the format and content requirements as detailed in this document and in Attachment D. Failure to comply with the format and content requirements may result in disqualification.

8.0 PROPOSAL SUBMISSION

A proposal consists of three distinct parts: (1) the Administrative Proposal, (2) the Technical Proposal, and (3) the Cost Proposal. The table below outlines the requested format and volume for submission of each part. Proposals should be submitted in all formats as prescribed below.

	Electronic Submission	Paper Submission
Administrative Proposal	2 dedicated flash drives or CDs labeled "Administrative Proposal" containing a standard searchable PDF file with copy/read permissions only.	4 Originals 6 Copies
Technical Proposal	2 dedicated flash drives or CDs labeled "Technical Proposal" containing a standard searchable PDF file with copy/read permissions only.	4 Originals 6 Copies
Cost Proposal	2 dedicated flash drives or CDs labeled "Cost Proposal" containing standard searchable PDF file(s) with copy/read permissions only.	4 Originals 6 Copies

1. All hard copy proposal materials should be printed on 8.5" x 11" white paper (two-sided) and **be clearly page numbered on the bottom of each page with appropriate header and footer information.** A type size of eleven (11) points or larger should be used. The Technical Proposal materials should be presented separate from the sealed Cost Proposal. The sealed Cost Proposal should also be presented in a separate folder;
2. Where signatures are required, the proposals designated as originals should have a handwritten signature and be signed in blue ink;
3. The NYSDOH discourages overly lengthy proposals. Therefore, marketing brochures, user manuals or other materials, beyond that sufficient to present a complete and effective proposal, are not desired. Elaborate artwork or expensive paper is not necessary or desired. In order for the NYSDOH to evaluate proposals fairly and completely, proposals should follow the format described in this RFP to provide all requested information. The Bidder should not repeat information in more than one section of the proposal. If information in one section of the proposal is relevant to a discussion in another section, the Bidder should make specific reference to the other section rather than repeating the information;
4. Audio and/or videotapes are not allowed. Any submitted audio or videotapes will be ignored by the evaluation team; and
5. In the event that a discrepancy is found between the electronic and hardcopy proposal, the original hardcopy will prevail.

The proposal must be received by the NYSDOH, no later than the Deadline for Submission of Proposals specified in Section 1.0 (Calendar of Events). Late bids will not be considered.

Proposals should be submitted in three (3) separate, clearly labeled packages: (1) Administrative Proposal, (2) Technical Proposal and (3) Cost Proposal, prepared in accordance with the requirements stated in this RFP. Mark the outside envelope of each proposal as "RFP# **17786** Maintenance and Enhancement of the New York State Immunization Information System - NYSIIS (Administrative) (Technical) or (Cost) Proposal submitted by (Bidder's name)". The three sealed proposals may be combined into one mailing, if desired.

Proposals must be submitted, by U.S. Mail, by courier/delivery service (e.g., FedEx, UPS, etc.) or by hand as noted below, in a sealed package to:

New York State Department of Health
 Bureau of Immunization
 ESP, Corning Tower Room 710
 Albany, NY 12237-0627
 Attention: Dina Hoefer, Ph.D.

NOTE: You should request a receipt containing the time and date received and the signature of the receiver for all hand-deliveries and ask that this information also be written on the package(s). If you intend to hand deliver your proposal, you must contact the Bureau of Immunization at 518-473-2839 at least one business day prior to your arrival so that access through building security can be arranged. You will also need to leave sufficient time to stop at the security desk, obtain an ID badge and arrive at the designated office

location by the deadline.

Submission of proposals in a manner other than as described in these instructions (e.g., fax, electronic transmission) will not be accepted.

8.1 No Bid Form

Bidders choosing not to bid are requested to complete the No-Bid form Attachment 2.

9.0 METHOD OF AWARD

9.1 General Information

DOH will evaluate each proposal based on the “Best Value” concept. This means that the proposal that best “optimizes quality, cost, and efficiency among responsive and responsible offerers” shall be selected for award (State Finance Law, Article 11, §163(1)(j)).

DOH at its sole discretion, will determine which proposal(s) best satisfies its requirements. DOH reserves all rights with respect to the award. All proposals deemed to be responsive to the requirements of this procurement will be evaluated and scored for technical qualities and cost. Proposals failing to meet the requirements of this document may be eliminated from consideration. The evaluation process will include separate technical and cost evaluations, and the result of each evaluation shall remain confidential until both evaluations have been completed and a selection of the winning proposal is made.

The evaluation process will be conducted in a comprehensive and impartial manner, as set forth herein, by an Evaluation Committee. The Technical Proposal and compliance with other RFP requirements (other than the Cost Proposal) will be weighted **70%** of a proposal’s total score and the information contained in the Cost Proposal will be weighted **30%** of a proposal’s total score

Bidders may be requested by DOH to clarify the contents of their proposals. Other than to provide such information as may be requested by DOH, no Bidder will be allowed to alter its proposal or add information after the Deadline for Submission of Proposals listed in Section 1.0 (Calendar of Events).

In the event of a tie, the determining factors for award, in the following order of importance, will be: (1) lowest cost; (2) satisfactory completion of one project within the past three years that is comparable to the RFP requirements (scored).

9.2 Submission Review

DOH will examine all proposals that are received in a proper and timely manner to determine if they meet the proposal submission requirements, as described in Section 7.0 (Proposal Content) and Section 8.0 (Proposal Submission), and include the proper documentation, including all documentation required for the Administrative Proposal, as stated in this RFP. Proposals that are materially deficient in meeting the submission requirements or have omitted material documents, in the sole opinion of DOH, may be rejected.

9.3 Technical Evaluation

The evaluation process will be conducted in a comprehensive and impartial manner. A Technical Evaluation Committee comprised of program staff of DOH and technical staff of ITS will review and evaluate all proposals.

Proposals will undergo a preliminary evaluation to verify Minimum Qualifications to Propose (Section 3.0); Attachment E.

The Technical Evaluation Committee members will independently score each Technical Proposal that meets the submission requirements of this RFP. The individual Committee Member scores will be averaged to calculate the Technical Score for each responsive Bidder.

The technical evaluation, including the technical proposal evaluation and compliance with other RFP requirements (other than the Cost Proposal) is **70%** (up to 70 points) of the final score.

9.4 Cost Evaluation

The Cost Evaluation Committee will examine the Cost Proposal documents. The Cost Proposals will be opened and reviewed for responsiveness to cost requirements. If a cost proposal is found to be non-responsive, that proposal may not receive a cost score and may be eliminated from consideration.

The Cost Proposals will be scored based on a maximum cost score of 30 points. The maximum cost score will be allocated to the proposal with the lowest all-inclusive not-to-exceed maximum price. All other responsive proposals will receive a proportionate score based on the relation of their Cost Proposal to the proposals offered at the lowest final cost, using this formula:

$$C = (A/B) * 30$$

A is Total price of lowest cost proposal;
B is Total price of cost proposal being scored; and
C is the Cost score.

The cost evaluation is **30%** (up to 30 points) of the final score.

9.5 Composite Score

A composite score will be calculated by the DOH by adding the Technical Proposal points and the Cost points awarded. Finalists will be determined based on composite scores.

9.6 Reference Checks

The Bidder should submit references using Attachment 9 (References). At the discretion of the Evaluation Committee, references may be checked at any point during the process to verify Bidder qualifications to propose (Section 3.0).

9.7 Best and Final Offers

NYSDOH reserves the right to request best and final offers. In the event NYSDOH exercises this right, all Bidders that submitted a proposal that are susceptible to award will be asked to provide a best and final offer. Bidders will be informed that should they choose not to submit a best and final offer, the offer submitted with their proposal will be construed as their best and final offer.

9.8 Award Recommendation

The Evaluation Committee will submit a recommendation for award to the Finalist(s) with the highest composite score(s) whose experience and qualifications have been verified.

The Department will notify the awarded Bidder(s) and Bidders not awarded. The awarded Bidder(s) will enter into a written Agreement substantially in accordance with the terms of Attachment 8, Sample DOH Contract, to provide the required services as specified in this RFP. The resultant contract shall not be binding until fully executed and approved by the New York State Office of the Attorney General and the Office of the State Comptroller.

10.0 ATTACHMENTS

The following attachments are included in this RFP and are available via hyperlink or can be found at:
<https://www.health.ny.gov/funding/forms/>

1. [Bidder's Disclosure of Prior Non-Responsibility Determination](#)
2. [No-Bid Form](#)
3. [Vendor Responsibility Attestation](#)
4. [Vendor Assurance of No Conflict of Interest or Detrimental Effect](#)
5. [Guide to New York State DOH M/WBE Required Forms & Forms](#)
6. [Encouraging Use of New York Businesses in Contract Performance](#)
7. [Bidder's Certified Statements](#)
8. [Sample DOH Contract](#)
9. [References](#)

The following attachments are included in this RFP via the Bidder's Library:

- A. NYSIIS Architecture
- B. Wisconsin Immunization Registry LLC
- C. Proposal Document Checklist
- D. Cost Proposal
- E. Bidder's Documentation of Eligibility
- F. NYSIIS Roles and Responsibilities Matrix

ATTACHMENT A

NYSIIS Infrastructure Architecture Description

Introduction

The New York State Immunization Information System (NYSIIS) is a web / Hyper Text Transfer Protocol (HTTP) based system, processing information of immunizations done across the state of New York. Current focus of the information processed is all immunizations in the State of New York, with the exception of those done in New York City. Mandatory reporting is required for organizations that give immunizations to patients under 19 years of age. Consent is required for those patients 19 and over to have immunizations reported in NYSIIS.

Infrastructure Architecture

The NYSIIS infrastructure architecture is based around several components of the New York State Office of Information Technology Services' (NYS OITS) leveraged infrastructure, all hosted in their datacenters.

The Operating system platform is all based around virtualized IBM "AIX" UNIX (UNIX) systems. Utilizing Logical PARTitioning (LPAR) technology, a single large IBM Power™ system can be sliced up into many smaller individual systems used by multiple tenants. This type of virtualization allows for very efficient use of the total available compute resources. Capacity needs to be well managed and forecasted for the system to maintain a proper response profile under the majority of circumstances.

The backend storage (SAN storage) of the UNIX environment is a multi-tenant environment based around EMC VMAX and EMC VNX storage arrays fronted by an EMC VPLEX system. The UNIX systems use multiple links of multiple Fibre-Channel adapters into redundant SAN fabrics to access the SAN storage. Utilization of these links is carefully managed and capacity increased when capacity forecasts indicate this is needed.

The UNIX systems connect to the datacenter network environment via multiple 10Gbps Ethernet links delivering 80Gbps+ in aggregate available bandwidth to the hosted LPARs.

The UNIX environments are protected from other NYS DOH and NYS OITS environment and direct end-user access by means of redundant pairs of firewalls.

Application Architecture

The application is deployed in four environments utilizing their own sets of UNIX LPARs deployed in three network tiers:

- A Production environment (Figure 1)
- A combined Quality Assurance (QA) / Training environment (Figure 3)
- A Production Disaster Recovery environment (Figure 5)
- A combined QA-Training Disaster Recovery environment (Figure 6)

The back-end databases of NYSIIS are Oracle Relational Databases located in a network tier separated by a firewall from the application servers. Web servers are placed in a secured DMZ, also separated with firewalls from both the application and database servers.

Each of the above four environments has a Transactional database instance on a LPAR as well as a Data Mart database instance on its own LPAR. For Disaster Recovery purposes Oracle Data Guard replication is configured for each database instance in the Production and QA-Training environments to the corresponding Disaster Recovery site database environments. The disaster recovery site does not have any on-line application servers. Recovery of those application server environments rely currently on tape recovery.

For direct database reporting and query access, the UPHN / UPHN Lite NYSIIS Users, EHDI and NYSIIS staff on the DOH network utilize the Disaster Recovery NYSIIS environments. Since Oracle Data Guard replicates data from the Production (Figure 2) and QA-Training (Figure 4) environments continuously to their respective DR environments, running these reports and queries against the DR environments will yield results with current data yet ensures this workload doesn't impact the Production Transactional and QA-Training Transactional environments itself.

NYSIIS – Production Environment Architecture

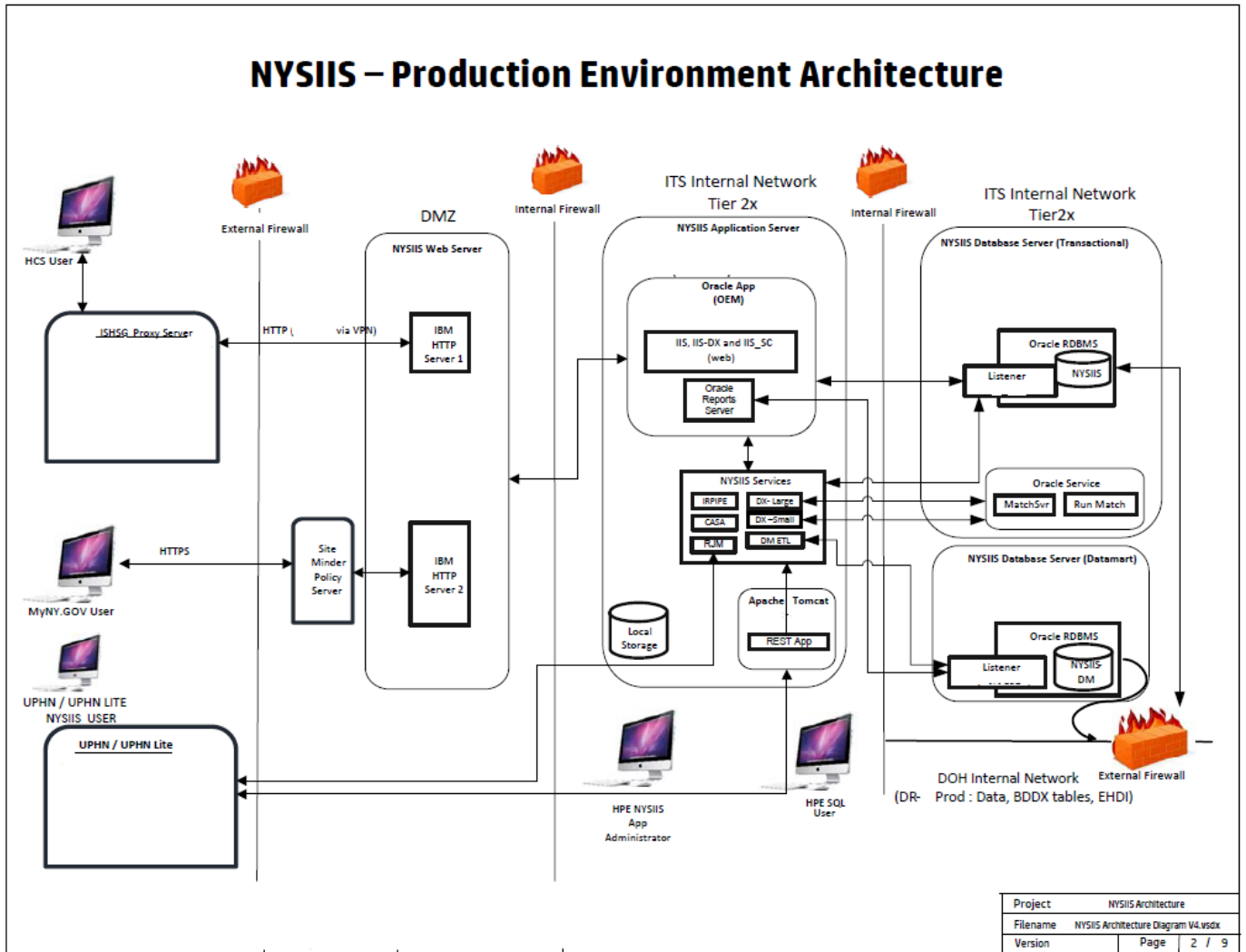


Figure 1 NYSIIS - Production Environment Architecture

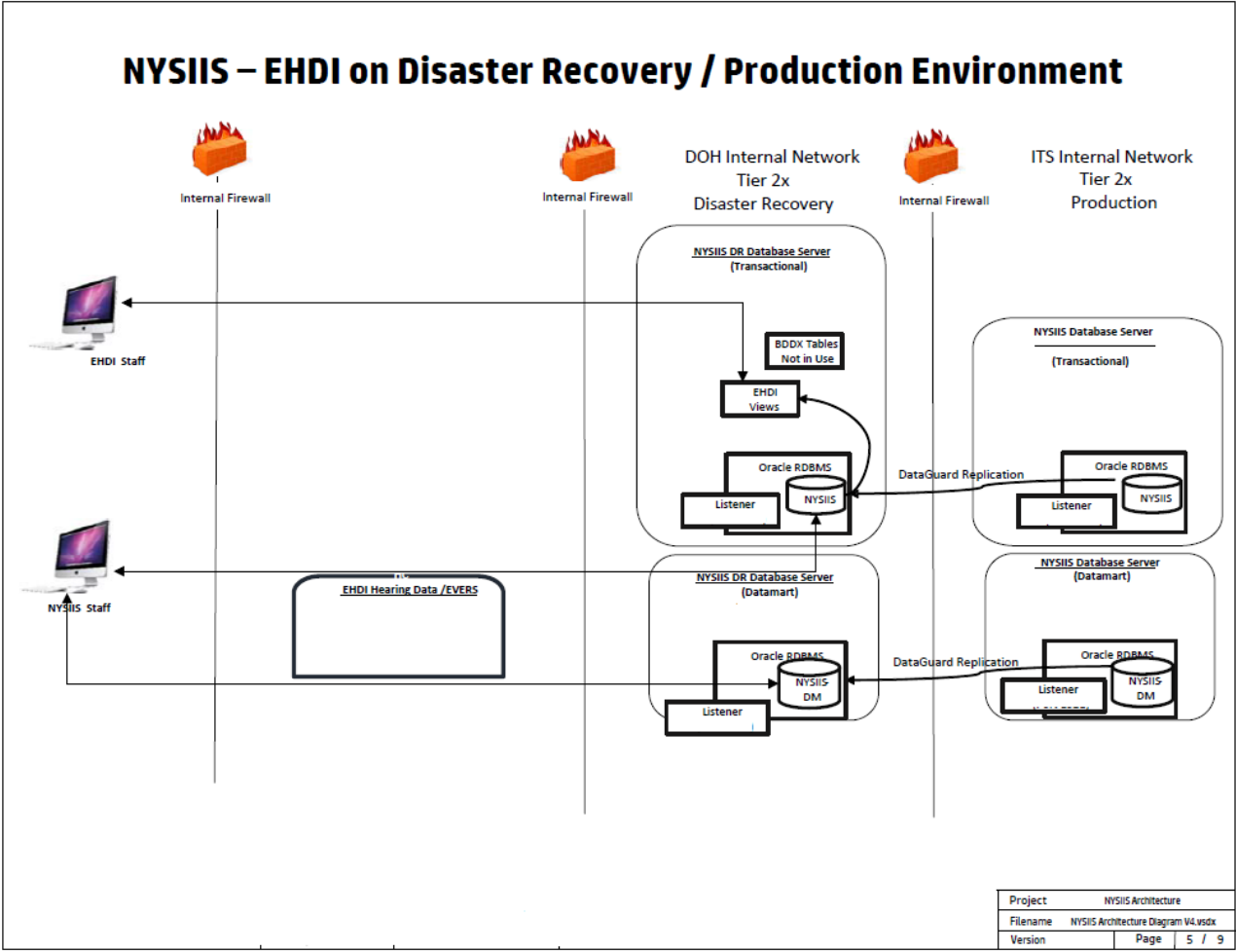
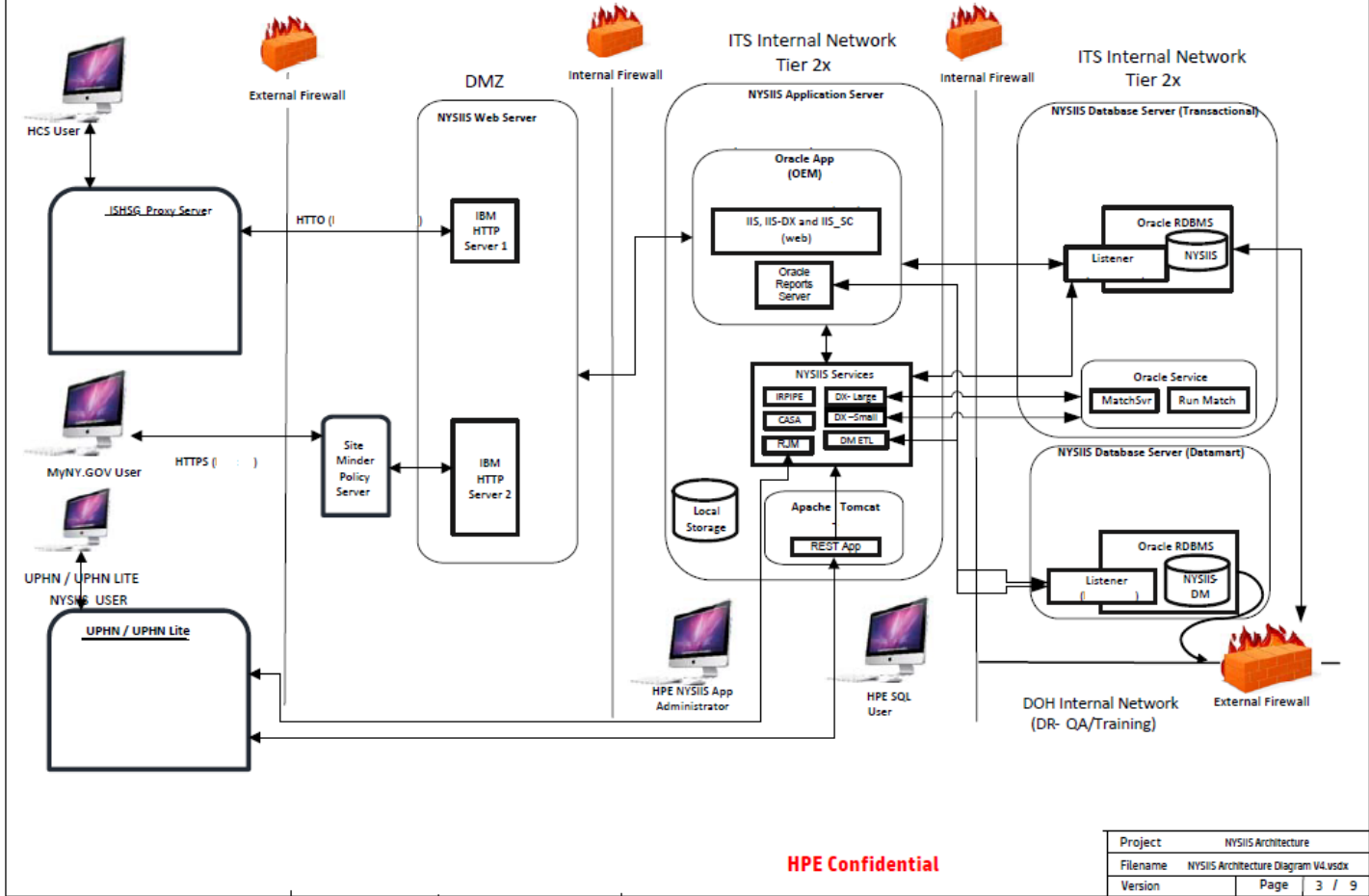


Figure 2 NYSIIS - EHDl / DR Transactional / Production Environment

NYSIIS – QA and Training Environment Architecture



HPE Confidential

Project	NYSIIS Architecture
Filename	NYSIIS Architecture Diagram V4.usdx
Version	Page 3 / 9

Figure 3 NYSIIS - Quality Assurance and Training Environment Architecture

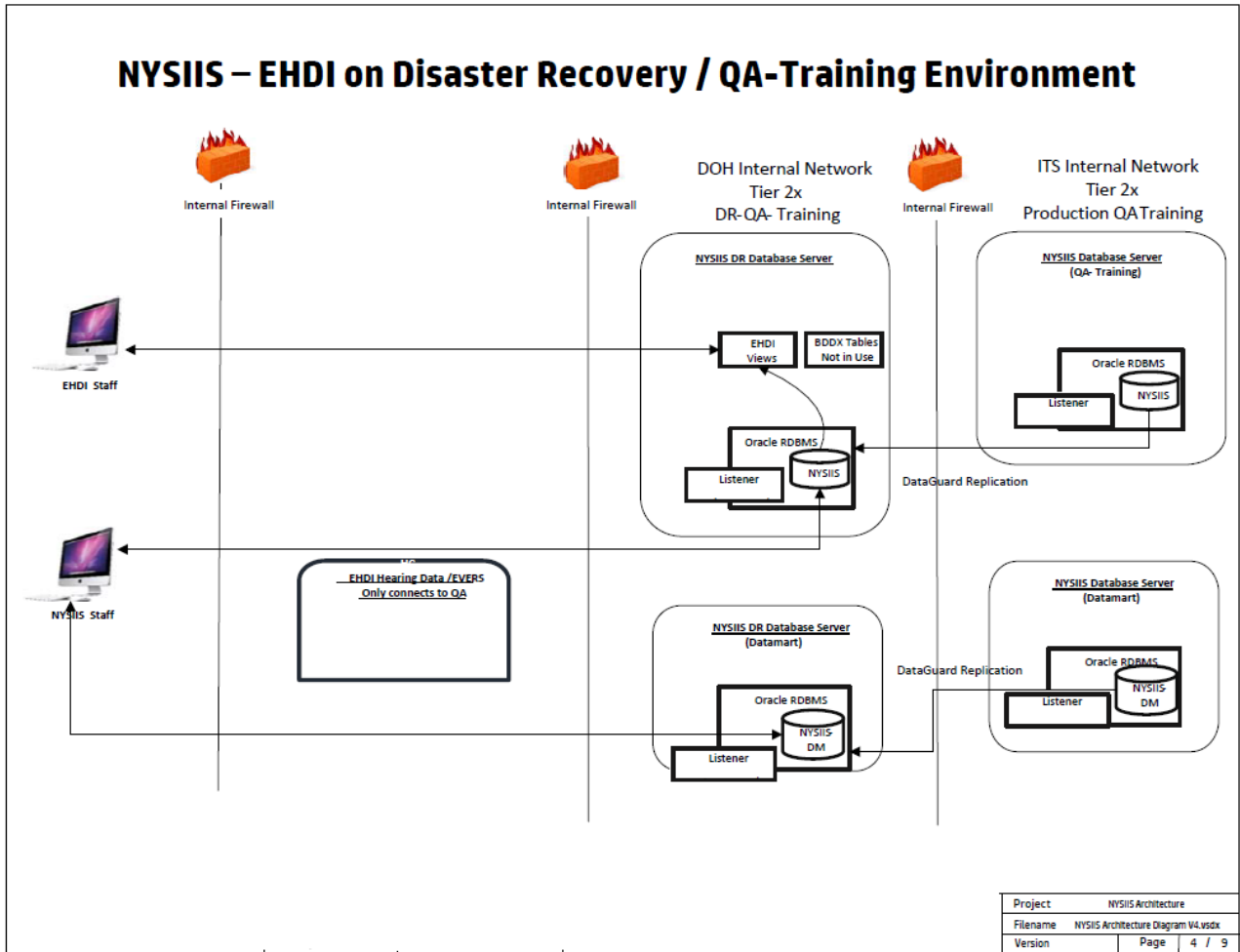


Figure 4 NYSIIS - EHDl / Disaster Recovery QA-Training / QA-Training

NYSIIS – Disaster Recovery Environment Architecture

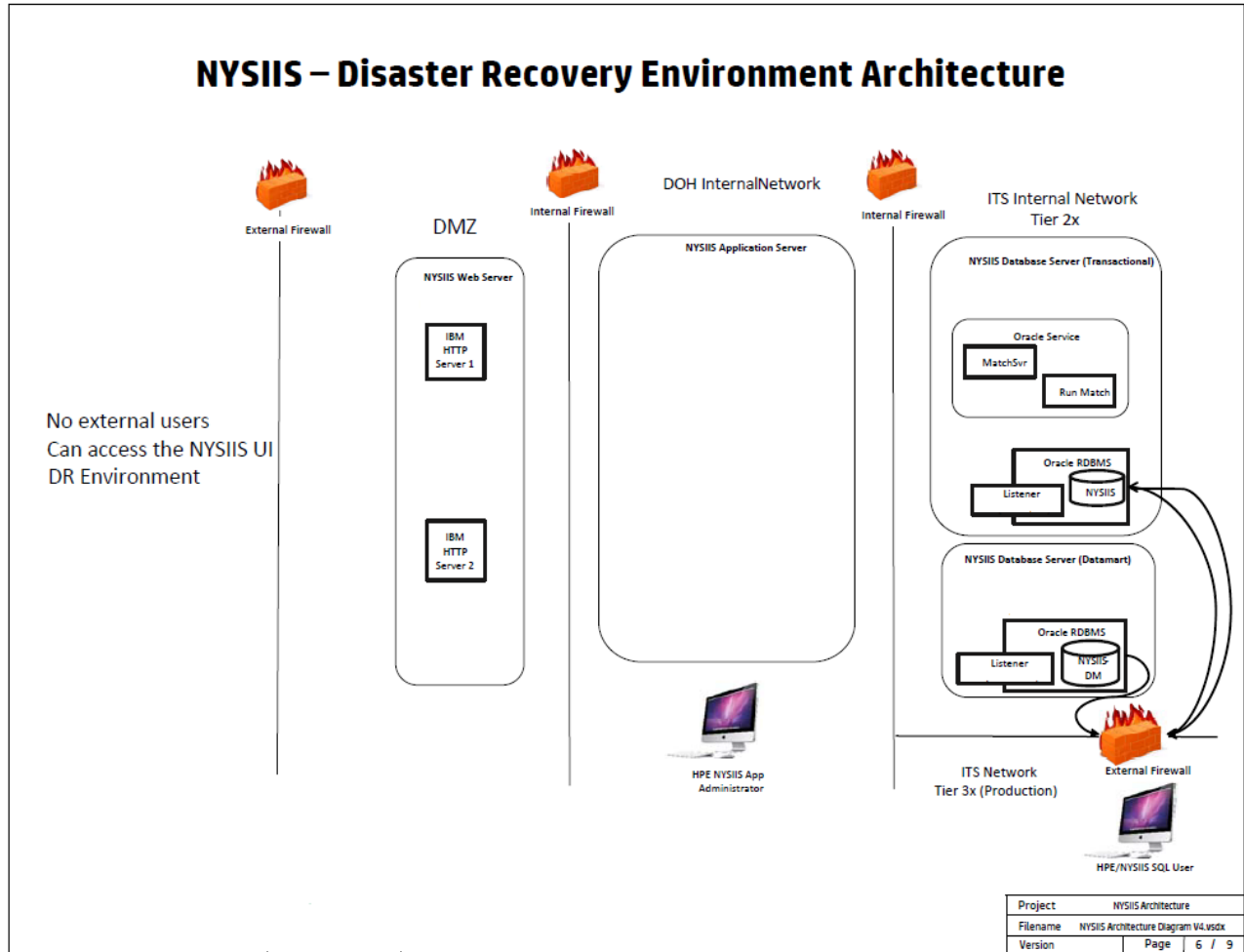


Figure 5 NYSIIS - Disaster Recovery Environment Architecture

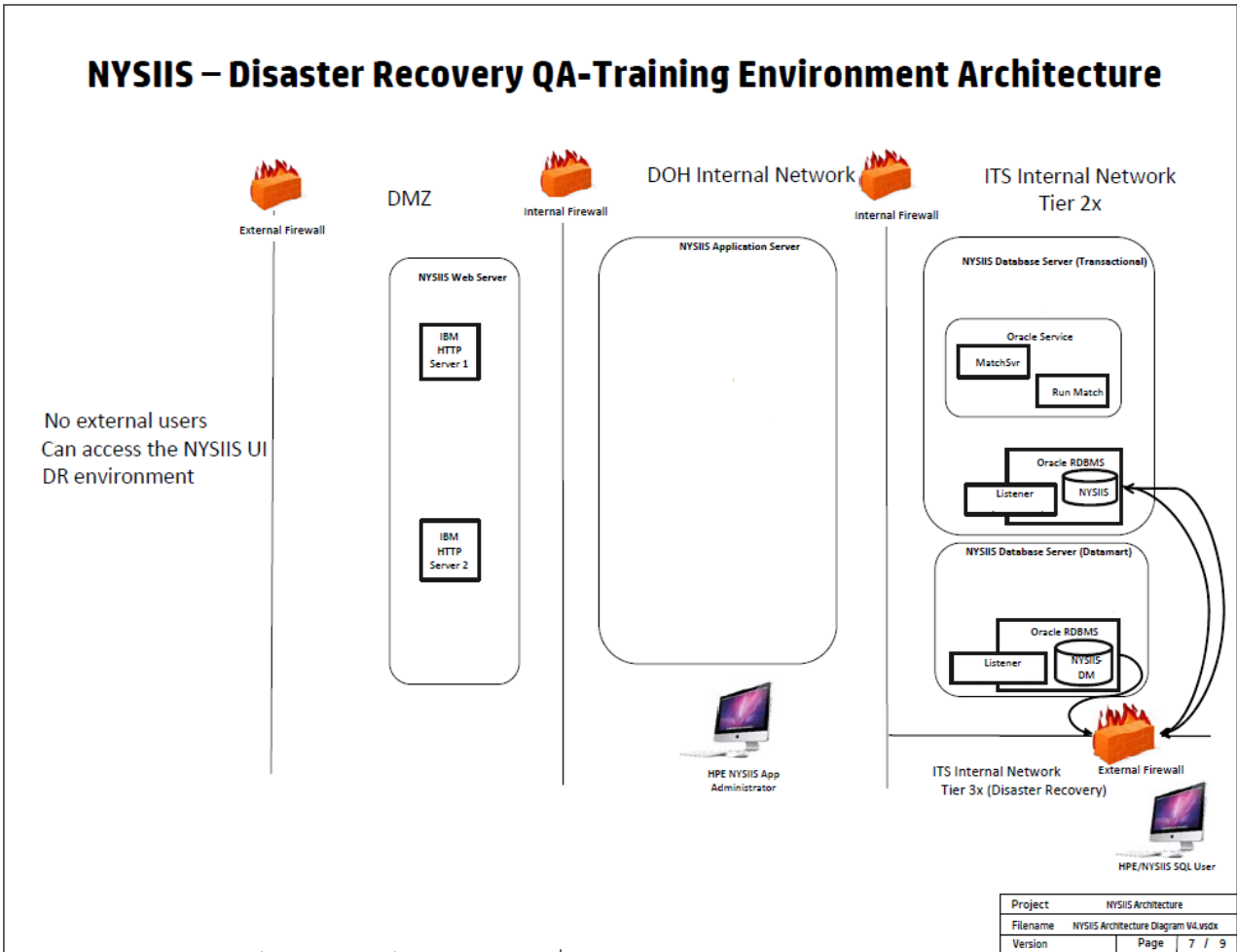


Figure 6 NYSIIS - Disaster Recovery QA-Training Environment Architecture

Network Architecture

The currently deployed network architecture of NYSIIS follows industry best practices where web serving, application logic and data stored in databases are segregated and secured from each other by using a three-tiered network architecture. Network access to each tier is controlled by firewalls, allowing only specific, preconfigured, traffic between tiers to occur.

This setup is highly secure when the firewall configurations between tiers follow a 'default deny all' policy and are combined with strict change control. Network security can be easily maintained as long as, part of change control, security reviews are performed on each requested ruleset, with ruleset changes requesting 'many to many' or 'any to any' type rules being typically disallowed or needing (additional) business justifications.

All servers in the least secure tier, typically called the "DMZ", are outfitted with anti-malware and/or anti-virus detection tools. These tools monitor at the operating system level, guarding the OS environment from outside intrusions and infections which could utilize attack vectors the firewalls can't block without limiting or blocking the functionality of the application.

The NYSIIS UAT/TRN/Production application, Data Mart, and database servers currently reside on an IBM p880 Power 8 system. Both the NYSIIS UAT/TRN/Production web servers reside on an IBM p770 Power 7 system.

Database Architecture

Utilizing a transactional database and a separate Data Mart in each environment ensures that the different types of workload stresses placed on the underlying infrastructure hardware can be easily controlled. A transactional database typically has lots of small and short query and update transactions, while a query against a data mart is typically large and long running. Each transaction type has wildly different I/O patterns and resource utilization patterns.

Using Oracle Data Guard to replicate changes to the databases online to the Disaster Recovery site ensures the Disaster Recovery site is never behind more than a few transactions, if any. This ensures an extremely small Recovery Point Objective (RPO) and a short Return to Operations (RTO) of the database environments, if anything were to happen to the Production environment. The actual RTO and RPO however are longer than the RTO and RPO for the databases, due to the current reliance on tape recovery for the application server environments.

Not only is the Production environment configured with Data Guard and a Disaster Recovery environment, but so is the QA-Training environment. This allows testing of any changes to the entire Oracle environment to be made and confirmed in a non-production setting, before these changes are pushed into production. A properly configured non-production environment like this aids in more confident application deployments and upgrades of the entire production environment at a reduced risk level.

Terminology and Acronyms

<i>Term</i>	<i>Definition</i>
<i>CPU</i>	Central Processing Unit
<i>EMC VPLEX</i>	SAN storage virtualization device by EMC
<i>EMC VMAX</i>	SAN storage array technology by EMC
<i>EMC VNX</i>	SAN storage array technology by EMC
<i>Gbps</i>	Giga (2 ³⁰ or 1,073,741,824) Bits Per Second
<i>HPE</i>	Hewlett Packard Enterprise
<i>HTTP</i>	Hyper Text Transfer Protocol
<i>I/O</i>	Input/Output
<i>LPAR</i>	“Logical PARTition”, a server virtualization technology by IBM
<i>NYIR</i>	New York Immunization Registry
<i>NYS DOH</i>	New York State Department of Health
<i>NYSIIS</i>	New York State Immunization Information System
<i>NYS ITS</i>	New York State Office of Information Technology Services
<i>SAN</i>	Storage Area Network
<i>UNIX</i>	A midrange Operating System, in this document: IBM’s proprietary “AIX” UNIX

ATTACHMENT B

Wisconsin Immunization Registry (WIR)

LIMITED LICENSE AGREEMENT

This limited license (“License”) is hereby granted by the State of Wisconsin, Department of Health and Family Services, Division of Public Health, Immunization Program (“Licensor”) to the New York State Department of Health and Human Services (“Licensee”).

WHEREAS, Licensor operates and owns the Wisconsin Immunization Registry (“WIR”) computer program; and,

WHEREAS, through this License, Licensor is authorized to allow Licensee access to a copy of the WIR software to modify for support of the New York State Immunization program; and,

WHEREAS, Licensee desires to obtain access to a copy of the WIR software subject to the terms of this limited License:

NOW THEREFORE, Licensee agrees as follows:

1. Definitions

- 1.1 “Documentation” means the user, system and installation documentation for the Software.
- 1.2 “License” means the license granted by Licensor to Licensee to use the Licensed Material in accordance with the terms and conditions of this agreement.
- 1.3 “Licensed Materials” means the Software, Documentation and related information, collectively, that comprises the WIR.
- 1.4 “Software” means the WIR computer program in source and object code form delivered to Licensee.

2. License

- 2.1 Licensor grants Licensee a perpetual, royalty-free, limited, non-exclusive, non-transferable, non-assignable License to use, modify and create derivative works from the current version of the Licensed Materials, subject to the restrictions of this Agreement. The License commences on the date of delivery of the Licensed Materials by the Licensor to the Licensee.
- 2.2 The License granted herein includes the right to copy the Licensed Materials in whole or in part as necessary for Licensee’s use to support its immunization program.
- 2.3 The Licensed Materials may only be deployed on equipment used by Licensee to support its immunization program.

3. Proprietary Rights

- 3.1 Licensee acknowledges and agrees that the intellectual property rights in the Licensed Materials are and shall remain the property of Licensor, and nothing in this agreement should be construed as transferring any aspects of such rights to Licensee or any third party.
- 3.2 Licensee agrees to credit and acknowledge Licensor for the design and development of the **WIR** and the issuance of this License to Licensee. Accreditation of Licensor will be contained in all publications pertaining to Licensee’s use of the Licensed Materials.
- 3.3 Except as provided herein, the Software will be and remain the sole property of Licensor, and

Licensee shall have no rights or interest therein, except as described in this Agreement.

- 3.4 Modifications made to, and derivative works created from, the Software by the Licensee or its authorized contractor or designated entity shall be the exclusive property of the Licensee, and the Licensor shall have no right, title, claim or interest whatsoever in such modifications and derivative works.
- 3.5 Licensor acknowledges that Licensee intends to apply for federal funds in connection with modifications to the Software, and that one condition of the funding may be to grant the United States a license to the modifications.

4. Restrictions

- 4.1 Licensee specifically agrees to take all reasonable steps to prevent access to, use of, copying of, or disclosure of the Licensed Materials beyond the level of access and use which is strictly necessary for the purposes allowed in this License.
- 4.2 Except to the extent required by the public records laws of Licensee's State, the Licensed Materials shall not be displayed or viewed by persons other than Licensee's employees or agents, except as may be required in support of the Licensee's immunization program or as otherwise required by law. Licensee agrees not to disclose any Licensed Materials to any unauthorized third parties.
- 4.3 The Licensed Materials shall not be operated, maintained, or stored in any software/hardware environment in such a manner as to permit unauthorized access to or copying of the Licensed Materials.
- 4.4 Licensee shall inform its employees and agents who have access to or use of the Licensed Materials of the obligations set forth in this agreement and shall ensure that its employees and agents comply with the terms of this License.

5. Modifications

- 5.1 Licensee may modify, create derivative works from and enhance the Licensed Materials as necessary to meet the specific immunization registry policy and program requirements within its state. Licensee shall notify Licensor of all modifications, derivative works and enhancements upon release of said modifications. Upon Licensor's request, Licensee shall grant the Licensor a perpetual, royalty-free, limited non-exclusive, non-transferable, non-assignable License to use and modify the modifications, enhancements or derivative works and provide Licensor with written documentation and code, with no payment to Licensee from Licensor.
- 5.2 Licensor and Licensee share a common interest and mission to prevent vaccine preventable disease and increase immunization coverage levels. Licensee agrees to work with Licensor to identify common interest items and the possibility of sharing in the cost of development of said items. The WIR Project Manager will be Licensor's point of contact for discussions on any such joint ventures.

6. Warranty

- 6.1 Licensor warrants that the Software will conform, as to all substantial operational features, to Licensor's current published specifications when installed.
- 6.2 THE ABOVE IS A LIMITED WARRANTY AND IT IS THE ONLY WARRANTY MADE BY LICENSOR. LICENSOR MAKES AND LICENSEE RECEIVES NO WARRANTY EXPRESS OR IMPLIED AND THERE ARE EXPRESSLY EXCLUDED ALL

WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

7. License Action

- 7.1 Licensee agrees that violation in any material respect of any provision of this License may cause irreparable injuries to Licensor and Licensor shall be entitled to preliminary injunctive relief and other injunctive relief against any such violation. Such injunctive relief shall be in addition to, and in no way in limitation of, any and all remedies or rights to recover damages Licensor may have at law or in equity for the enforcement of this License. Licensor will have no responsibility for the actions of Licensee.
- 7.2 In any action under this License, the parties consent to jurisdiction in the courts in Dane County, Wisconsin and will be governed by and construed in accordance with Wisconsin law.

8. Term and Termination

- 8.1 This License shall remain in effect perpetually unless terminated.
- 8.2 Upon determination by the Licensor that the Licensee has violated or knowingly tolerated violations of material terms of this Agreement, the Licensor may give the Licensee notice of its determination and demand that the Licensee cease such violations. If the Licensee fails to cease the violations, the Licensor may terminate this Agreement, without prejudice to any other remedy Licensor may have and without further obligation to Licensee. Licensee may terminate this License at will.
- 8.3 Upon termination of the License in accordance with this Section, at the request of the Licensor, the Licensee shall return to the Licensor all copies of the Licensed Materials to Licensor's WIR Project Manager; provided, however, that the Licensee may continue to use the Licensed Materials for a reasonable period of time, not to exceed nine months, as required to allow it to install functionally equivalent replacement software for its immunization program. At the request of the Licensor, the Licensee shall delete all copies of such materials residing in on- or off-line computer memory.
- 8.4 The terms of this License that by their sense and context are intended to survive the termination of this License shall so survive.

9. Amendment

- 9.1 This agreement may be changed or amended only by written agreement of the Licensee and Licensor.

ATTACHMENT C

Proposal Document Checklist

Please reference Section 8.0 for the appropriate format and quantities for each proposal submission.

RFP 17786 – Maintenance and Enhancement of The New York State Immunization Information System		
FOR THE ADMINISTRATIVE PROPOSAL		
RFP §		INCLUDED
§ 6.1.A	M/WBE Participation Requirements:	<input type="checkbox"/>
	Attachment 5 Form 1 and/or Attachment 5 Form 2	<input type="checkbox"/>
	Attachment 5 Form 4	<input type="checkbox"/>
	Attachment 5 Form 5	<input type="checkbox"/>
§ 6.1.B	Attachment 1 – Bidder’s Disclosure of Prior Non-Responsibility Determinations,	<input type="checkbox"/>
§ 6.1.C	Attachment 3- Vendor Responsibility Attestation	<input type="checkbox"/>
§ 6.1.D	Freedom of Information Law – Proposal Redactions (If Applicable)	<input type="checkbox"/>
§ 6.1.E	Attachment 7 - Bidder’s Certified Statements, completed & signed.	<input type="checkbox"/>
§ 6.1.F	Attachment 6- Encouraging Use of New York Businesses in Contract Performance	<input type="checkbox"/>
§ 6.1.G	Attachment 9 (References)	<input type="checkbox"/>
FOR THE TECHNICAL PROPOSAL		
RFP §		INCLUDED
§ 6.2.A	Title Page	<input type="checkbox"/>
§ 6.2.B	Table of Contents	<input type="checkbox"/>
§ 6.2.C	Attachment E - Documentation of Bidder’s Eligibility	<input type="checkbox"/>
§ 6.2.D	Technical Proposal Narrative	<input type="checkbox"/>
FOR THE COST PROPOSAL REQUIREMENT		
RFP §		INCLUDED
§ 6.3	Attachment D- Cost Proposal	<input type="checkbox"/>

ATTACHMENT D
Cost Proposal

Maintenance and Enhancement of the New York State Immunization Information System

RFP # 17786

Bidder Full Corporate Name: _____

Corporate Address: _____

Company Phone: _____ Company Fax: _____

The NYSDOH seeks a cost-effective bid. Bid price must reflect all costs, including those associated with personnel, fringe, indirect costs, travel, materials, and miscellaneous expenses. For purposes of this RFP, the bid prices should be entered on an annual-cost basis for each service and on a deliverable-cost basis for those items described in Section 4.7. Change request effort and system enhancement effort should be bid as an hourly rate and must also reflect all associated costs. (Hourly rates for years 4 and 5 of the contract will be subject to an annual price increase of the lesser of three percent (3%) or the percent increase in the National Consumer Price Index for All Urban Consumers (CPI-U) as published by the United States Bureau of Labor Statistics, Washington, D.C., 2012 for the twelve (12) month period ending three (3) calendar months prior to the anniversary date for the preceding twelve-month period.)

Refer to the RFP (Section 4.0) for detailed information regarding services and deliverables.

Use the tables on the following pages to detail the cost proposal. Complete each table section as appropriate for the year or deliverable in reference. Record the totals from each table to the appropriate line in the summary chart below, then add the four items in the summary chart and record as the total bid price.

Cost Proposal Summary Chart

Total 5 Year Service Price: \$ _____

One Time Deliverables Price: \$ _____

Price for Change Request Effort (Years 1-3): \$ _____

Price for System Enhancement Effort (Years 1-3): \$ _____

TOTAL BID PRICE (sum of above amounts): \$ _____

One-Time Deliverables	Total Price
NYSIIS Transitional and Operational Responsibility	
1. Phase I (Section 4.7.1)	
2. Phase II (Section 4.7.2), this includes completion of Service Level Agreement	
3. Phase III: Finalization of full system support (4.7.3)	
4. Phase IV: Transition of Ownership (4.7.4)	
ONE-TIME DELIVERABLES TOTAL	

Service (Note: Year 1 activities do not begin until Phase III above is completed).	Total Price YEAR 1	Total Price YEAR 2	Total Price YEAR 3	Total Price YEAR 4	Total Price YEAR 5	Five-Year Total
NYSIIS General Maintenance						
1. See RFP Section 4.2; this includes normal system availability, performance, data interfaces, problem response, and collecting monthly system statistics						
2. Maintenance Staffing (4.2.11)						
NYSIIS Support						
1. Help Desk Support & Staffing (4.3.1)						
2. User Support (4.3.2)						
NYSIIS Blood Lead Maintenance Support						
1. See RFP Section 4.4.1; this includes Blood Lead Staffing and normal system support. This does not include improvements and enhancements; actual enhancement effort is separate from this deliverable						
NYSIIS Change Management & Enhancement Support						
1. Change management plan development and completion (See Section 4.5; actual change request effort is separate from this deliverable)						
2. System Evolution (See Section 4.6; actual enhancement effort is separate from this deliverable)						
SERVICE TOTALS (sum of above amounts)						
						5-Yr Service Price

Change Request Effort (See Section 4.5)

# of Positions	Position Titles	Hourly Rate*	Estimated Total Hours (Years 1-3)	Total Cost (Hourly rate x Estimated Total Hours)
Years 1-3				
1	Project Manager		1,560	
1	Business Analyst		1,560	
1	System Engineer		1,560	
1	Database Administrator		520	
Total Change Request Effort (Years 1 – 3):				

System Enhancement Effort (See Section 4.6)

# of Positions	Position Titles	Hourly Rate*	Estimated Total Hours (Years 1-3)	Total Cost (Hourly rate x Estimated Total Hours)
Years 1-3				
1	Project Manager		1,560	
1	Business Analyst		3,120	
1	System Engineer		3,120	
Total System Enhancement Effort Cost (Years 1 – 3):				

NYSDOH reserves the right to adjust the mix and duration of the type of staff secured dependent upon the needs of the program throughout the project lifecycle and the life of the contract.

*The hourly rate for years 4-5 of the contract will be subject to an annual price increase of the lesser of three percent (3%) or the percent increase in the National Consumer Price Index for All Urban Consumers (CPI-U) as published by the United States Bureau of Labor Statistics, Washington, D.C., 2012 for the twelve (12) month period ending three (3) calendar months prior to the anniversary date for the preceding twelve-month period.

ATTACHMENT F

NYSIIS Roles and Responsibilities Matrix by Program, ITS and Vendor

1.0 Overview

- This matrix provides a listing of NYSIIS support tasks for OS, Oracle DBA, Network, Infrastructure Project Management, Disaster Recovery (DR) Services, and Hosting environments. In the matrix, you will find current support tasks listed and the associated responsibility for each task. The column headings contain the names of support teams that provide support for the listed tasks.
- New York State Immunization Information System (NYSIIS) has multiple components and responsibilities for those components are spread among different entities. This document defines what organization is responsible for what component.
- Teams will work closely together to ensure that all tasks are being performed within acceptable security guidelines and SLA's.
- Redundancies in this document will be addressed within the final SLA
- NOTE: This document may not list every single task each team performs to ensure NYSIIS support.

2.0 Legend

Code	Role Summary Description	Role Detail Description
R	Responsible for the process	Individuals who are responsible and accountable for the results of the decision. It is the job of these people to make the decision. They gather, analyze, and assess the data surrounding the decision. They are accountable for implementation and have an obligation to prevent the action if they do not agree. This role is required and only one Responsibility role is allowed for each task.
A	Approves or accepts the deliverables from the process	Individuals who approve or sanction. Those in the Approve role have the ability to accept or reject a recommendation or decision made by the Responsible role, and then to ensure that the people, time, and money are available for implementation.
S	Supports steps in the production of the deliverables	Individuals who are support or resource people. They may be subject matter experts who provide information about issues, which affect the quality of the decision. Acceptance of a decision requires the commitment of those in the Support role. Support roles may not prevent a decision, but they do have the right to challenge it.
C	Provides consultation for inputs, information or contributory deliverables	Individuals who have information and/or capability necessary to complete the work. They may be subject matter experts who provide valuable advice or consultation for the task. Their acceptance is not required.
I	Needs information about the status and content of the deliverables	Individuals who need to be informed. Those in this role have the least level of involvement in decision-making and are affected in a minor way. This role is required for affected groups who at least need to be informed so that energy and behavior can be focused. They may not block decisions, but they are free to ask questions for clarity and to express opinions.

3.0 Services Responsibilities List

Responsibility Description	ITS	Vendor	DOH Program
NYSIIS Database Support / Operations: UAT & TRN/Prod/DR			
Maintain health and patching of NYSIIS databases, including dataguard, in all environments	S/C/I	R	I/A
Support any database modification required as a result of NYSIIS customizations		R	I/A
Identify Issues and concerns related to Database		R	I/A
Monitor standby performance and ensure replication is occurring		R	I
Stops/Starts database replication when needed to limit database corruption	I	R	I
Configure and manage the Oracle listener process on each server		R	
Install database software and configure databases and components for new installations	I/S	R	I
NYSIIS Application Support / Operations: UAT/TRN/Prod			
Support operational maintenance of the application	S/C/I	R	I/A
Deploys new versions of the code for releases	I	R	I/A
Provide monthly stats on application performance		R	I
Provide Operational Incident Reports (OIR) for any unexpected outage that exceed 15 minutes	I	R	I
Provide priority on application enhancements/bug fixes/security outcomes	S/C/I	S/C/I	R
Open ITSM Incidents for NYSIIS	I	S/C/I	R
Direct and support work on blood lead module - screens/reports		S/C/I	R
Support and maintain NYSIIS connection to EHDI page		R	S/C/I
Update Architecture Diagrams as needed for NYSIIS Infrastructure	I	R	S/C/I
Notify all partners as appropriate of any scheduled or unscheduled disruption of service related to application or database related issues.	I	R	I/A
Provide system checkouts after every release or change that could impact NYSIIS	I	R	S/I/A

Responsibility Description	ITS	Vendor	DOH Program
NYSIIS Server Support/Operations: UAT&TRN/Prod			
Hardware installation unpacking, racking and power.	R	I	I
Support and maintenance of frame where NYSIIS servers reside	R		
Monitor frame and server allocations and adjust as needed	R	I/C	I/A
Request Network connections and IP address assignments.	R	I	I
Premise network wiring and switch configurations	R	I	I
Operating System patching to OS.	R	I/S	I
Create, configure and manage logical disk volumes.	R		
Trouble Shooting – Operating system, networking, connectivity, performance and system level software as requested	R	I/S	I
Create, configure, and monitor backup jobs	R		
Restoration of NYSIIS Production/UAT environments in the event of disaster recovery	R	R/C	I
Facilitate the purchase or upgrade of hardware, software, operating system, and application license as necessary.	S/C/I/A	S/C/I	R
Inform of any scheduled or unscheduled disruption of service related to hardware or network changes that would impact NYSIIS server uptime	R	I	I/A
Maintain VPN connection and appropriate level of access for DXC approved staff to access servers	R	I	I
Set-up/support DXC staff for VPN	R	I	S/A
NYSIIS Server Support/Operations: DR Box			
Hardware installation unpacking, racking and power.	R	I	I
Request Network connections and IP address assignments.	R	I	I
Premise network wiring, switch configurations and IP address assignments.	R	I	I
Operating System patching	R	I/S	I
Create, configure and manage logical disk volumes.	R		
Trouble Shooting – Operating system and system level software only.	R	I/S	I

Responsibility Description	ITS	Vendor	DOH Program
Create, configure, and monitor backup jobs	R		
Facilitate the purchase or upgrade of hardware, software, operating system, and application license as necessary.	S/C/A	S/C/I	R
Inform of any scheduled or unscheduled disruption of service related to hardware or network changes that would impact connection to server/data guard service	R	I	I/A
Maintain VPN connection for DXC access to DR Box	R	I	I
Security Scanning			
Security Scanning in UAT – run per state policy and prior to any new to release	R	I	I/A
Blood Lead			
Creation of a daily file to load from LeadWeb to load to NYSIIS			R
Import daily file into NYSIIS and receive outbound file from NYSIIS		S	R
Import of outbound file from NYSIIS to LeadWeb			R
Notification of any changes in LeadWeb that would affect NYSIIS import/export file		I	R
EHDI			
Maintaining network connection between EHDI page and NYSIIS		I	R
Maintaining/updating the EHDI Landing page		I	R
Link updates from NYSIIS to EHDI landing page		R	I/A/C
Identifying EHDI staff that can access the standby database and informing when to remove access			R
Set up VPN accounts for EHDI staff	R		S/C/I
Setting up read access to standby database schemas and removing access when notified		R	I
Storing and backup of EHDI data			R
Inform of any scheduled or unscheduled disruption of service specific to EHDI Landing page		I	R
Health Commerce System			
Maintain connection from HCS Server to CNSE NYSIIS Servers			R

Responsibility Description	ITS	Vendor	DOH Program
Notification to NYSIIS Staff/Partners if HCS will be out of service for any reason and subsequently notify NYSIIS/Partners when back up	R	I	I
Notification to HCS if NYSIIS will be out of service for any reason and subsequently notify HCS when back up	I	I	R
Notify NYSIIS and partners if there are any problems with the VPN connection from HCS to NYSIIS production servers.	R	I	I
SOAP Webservices			
Provide accounts/credentials for approved NYSIIS partners	R		I/A
Testing and maintaining connection between Provider/UPHN	R		I
Notify NYSIIS of any scheduled or unscheduled disruption of service	R	I	I
Notify NYSIIS of any specific issue with data exchange partners/providers	R		I
Notify of any network/configuration changes that would impact NYSIIS connection	R	I	I
Maintaining documentation for REST connection between UPHN/NYSIIS	R	I	I
Notify NYSIIS of any changes to existing REST services and NYSIIS	R	I	I
Troubleshoot and support issues that arise in to connection and/or providers	I/C/R	I/C/R	I/C/R
Maintain NYC/UPHN Connection	R		I
Transform inbound NYC vitals into NYSIIS acceptable files	R		C
Placing transformed NYC files in directory that NYSIIS can access and submit	R		C

Other Tasks
Additional responsibilities that may require vendor support. Role detail TBD during SLA development.
Maintain operational support procedures
Monitor and respond to system alerts and events
Assist in hardware product reviews of system environment
Participate, if required, in root cause analysis for problem isolation and resolution for hardware related problems
Assist in coordinating install / de-install of hardware equipment due to technical refresh, growth and capacity balancing
Provide analysis and report on system performance trends
Recommend configuration changes to optimize utilization of assets.
Identify the need and make recommendations for additional system capacity to validate performance levels are appropriate to achieve Service Level Objectives and Agreements (if in scope)
Database connectivity support

Plan and implement a database backup strategy.
Create a backup script or use a backup utility or tool to perform database backups.
Create the physical database (object DDL).
Run object DDL to create objects.
Monitor database performance.
Monitor database space.
Monitor database backups.
Monitor database availability and resources.
Monitor size of the physical database objects.
Modify or suggest modifications for system parameters for performance tuning.
Assist with data / database conversions.
Create and maintain links to other databases.
Unload and reload (reorganization of data) to improve performance, change physical layout, reclaim space etc.
Ensure database compliance with Agency and ITS Security Standards.
Manage job scheduler for database jobs (maintenance).
Management and resolution of database problems.
Management of database changes.
Perform database maintenance (including running of appropriate utilities)
Install middleware software
Configure middleware
Develop and maintain a plan that enables the recovery of data due to unplanned operational types of failures such as equipment malfunction, temporary power disturbances and abnormal termination (Disaster Recovery procedures)
Configuration of parameters for recovery and failover, with assistance from Customer where applicable (such as application parameters)
Testing of fail-over recovery after each system configuration update or change
Plan and Maintain software currency on all platforms and systems
Perform and review 'ready to use' initial performance tests and checkout for all components
Install application code
Configure application
Application availability monitoring implementation
Monitor job scheduler related incidents, and develop, recommend and implement changes to the job scheduler database
Define and write procedures for code promotions/releases
Document standards to promote applications from development and / or test into production
Document production application acceptance criteria
Move code from development and / or test environments to production
Maintain automated code promotion system(s)
Coordinate and/or perform installation and maintenance of in scope application
Own and administer all application security resource definitions including specific user IDs and group Ids
Conduct vulnerability scanning and apply associated remediation(s) actions to resolve issues
Create System Security Plan
Provide problem determination and resolution of application and related infrastructure problems
Promote application load modules at exit points
Maintain and update application restart documentation

Provide the necessary requirements to the System Administration/Programming Team for the system/infrastructure and all application definitions that are to be backed up with the regular operating system/subsystem backups
Provide off-shift support for test and development subsystems
Provide performance and tuning analysis for the application
Perform "health check" monitoring for the application
Application capacity planning initiatives in the production environment
Provide requirements and documentation for Disaster Recovery and Business Continuity. Maintain documentation for life of the application as applicable.
Perform and support assistance for the testing of the changes made to the server operating system, system management software and operating system utilities/platform software and tools, including minor and major upgrades (such as a release upgrade) to maintain software currency.
Perform and support assistance for the testing of the changes made to the physical hardware environment to accomplish HW upgrade and HW refresh) to ensure application functionality.
Develop application run-books and production control procedures to allow ITS Operations to run operate and manage applications. Ex. Document application restart procedures. Templates will be provided by ITS
Review and manage incidents and problems
Provide trend analysis and develop action plans to resolve problems
Coordination of problem resolution activities
Facilitate and attend applicable incident & problem management meetings
Establish the project implementation plan including: overall objectives, deliverables, major milestones, team structure, roles and responsibilities, major assumptions, customer responsibilities, project risks, project exclusions, etc.
Provide application procedures and special requirements as needed to operationalize the application on ITS Platforms
Set up application security access, user-id protocols and procedures for security administration.
Other Tasks
Additional responsibilities that will be managed by ITS
Install the in-scope server operating system, system management software and operating system utilities.
Support of the in-scope server operating system, system management software and operating system utilities, including minor upgrades (such as a release upgrade)
Manage the operating system configuration: Initial server configuration Modify configuration files Document system configuration Control access to system configuration files
Manage operating system file systems: Create, maintain and delete volumes and directory structures Modify file system sizes Verify mount point availability Repair defective file systems Modify File-system permissions
Monitor file systems to prevent file systems from overfilling
Manage Operating System Processes (e.g. continuously running system subtasks, or daemons): Refresh processes as required Establish startup sequences Maintain system clock synchronization Change process priorities as appropriate Recommend operating system updates and configuration modification
Apply operating system patch set updates
Maintain tools for remote management and alert monitoring
Maintain the hardware, Virtualization and OS software configuration server information
Coordinate in-scope server hardware service with the appropriate vendor
Manage ITS Operating System ID's
Evaluate planned changes to the server environment and advise of any requirements to support such changes

<p>Manage OS Security (Does not include customer User ID Admin) Enable passwords for servers to use to connect with other servers on the network Adhere to standard security processes and procedures Support trusted third party security servers authentication Synchronize security information among servers Create and modify system login/logon scripts Assign account, workgroup and print managers</p>
<p>Provide health check and trending reports which include: CPU Memory Disk Server Red Action List (servers which have gone above defined set of thresholds)</p>
<p>Monitor ITS managed hardware, virtualization & operating system software during in-scope service hours</p>
<p>Administer and/or execute the contracted Service Management processes and procedures</p>
<p>Perform basic problem determination on systems and components managed by ITS Services: Hardware problems System software problems Network problems</p>
<p>Provide information and monitor for changes affecting the server environment</p>
<p>Evaluate planned changes to the server environment and advise of any requirements to support such changes</p>
<p>Perform System Recycles per predefined Short Term Operational Schedule and maintenance window</p>
<p>Monitor and respond to hardware alerts and events</p>
<p>Monitor and maintain system error logs</p>
<p>Provide system administration and operational support for server environment(s)</p>
<p>Assist with hardware facilities requirements planning</p>
<p>Assist in coordinating hardware availability for scheduled maintenance, EC's, microcode updates and fixes for hardware products through use of the problem/change management process Participate in technical reviews, as required, for hardware configuration/environment issues</p>
<p>Assess in raised-floor equipment power / cooling facility issues</p>
<p>Conduct system space planning</p>
<p>Manage system hardware inventory</p>
<p>Facilitate change for equipment</p>
<p>Coordinate equipment install / moves and changes of third party hardware</p>
<p>Manage the operating system configuration: Initial server configuration Modify configuration files Document system configuration Control access to system configuration files</p>
<p>Maintain the hardware and software configuration server information</p>
<p>Maintain tools for performance monitoring and reporting</p>
<p>Define performance indicators and establish thresholds to monitor server performance against these indicators. Examples include utilization of Storage, CPU and memory.</p>
<p>Perform Capacity Management</p>
<p>Maintain tools for capacity reporting</p>
<p>Recommend corrective action to resolve system capacity problems.</p>
<p>Implement corrective actions approved by the change management process.</p>
<p>Monitor and document the in-scope servers' current capacity baselines and provide the information to the customer for the customer's use in determining future capacity requirements.</p>
<p>Provide analysis and report on system capacity trends</p>
<p>Plan and implement Fiber Channel Switches and Fiber Channel Directors in a Storage Area Network (SAN).</p>
<p>Perform storage device preparation and initialization</p>
<p>Manage storage space through the implementation and customization of storage management software.</p>
<p>Manage space / utilization rate of storage hardware. Verify availability and sufficient capacity of ITS controlled file systems during scheduled service times.</p>
<p>Report customer's disk space utilization via the activities listed in Performance and Capacity Management</p>

Execute backup and recovery procedures for the operating system image. Document and maintain the backup and restore processes, hardware and software
Provide a recovery procedure for restoring the image to a previous level within a mutually agreed time frame
Implement regularly scheduled backup and recovery procedures as prioritized by the customer (for example, file set restore), so as to avoid impacting scheduled operations
Execute backup and recovery procedures for user data files. Document and maintain the backup and restore processes, hardware and software
Perform catalog management, backup and recovery of data stored on storage devices
Provide system administration and operational support for configurations
Initial setup and ongoing maintenance of High Availability Configurations
Reconfiguration of parameters when updates are performed to the system configuration
Periodic testing of fail-over recovery (semi-annually)
Perform server consolidation activities
Server Datacenter moves or relocations
Applications-monitor up/down status of system processes
Plan and Perform physical hardware HW upgrade(s) and HW refresh to ensure systems application functionality.
Order & schedule installation of network equipment required for application connectivity to ITS Data Center
Assess, evaluate, document and review integration of network components managed by ITS
Plan, develop and design document logical design and connectivity solution using Agency requirements. Perform setup, test and install the physical connectivity to solution customer requirements, including all labeling of components in the environment
Assess, Plan, Design, Implement, Maintain, document and review network integration of bridges, gateways, routers, hubs, switches, multiplexers and wireless access points. Develop procedures for the environment we are supporting. Includes, bridges, gateways, routers, hubs, switches, multiplexers and wireless access points as required. Implement Firewall / VPN solution
Assess, evaluate, document and review compliance to ITS standards, guidelines and processes
Perform Level 1, 2,3 Network Problem Determination/Problem Source Identification (to determine & isolate sources of network outages and problems, inclusive of degraded performance)
Use Incident and Problem management data proactively to assist in the recognition and prevention of recurring problems
Evaluate, assess and track all problems and changes for the network environment using ITS Incident toolset (Service-Now)
Implement and maintain backup and archive of configuration data for standard network vendor product devices
Post implementation, run and operate/maintain current customer network operational processes (Steady State)
Manage and track network changes being performed (where applicable)
Manage network backup and recovery processes
Coordinate security of application resources
Perform Application Security Risk Assessment
Provide the necessary requirements to the System Administration/Programming Team for the system/infrastructure and all application definitions that are to be backed up with the regular operating system/subsystem backups
Provide and support custom Business Integration exits
Own and administer the incident and problem management processes and document